Far East
1950
M3

THE DEVELOPMENT OF THE MANCHURIAN IRON AND STEEL INDUSTRY

RULES COVERING USE OF MANUSCRIPT THESES
IN THE UNIVERSITY OF MICHIGAN LIBRARY
AND THE GRADUATE SCHOOL OFFICE

Manuscript copies of theses submitted for the doctor's degree and deposited in The University of Michigan Library and in the Office of the Graduate School are open for inspection, but are to be used only with due regard to the rights of the authors. For this reason it is necessary to require that a manuscript thesis be read within the Library or the Office of the Graduate School. If the thesis is borrowed by another library, the same rules should be observed by it. Bibliographical references may be noted, but passages may be copied only with the permission of the authors, and proper credit must be given in subsequent written or published work. Extensive copying or publication of the thesis in whole or in part must have the consent of the author as well as of the Dean of the Graduate School.

This thesis by .....
has been used by the following persons, whose signatures attest their acceptance of the above restrictions.

A Library which borrows this thesis for use by its readers is expected to secure the signature of each user.

NAME AND ADDRESS	DATE

THE DEVELOPMENT OF THE MANCHURIAN IRON AND STEEL INDUSTRY

A thesis submitted by

JOHN H. KELLY III

in partial fulfillment of the

Degree of Master of Arts

in

Far Eastern Studies

August 15, 1950

CONTENTS

Introduction.....ii

Part One: Iron and Steel in the pre-Japan Era..... 1
a)Early Japanese contacts with Manchuria
b)Iron and Steel development under the Chinese
c)Iron and Steel development under the Russians

Part Two: Initial Development under the Japanese..... 5
a)The Kwantung Leased Territory and its program of economic development
b)The Manchurian Incident - Army emphasis on Manchuria rather than Chosen or Formosa as the main continental industrial base

Part Three: Long Range Economic Planning.....13
a)The first five years of Manchukuo; 1932-1936
1)Expansion of ore and ingot output
2)Expansion of coal industry
b)The five year industrial development plan; 1937-1941
1)Importation of the Nissan interests and reorganization of the Manchukuo government finance
2)Effects of the second Sino-Japanese War on the five year industrial development plan

Part Four: Manchurian Iron and Steel in Wartime; 1937-1945.....27
a)As a base for continental aggression
b)Reorganization of the Manchuria Heavy Industry Co. in 1941
c)The second five year plan, 1942
d)Increased dependency of the Japanese domestic steel industry upon Manchuria
e)Condition of the Manchurian iron and steel industry at the end of World War II

Part Five: The Industry Today - A Bone of International Contention..41
a)Soviet War Booty
b)Effects of the Communist-Nationalist Civil War
c)The industry as a pillar in Chinese economic recovery
d)Communist planning and its influemce on the iron and steel industry

Conclusions: The future strategic and economic implications of the Manchurian iron and steel industry..... 54

Appendix A: Tables I - XV..... 57

Appendix B. Bibliography..... 64

INTRODUCTION

On June 25, 1950, the Soviet Republic of North Korea attacked its neighbor to the south, the independent, democratic, Republic of Korea; the only nation recognized by the United Nations as having a legitimate representative government for the Korean people.

Since June 25, the world has had occasion to pause for a reanalysis of Soviet strength in the Far East. In this political reevaluation of north-east Asia, a factor of paramount importance has been the economic potential of Manchuria. Whether under one nation's influence or another's, this region has, in the recent past, been the springboard for aggression in the Far East.

Why has this area been such an economic prize? Why has one nation or another been interested in its annexation?

Surely no one answer can satisfy all questions. But in this age of international rivalry, this age of iron and steel war machines, Manchuria has been found to possess all the necessary ingredients for heavy industry. Consequently, as a result of Russo-Japanese rivalry, Manchuria acquired one of the world's most important heavy industry complexes.

Today more than ever before, Manchuria's iron and steel industry is proving to be a tool for a new type of aggression. It is the objective of this paper to illustrate graphically the development of this industrial base, and its subsequent role under both Japanese and Russian guidance.

PART ONE

Iron and Steel in the pre-Japan Era

a)Early Japanese contacts with Manchuria:

Japan came in direct touch with Manchuria early in the eighth century. A Japanese authority says that the Manchus kept up direct trade relations with Japan from 727 to 930 A.D. During this period trade relations were characterized by the exchange of ginseng and skins for silks and brocades. No barter for mineral wealth existed at that time. But this promising barter system did not last, and trade lapsed after 930 A.D.

Not until the Mongol hordes of Genghis Khan attacked Japan in 1281, did Japan have any constant economic intercourse with Manchuria. Following the defeat of the Mongols, Japanese traders conducted a haphazard business with Chinese merchants in north-east Asia. But in 1592, following Hideyoshi's reunification of Japan, the Japanese invaded Korea. Though initially successful, the forces of Hideyoshi were compelled to return to Japan, whereupon contact with the asiatic mainland lapsed until the late nineteenth century.

The first contact in the modern era the Japanese made with Manchuria was at the time of the first Chinese war. In February, 1876, Japan concluded with Korea a treaty recognizing her as an independent state. The United States, England, and other great powers followed Japan's example, and no great protest came from China, though she kept on treating Korea as her dependency. In 1894, an insurrection took place in Korea, whereupon both Chinese and Japanese troops

(according to prior agreement) went into Korea to quell the unrest. The tension between the two forces proved to be too much and soon China and Japan were at war. By the treaty of Shimonoseki, in 1895, Japan obtained from the vanquished China, the lease in perpetuity of the Liaotung peninsula. The significance of this Japanese demand was two-fold: firstly, to Japan's growing military strength, the strategic position of the Liaotung peninsula was highly desirable; and secondly, during the campaign in Manchuria and Korea against the Chinese armies, the Japanese had a first-hand opportunity to appreciate the industrial potentialities of southern Manchuria.

But Japan's desires were not to be so easily obtained. By the use of three-powered intervention Japan was forced to relinquish the Liaotung peninsula and accept instead a larger indemnity. Though France, Germany, and Russia were the principle opponents to Japanese expansion in the Far East, Russia was the instigator of the intervention. Feeling ran rife in Japan and all Japanese felt the diplomatic chastisement. Russia proved her true feelings on the matter when, following the Boxer Rebellion, she refused to evacuate her troops from Manchuria. Finally, after months of haggling, the Russians agreed to evacuate Manchuria in stages, upon the condition that China give Russia a lease on the Liaotung peninsula. Russian troops, in disguise, crossed the Yalu River and conducted lumbering activities in North Korea. Japan was already in a furor over Russia's actions in Manchuria, and the sudden extension of Russian influence into Korea was enough to convince Japan that she had to drive Russia

from Manchuria.

b)Iron and Steel development under the Chinese:

During the centuries of Chinese rule in Manchuria, almost nothing was done to exploit the naturally rich deposits of iron ore in the region. For years, Manchu iron-smiths had conducted extremely small workings near Mukden. But these local industries were only sufficient to handle the needs of the local populace. Only once, in the beginning of the Manchu dynasty, did Chinese merchants try to engage in the large scale extraction of iron ore from the Mukden area. But they soon ran into a blank wall. A deep tradition of respect existed among the local Manchus for their ancestral burying grounds. The point of conflict came when it was discovered that the natives would not permit the merchants to dig up burial grounds for the extraction of underlying iron ore. As a result, any enthusiasm once held by the merchants for the mineral wealth of Manchuria soon waned. In this undeveloped state, the vast mineral beds around Mukden remained buried until the arrival of the Russians in 1900.

c)Iron and Steel development under the Russians:

Between 1900 and 1904-1905, Russia was primarily concerned with the enlargement of her landholdings in the Far East. Not until she was faced with military opposition of the first magnitude did she realize that an industrial base in the Far East might be necessary to support large Russian armies. True, Russian entrepreneurs did more with the ore beds than the Chinese had done prior to 1900. They built small smelters and constructed several small works that could

produce pig iron. This pig iron was then driven by horse team to Irkutsk, where it was utilized in making rails for the Trans-Siberian railway.

But by the end of 1904, when Russian General Kuropatkin realized that he had to have more and more supplies, an impetus was given to the construction of small arms factories and munitions works. It was planned that while Kuropatkin held the Japanese in the south, pig iron plants and smelter works were to be built around Mukden, so as to supply the Russian arms industry with soft iron. But this plan never hada chance to display its merits. The necessary equipment could not be sent from Germany over the Trans-Siberian because of the constant need for troop reinforcements. Subsequently, the small ammunition industries built their own meager iron works - with a pitifully small production of very poor pig iron. At the battle of Mukden in 1905 these centers were taken over by the Japanese after the Russians were forced to retreat.

Thus it can be seen that Manchuria's iron ore resources remained relatively untapped until the coming of the Japanese. Under Chinese rule almost no development of the iron industry took place, and under Russian sovereignty emphasis was placed on iron production only at the last hysterical moment, when Russian plans failed to meet the needs of reality.

PART TWO

Initial development under the Japanese

a) The Kwangtung Leased Territory and its program of economic development:

The victory of Japan in 1905, left the Kwantung Army in control of southern Manchuria and the Liaotung peninsula. Because of animosity between the military and the Zaibatsu in Japan, the Army jealously guarded its position in Manchuria. In the summer of 1906 the High Command in Manchuria took a momentous step. It decided to carry on the economic development of Manchuria by itself, as far as possible. Pressure was brought to bear on the Emperor to increase financial support for the Army in Manchuria. This was done. An Imperial rescript was issued in which the Government-General of the Kwantung Leased Territory and the South Manchurian Railway Company were created. The Army remained in control of both. The affairs of the Manchurian Leased Territory and the general supervision and protection of the South Manchurian Railway were put into the hands of General Viscount Oshima, the first Governor-General of Kwantung(1).

The South Manchurian Railway was the organization that was directly responsible for the original steps toward establishing an iron and steel industry in Manchuria. The company was empowered to carry on various affiliated enterprises, such as marine transportation, electric plants and gas works, warehousing and docking, and the administration of the railway zone as well as the management of land and buildings therein. It was officially incorporated in November, 1906,

and was opened for business on April 1, 1907. The company took the initiative in founding several basic enterprises, the most essential of which were the mining developments(2).

In August, 1909, Mr. Chutaro Kido, then director of the Geological Institute of the South Manchurian Railway Company, getting a hint from the name of a hill called "Iron Mountain"(which is located west of Tangkangtzu station), conducted a survey and found iron deposits there. The following year ten new mines were discovered: East Anshan, West Anshan, Takushan, Yingtaoyuan, Wangchiapaotzu, Kuanmenshan, Hsiaolingtzu, Paichiapaotzu, Hsinkuanmenshan, and Itanshan(3). All lay within a semicircle with a radius of ten kilometres with Anshan as the center. The total deposits of these mines were estimated at 660,000,000 metric tons, according to 1909 reports. Deposits of limestone, fire clay, silica and magnesite, which are indispensable in the manufacture of iron, were also discovered in the vicinity, greatly increasing the prospects for the inauguration of an iron industry(4).

After laying out various plans, the South Manchurian Railway Company commenced construction of an iron works at Anshan in May, 1917. The first blast furnace was stoked on April 29, 1919, and pig iron initially produced on May 1. Iron manufacturing in almost every case was accompanied by numerous economic obstacles. It was especially so with the Anshan Iron Works since it had to manufacture iron from ores of very poor quality. It was impossible to carry on the Anshan enterprise profitably unless ores analyzing above 50% at the least were used.

There are unfortunately very few deposits in the Anshan district which contain over 50% iron, and the bulk of the deposits are between 35% and 40%. Since the amount of comparatively rich ores was limited, it was regarded that lean ores with less than 40% iron had to be used. Because of the presence of a large amount of silica in the ores and due to the fact that the ores were for the most part hematite and therefore non-magnetic, a special process had to be devised to economically produce pig iron. Through the facilities of the School of Mines and Metallurgy at the University of Minnesota, the South Manchurian Railway Company managed to devise an edonomical process for the extraction of Anshan ores(5).

The project for reducing both pig iron and steel was already considered by the SMR(6) Company when the Anshan Iron Works was established in 1916. A plan aiming at the installation, by the end of 1931, of three furnaces and various other equipment(7) for producing annually 400,000 metric tons of pig iron and 240,000 tons of steel, was drawn up by the SMR Company; being abandoned for a time owing to the extreme caution exercised by home Japanese investment circles following the first World War. It was later revived when the successful result of Anshan's iron concentration process and the decreased pig iron production cost ensured the profitable operation of the enterprise.

The plan, however, was again dropped for the time being owing to reductions in financial allocations to Manchuria as the liberals in control of the Diet during the 1920's made sharp cuts in the app-

ropriations of the Army, The SMR Company in May, 1929, formally decided that it would be more profitable to erect the proposed plant at Shingishu, opposite Antung, and to maintain production of the Anshan Iron Works at 280,000 metric tons of pig iron. But the outbreak of the Manchurian incident on September 18, 1931, revolutionized the situation and the need of inaugurating a steel manufacturing industry in Manchria for the purpose of strengthening the iron and steel industry of Japan, was clearly seen.

b) The Manchurian incident - Army emphasis on Manchuria rather than Chosen or Formosa as the main continental industrial base:

By 1931 a marked change had taken place in the composition of the Cabinet and Diet in Tokyo. The liberals had begun to lose their control and the military, ever on the watch for a chance to recover governmental control, began to exert tremendous pressure through the young officer's cliques upon the government. Military men again succeeded in penetrating the group around the Emperor and when this happened, the Military soon became the controlling faction in the government.

There was much to be gained by a conquest of Manchuria. The incident would do much to champion the cause of the military in Japan. The Zaibatsu were hardly opposed to the prospects of obtaining Manchuria as an outlet for Japanese products and as a source for raw materials. Coupled with this economic objective was the fact that Japan's aggression was not primarily due to a desire for living space. That is to say, in the case of Germany, with her tremendous almost

self-sufficient industrial plant, one of the prime motivations in her expansion was a desire for lebensraum and empire. Basically Germany had all the natural resources needed within her borders; Japan did not. But Japan also had a tendency among segments of the upper class(8) to countenance military aggression. The same can't be said for Germany with such certainty. Germany did need lebensraum and though Japan claimed she did, she never took advantage of the territory she acquired for purposes of extensive migration. Economic necessity forced Japan southward in 1941, and likewise in 1931 she found it a matter of economic necessity to go into Manchuria.

In 1931 the region known to westerners as Manchuria was administratively divided into three provinces: Liaoning, the former Fengt'ien; Kirin(Chilin); and Heilungkiang; hence the name the Chinese applied to the area - the "Three Northeastern Provinces"(9). Towards the end of the 1920's the Kuomintang began to strengthen its hold on the three northeastern provinces. An agreement was reached with Marshal Chang Hsueh-liang, and soon after, in 1929, Chinese pressure on the Russians in northern Manchuria became evident. However after desultory fighting, a return to the status quo was arrived at in an agreement signed at Khabarovsk. In 1930 Chang Hsueh-liang displayed his effectiveness by aiding the Kuomintang in suppressing the forces of Feng Yu-hsiang and Yen Hsi-shan.

The significance of these developments was not lost on the Japanese. If the northeastern provinces were to the Chinese Nationalists an integral part of a China whose unity must be preserved, Japan's treaty

rights in this area were essential to the Japanese for the Empire's future economic development. Clashes of interest between Japan and China developed over Manchuria. Japanese-sponsored riots against the Chinese took place in Korea, and aroused public opinion in China. A Japanese spy was caught and executed by the Chinese in Peiping and Japanese everywhere were infuriated.

On the night of September 18-19, 1931, the officers of the Japanese troops stationed at Mukden's railway yards took matters into their own hands. They attacked the local Chinese garrison, and made themselves masters of the city. At this point the Kwantung Army took control of the situation and began occupying all the Manchurian railways. By the end of December, after Chang Hsueh-liang's forces had withdrawn from Manchuria, the subjugation of the three northeastern provinces was practically completed(10). On February 18, 1932, Japanese-sponsored local committees banded together in a "spontaneous" gathering and declared that as of that day the region formerly known as Manchuria would be in the future called Manchukuo. A new state had been born and the stage was set for further economic and political developments(11).

In retrospect, history reveals that in Korea and Formosa, Japan followed the traditional policy of colonial exploitation. These two countries were developed as producers of agricultural and mineral raw materials. In Manchuria however, Japan abandoned this standard imperialist practice, and instead chose to develop her own interests in her new possession as an extension of her own economy, with large-scale mining and manufacturing industries of the most modern, superimposed upon a primitive agrarian system. This policy was not adopted

without considerable opposition from the more conservative financial and business leaders in Japan, who were primarily interested and engaged in the Japanese export industries rather than the newer armament industries, and thus who had less of a vested interest in a policy of aggressive expansion on the Asiatic continent. But the Kwantung Army and its supporters among the more militant Japanese business interests were determined to create a powerful mainland industrial base which could serve as the spearhead for further expansion. And since the Army had performed the actual work of conquest and was in control on the spot, it was natural that it should be the dominant force on shaping Japanese economic policy with regard to Manchukuo(12).

****

(1)Kinnosuke, Adachi. "Manchuria". Chapter V, p. 84

(2)Manchukuo Year Book, 1940. p. 487

(3)Japan Economic Federation. East Asia Economic Intelligence Series: "Heavy Industry of Manchukuo". January, 1940. p. 28

(4)Contemporary Manchuria, Vol. II, No. I, January 1938, p. 62

(5)Op. cit., p. 66

(6)Op. cit., p. 68

(7)Japan Year Book, 1936. p. 964
(Cake ovens, water collars, mining railways, electricity, two small bar mills, a black sheet mill, medium plate mill, a rail mill, and a dressing plant, coke plant, by-product factory, ceramic plant, repair plants and a heat control plant. Equipment in the black steel mill of the Showa plant was manufactured by the Krupp Grosenwerk, Essen, Germany, and rolling mills and other various equipment for rails and special steels were manufactured by the same firm; much equipment existing prior to 1931 came from the follow-

ing American firms - locomotives, Baldwin Co.; smelters and furnaces, Jones and McLaughlin; cake ovens, Republic Steel; and almost all electric equipment from Westinghouse Electric Co.)

(8)The Zaibatsu and Military classes in particular.

(9)The Chinese National Government in 1929 substituted Liaoning for Fengt'ien to indicate its complete political assimilation. Feng-t'ien means "ordained by heaven" and was a Manchu Imperial title. Liaoning means "peace of the Liao".

(10)Lytton Report, 1932, p. 25

(11)Jones, F.C. "Manchuria Since 1931". Chapter VIII, p. 140

(12)Allen, G.C. "A Short Economic History of Modern Japan". Chapter X, pp. 145-151

PART THREE

Long Range Economic Planning

a)The first five years of Manchukuo; 1932-1936:

The Zaibatsu had no great interests in Manchuria in 1931 and here, therefore, the Kwantung Army had a clear field for ita experiment in planned economy, although with somewhat unpropitious material upon which to work. From 1931 to 1936 it was clear that it was Army policy to exclude the Zaibatsu from any direct share in the economic development of Manchukuo so as to preclude the growth of any opposition to the puppet Manchukuo State control. But if the Zaibatsu were thus excluded, what instruments were the Army to make use of in the financing and organization of the new industrial enterprises? To this question, the Army thought it had the answer in the existence of the South Manchuria Railway.

The most important institution in the maintenance of Japan's position was the South Manchuria Railway, 691 miles in length, which made Dairen, next to Shanghai, the most modern port in eastern Asia. This railroad also developed soybeans and other commodities, as well as creating schools, libraries, research bureaus of a cultural and scientific nature, hospitals, hotels, and public health centers. Out of the $500,000,000 invested by Japan in Manchuria in 1931, $300,000,000 was in the hands of the South Manchuria Railway Company and its subsidiaries. All railroads in Manchuria were under the management ofthe SMR, amounting in 1939 to 10,482 kilometres, of which the government-owned lines comprised 8,483, kilometres. Japan understood the strategic value of these lines. Troops wer transported from Japan to Hsinking in fifty hours. The planners of a greater Japan also justified the

roads as essential in the exploitation and colonization of the vast northern areas.

The SMR had always been an instrument of Japanese policy in Manchuria rather than a simple profit-making machine; moreover only one Zaibatsu interest, the Yasuda Bank, held any large proportion of the non-governmental half of the SMR's shares(1). Not only were the general policy and activities of the SMR under the supervision of the Japanese Government in Tokyo, but even before 1931, they were largely controlled by the Kwantung Army, the executor of its policies. It also became the main channel of Japanese investments in Manchuria until 1937. From 1935 until 1939 it was under the presidency of Yosuke Matsuoka, whose policy was to make the SMR the chief agent of Japanese economic exploitation in Manchuria.

The policy of strict puppet Manchukuo government control over industry did nothing to lessen the opposition of those industrial and financial interests in Japan which had originally opposed the industrialization of Manchukuo on the grounds that Japan's own industrial expansion should have first call on her limited capital resources. During the first five years of the new state's existence, these groups continued to criticize the draining of Japanese capital resources into Manchukuo(2), and limited their investment to the minimum required to prove their "patriotism". As one Japanese writer pointed out:

> Investment in Manchuria by Japanese capitalists had to be carried on side by side with the continual issuance by the

> Japanese government of huge sums of red ink bonds to cover deficits in the state budget. Manchurian investment and subscription to the government bonds had to be undertaken by the same groups. To finance capital, the first consideration for its own interest was the preserving of the market price of government bonds, already purchased in large quantities. Accordingly, the financiers unhesitatingly restricted investment in Manchuria in favor of investment in bonds back home. Industrial capital was likewise unenthusiastic about Manchurian investment. The Hsinking government's rigidly enforced economic control made new enterprises in Manchukuo by no means attractive to Japanese industrial groups. On top of this, the program for expanding productive facilities in Japan demanded increasing capital funds at home(3).

As a result of this negative attitude on the part of some of the most powerful financial groups in Japan, capital investment during this period was only slightly more than ¥ 1,000,000,000 - a not inconsiderable sum, but one which was far from sufficient to carry out the ambitious program of industrial development envisaged by the creators of Manchukuo(4). Despite this continual conflict over the desirability of large-scale investment in Manchurian industrialization, however, considerable progress was achieved in the expansion of the iron, steel, and coal industries.

(1)Expansion of ore and ingot output:

The discovery and exploitation of Manchurian iron ore resources for the purpose of building up a Manchurian heavy industry and of supplying Japan's iron furnaces, was given the highest priority by the Japanese planners. As a result of extensive and thorough geological surveys the Japanese produced a new and vastly increased estimate of Manchurian iron ore reserves. These were put at around 400,000,000 tons in 1930 and at 2,700,000,000 tons a decade later. Furthermore,

while in 1930 it was considered that the bulk of Manchurian ore was of low grade, with an iron content of only 30% to 40%, and with a high silica content, and was thus too expensive to make an iron industry a commercial proposition, the Japanese claimed that their new discoveries materially altered the picture. This was verified when they came across reserves of high-grade ore in the Tungpientao region, notably at Talitzuho, near Linchiang, where they reported an 80,000,000 ton bed, with a 63% iron content, and a smaller one at Chitaok'ou, with an iron content of 54%. Freedom from silica and other impurities and proximity to supplies of coking coal at Tiehchangtzu, a place fifteen miles south of Tunhua, constituted further important advantages. The Japanese in 1938 established then the Tungpientao Development Company and planned to construct blast furnaces and iron foundries on a large scale in Tungpientao. Some small smelting furnaces were in operation in 1943. But shortages of materials and the exigencies of wartime compelled the shelving of more ambitious plans and concentration on iron ore and coal mining for use at Anshan and in Japan. The Japanese undoubtedly secured large quantities of coal and iron ore from Tungpientao during the war(5).

(2)Expansion of coal industry:

In 1930 Manchurian coal production totalled 9,660,000 metric tons of which 7,200,000 were produced by the famous mines at Fushun. Fushun lies in the valley of the Hun river, some thirty miles from Mukden in an easterly direction. The coal deposits cover an area ten miles long

and two and one-half miles wide, with an estimated reserve of 952,000,000 tons. As the seams are all near the surface, Fushun has become the largest open cut coal mine in the world. Coal has been mined there by traditional methods for centuries. The Russians began modern mining, but the big developments came after 1907 when the SMR took over operation of the mines. Production rose from 490,000 tons in 1908 to 7,200,000 tons in 1930(6). The SMR also operated the Yentai collieries, which are situated some fifteen miles northeast of Liaoyang, and were producing some 170,000 tons of anthracite annually in 1930. The other important south Manchurian coalfield was at Penhsihu, forty-seven miles southeast of Mukden. It was producing about 400,000 tons annually in 1930, and is especially important as a fine source for coking coal. Fushun, Penhsihu, and Yentai were together responsible for almost all coal production in southern Manchuria, although the Chinese administration at Mukden was operating the mines at Peip'iao, in Jehol, and Fuhsin, on the Takushan-Tungliao railway.

In north Manchuria the chief collieries in operation in 1930 were located at Chalainor, Muling, and Holichang. Chalainor, on the Chinese Eastern Railway, between Hailor and Manchouli, was owned and operated by the CER and was producing about 200,000 tons yearly. So was the coalfield at Muling, in Kirin province, north of Mutan-chiang. The third north Manchurian coalfield, at Holichang, is on a tributary of the Sungari, north of Chiamassu. This was producing

only some 15,000 tons yearly in 1930, but its coal is of better grade and is suitable for coking.

The Japanese conducted fresh surveys of Manchurian coal reserves and discovered various extensive deposits, in addition to revising the estimates of the reserves already known. As a result, estimates of the total coal reserves of Manchuria rose from 4,800,000,000 tons in 1930 to 20,000,000,000 tons in 1941. The fuhsin fields were reestimated at 4,000,000,000 tons, while important discoveries were made in the Tungpientao region along the Korean frontier.

In May 1934, the Manchurian Coal Mining Company was organized, with an initial capitalization of ¥ 16,000,000, subscribed jointly by the Manchukuo government and the SMR. This was raised to ¥ 80,000,000 in 1937, the increase being born equally by the same subscribers. It took over all collieries except Fushun, Penhsihu, and Yentai. According to Japanese statistics the total Manchurian coal production was 13,600,000 tons in 1936, of which the SMR collieries accounted for 10,200,000 tons. The Manchuria Colliery Company ran into difficulties; partly because it was dissipating its energies over too many coalfields, partly because expansion was hampered by shortages of colliery equipment and of labor. Coal production failed to keep pace with domestic requirements and indreased demands from Japan, and there were expressions of dissatisfaction in the Japanese Diet in January 1940 which General Tojo was not entirely able to allay. Also most Manchurian coal is of the bituminous kind and is not suitable for coking,

and for pig-iron production either Penhsihu coal was used, or else a mixture of this coal with that of other fields. This stimulated Japanese interest in the reserves of coking coal in North China(7), especially those at Kailan and Tatung. Despite these differences in coal qualities, and the resultant difficulties in successful utilization, Manchurian coal production rapidly increased, reaching in 1944 over 30,000,000 tons - treble that of a decade earlier. By that time however, Japanese shipping losses had reduced exports to Japan to a very small amount(8).

(b)The five year industrial development plan:

The foregoing summary of events in the development of Manchukuo's mining and manufacturing industries during the first five years of the new state's existence is by no means an exhaustive survey. It is however, sufficieht to indicate that by 1936 considerable progress had been acheived despite the reluctance of the more conservative financial interests in Japan to invest in the development of a potential industrial rival, particularly when such investment was subject to Manchukuo's system of arbitrary state control. Undaunted by the continual hostility of Tokyo's banking oligarchy, the Japanese authorities in Manchukuo triumphantly proclaimed that in five years Manchukuo had succeeded in expanding the nation's productivity capacity and in laying a solid foundation for its future development(9). Accordingly, in October 1936, the Manchukuo government announced an ambitious five year industrial development plan for the period 1937-1941.

The cost was to be ¥ 2,500,000,000 and its provisions for the iron and steel industry were: 1) to increase the annual coal production to 27,000,000 tons by 1941, chiefly by expanding the output of the mines operated by the Manchuria Coal Mining Company and opening up the extensive deposits which had recently been discovered in the Tungpientao region on the southeastern frontier. To this end the capital of Manchuria Coal Mining Company was raised from ¥ 16,000,000 to ¥ 80,000,000; and 2) to make Manchukuo self-sufficient in iron and steel, with a production of 2,300,000 tons of steel, 2,400,000 tons of pig-iron, and 6,600,000 tons of iron ore by 1941. The exploitation of extensive deposits of high grade iron ores in the Tungpientao region, estimated to total 1,300,000,000 tons, was expected to facilitate the achievement of this ambitious program(10).

It was expected that the successful completion of this plan would provide Japan with a mainland industrial base strong enough to support the vast program of continental conquest to which her militarists had long been committed, and, viewed in historical perspective, it is now clear that the Japanese invasion of North China in July 1937, was in reality an integral part of this industrial expansion program, since North China's iron, coal(11), and other natural resources were needed to provide the raw material base for Manchukuo's expanded industrial structure.

The initiation of the five year plan was followed by a far reaching change in the policy of state control over important industries, in an effort to placate Japanese financial interests and encourage

the investment of Japanese capital on a greatly increased scale. The first step was taken in May 1937, when the Manchukuo government promulgated the "Important Industries Control Law", which set legally defined limits to the control of the government, gave primary consideration to the development of vital war industries, and established a definite policy for adjustment between Japanese and Manchurian Industries. This was in line with Japan's announced policy of the parallel development of industry in the two countries(12).

(1)Importation of the Nissan interests and reorganization of the Manchukuo governmental finance:

The most important of the new Zaibatsu in Japan, Nippon Sangyo Kaisha(Nissan), was headed by Yoshisuke Aikawa. In 1936 he was invited to Manchuria to inspect the progress of industrial development there and expressed himself as very favourably impressed by what he saw. Then, in July 1937, the China incident made it imperative for the Kwantung Army to enlist the aid of private Japanese enterprise in Manchuria, both because the Japanese government now had a new and serious drain on its resources and because the conquest of North China and Inner Mongolia enabled the Kwantung Army to put into practice its long cherished plans for a Japan-Manchukuo-North China economic bloc.

In October 1937, the Manchukuo government announced that a new holding company, the Manchuria Industrial Development Company, would be established to develop Manchukuo's heavy industries. The new company was to be capitalized at ¥ 450,000,000 equally subscribed by the Manchukuo government and the Japan Industry Company(Nissan),

the second largest holding company in Japan. The ¥ 225,000,000 subscribed by the Manchukuo government was largely in the form of plant equipment purchased by the state from the South Manchuria Railway Company, which turned over the bulk of its heavy industries to the MIDC. The new company was given a controlling interest in the local coal and iron industries. In addition to the privileges guaranteed by the government to all national defense industries under the "Important Industries Control Law", the Manchuria Industrial Development Company was guaranteed by the government a profit of 6% a year on all its investments in Manchuria over a ten year period. The company was also exempt from any Manchukuo taxes on profits accruing out of its investments in other countries and no profit tax was to be imposed on dividends paid to shareholders outside Manchukuo; the company was not to be restricted in any way as to its dividend rate, and both the Manchukuo and Japanese governments were to insure the negotiability of the shares held by private investors. Here was a shift all the way from strict regulations on private profits to a government guarantee of those profits.

The reason for this modification of the policy of state controlled industry has already been mentioned; namely the unwillingness of Japanese financial interests to invest in Manchukuo when more profitable opportunities were available in Japan. A concrete evidence of this reluctance was the fact that in 1937 the South Manchuria Railway Company was able to issue only ¥ 21,000,000 out of a total of ¥ 130,000,000 of projected debentures(13). With the launching of the

China campaign, the Kwantung Army and its civilian colleagues in Manchukuo believed that a more rapid expansion of the basic industries in Manchukuo wascimperative, and that drastic measures were therefore necessary to induce an increased inflow of Japanese capital. Hence the wholesale importation of the Nissan interests. The choice of Nissan instead of some of the older financial groups - Mitsui, Mitsubishi, Sumitomo etc. - is easily explained in view of the fact that it had been the older groups which had been blocking Manchurian development by their passive attitude toward Manchurian investment and their preferance for safer investment at home. The younger financial groups on the other hand, such as Nissan, Noguchi, and Mori, founf opportunities for investment in Japan largely monopolized by the older interests, and were more enthusiastic about launching new enterprises on the continent. The structure of the Nissan interests, being that of a "public" holding company with 50,000 shares, was also more acceptable to the Manchukuo government than a single company owned by a few large calitalists or a single family, since it could be made to appear that the profits would be widely distributed in line with Manchukuo's proclaimed policy. The Nissan interests, starting from an obscure holding company capitalized at ¥ 50,000,000 had risen in less than a decade to become the second largest holding company in Japan, exceeded only by Mitsui, and had been foremost in heavy industry. As of June 1937, the total capitalization of the Nippon Industry Company stood at ¥ 225,000,000 of which ¥ 198,000,000 was paid up. The company controlled eighteen

direct subsidiaries with a nominal capital of ¥ 502,000,000 of which ¥ 381,000,000 had been paid up. The Nissan interests thus controlled a total capital of ¥ 850,000,000(14).

(2)Effects of the second Sino-Japanese war on the five year industrial development plan:

With the transfer of the Nissan interests to Manchukuo, the stage was set for a long planned expansion of Manchurian heavy industry when a new and unforeseen obstacle presented itself; the unexpected prolongation of what had been planned as a quick and relatively simple campaign for the conquest of the resources of North China. The acquisition of these resources was intended to supply the raw material base for the new Japan-Manchukuo industrial structure and there seems little doubt but that Japan counted on being able to set up a Japanese-controlled puppet regime in North China within a few months. Instead, as the war developed rapidly into a major conflict, Japan was compelled to adopt a system of import and exchange control and simultaneously to expand the production of her war industries. The former accentuated the already serious shortage of construction goods and raw materials in Japan, while the latter greatly increased Japan's own need for skilled labor and capital, construction materials and technicians, this situation was certain to prove a severe handicap in the carrying out of her industrial program, but at the same time, the increasing strain imposed by war on the Japanese economy made it imperative that Manchukuo, like Japan, should be converted into an ever greater

producer of armaments and other war supplies. Consequently, early in 1938, the goal of the five year plan was revised upward, and the estimated capital outlay was increased to approximately ¥ 5,000,000,000, of which the Japanese government was to supply ¥ 1,400,000,000 and the Manchukuo government ¥ 2,100,000,000, while it was hoped to obtain the remainder from foreign countries. Of this amount, ¥ 3,800,000,000 were to be devoted to mining and industry, including ¥ 1,100,000,000 for steel, ¥ 500,000,000 for electricity, and ¥ 300,000,000 for coal(15). Table IV in the appendix gives the production of the most important industrial resources in Manchukuo for the years 1933- 1936, compared with the goal of the original plan and of the 1938 revision.

****

(1) The Yasuda Bank held 116,000 shares in 1932 and 171,000 in 1937 out of a total, for that year, of 16,000,000 shares. Source, Kirby, E.S.(Op. cit.): "Economic Organization of Manchukuo". 1937, p. 179. Also, the SMR capital of ¥ 440,000,000 was doubled in 1933, the Japanese government maintaining a 50% holding. The company's assets increased from ¥ 1,100,000,000 in 1931 to ¥ 2,120,000,000 in 1937. Of the total of ¥ 1,504,000,000 of new Japanese investments in bonds and loans in Manchukuo during 1932-1937 inclusive, 68% was effected by the SMR(Contemporary Manchuria, Vol.III, No. I, January 1939, p. 6). The SMR total included ¥ 760,000,000 invested in the Manchukuo State Railways and ¥ 220,000,000 in private companies(Contemporary Manchuria, Vol. III No. 5, September 1938, p. 95).

(2) It has already been mentioned that the military had succeeded in once again penetrating the circle around the Emperor. When this happened, Japanese government policy was altered by this Army influence so as to "stronglt urge" the Zaibatsu to invest in Manchurian economic development. It must be kept in mind that at this time, terrorist groups of young Army officers had forced the Zaibatsu into a hasty retreat from their former position in opposing the demands of the military. The climax of this trend was reached when Finance Minister Takahashi was assassinated in February 1936. This era was marked by an increasing tendency among the Zaibatsu

to play ball with the military - only so far as to make their financial contributions the least required for survival. Source, Allen, G.C.(Op. cit.): Chapter X, pp. 147-149.

(3)Yasuo, N. "Manchukuo's New Economic Policy". Pacific Affairs, Vol. XI No. 3, September 1938, p. 328

(4)The Army

(5)The Tungpientao coalfields are about 200 miles from Anshan and constituted much the nearest source of good coking coal(See tables I and II in the appendix).

(6)SMR."3rd Report on Progress in Manchuria". 1932. Dairen. p. 23

(7)New York Herald Tribune, June 22, 1940

(8)China Newsweek, November 14, 1946, p. 7

(9)SMR."6th Report on Progress in Manchuria". 1939. Dairen. p. 58

(10)In 1934 the Manchuria Coal Mining Company with a capital of ¥ 80,000,000 was established with a view to taking positive steps for the development and increased production of coal fields throughout the whole of Manchuria. Source, Manchukuo Five Year Industrial Development Plan, 1937-1941. Hsinking, October 1936

(11)In particular those coal deposits at Tangshan, North China, operated by the British owned Kailan Mining Administration, were considered the most desirable as coking coal at this time. The continual Japanese efforts to find better and better coking coal is evidenced by the almost annual shift from area to area during this decade of the thirties.

(12)New York Times, May 14, 1937. In 1937 the Japanese Army had completely subjugated the Zaibatsu opposition to the economic development of Manchuria. Therefore on May 13, 1937, the Japanese government announced simultaneously with the Manchukuo government the policy of integration and parallel development of heavy industry.

(13)Op. cit., May 19, 1937

(14)Stewart, J.R. "Manchurian Heavy Industry Reorganized". Far Eastern Survey, September 8, 1941. pp. 202-204. See table III in the appendix.

(15)Op. cit. See table IV in the appendix.

PART FOUR

Manchurian Iron and Steel in Wartime; 1937-1945

a)As a base for continental aggression:

The military value of Manchuria as a battlefield in the Russo-Japanese War was recognized by all strategists. It was the economic aspect however, which was of more concern. Japan regarded the natural resources and food supplies of the area as essentials in the struggle for supremacy.

We have already passed on the fact that Japan proper contains coal. But this is of inferior quality, not suitable as a coking coal, and therefore not adequate in the smelting of iron. The large Manchurian reserves were regarded as a source to be obtained at low production costs. The iron problem was more serious than that of coal. The Japanese General Staff well knew the empire's dependence upon foreign markets for raw materials essential in an aggressive war or a war of national defence. Between 1927 and 1930 Japan proper produced only nine per cent of the iron consumed. Japanese mining experts before 1931 knew that complete independence in so far as iron was concerned was impossible. After their domination in Manchuria was assured, Japanese military staff officers hoped that efficient exploitation of the region would enable the empire to depend less upon foreign raw materials. Besides the iron and steel industry and its associate industry, coal, the oil shale and agricultural products of Manchuria were also absolutely essential for any overall east-Asian military campaign.

As a base for continental aggression, Manchukuo proved to be less

fruitful than had been expected. Japan, in 1927, felt(I refer to the military class that backed the Tanaka Memorial) that with the necessary raw material resources world conquest might prove an extremely long range possibility. With this thought in mind, the military returned to power in the Japanese government.

From 1931 until 1937, the size of the Japanese armed forces stationed in Manchuria fluctuated around 225,000 men. In the above mentioned period of six years, Manchuria passed through an intensive phase of industrialization. Despite the recognized progress(especially in the iron and steel industry and the coal mining industry), investment from Japan in Manchurian industries was disappointingly small. Nevertheless the Manchurian government under the direct control of the Kwantung Army, succeeded in establishing eight great arsenals throughout the region(Harbin, Mukden, Penhsihu, Hailar, Mutanchiang, Tsitsihar, Szepingkai, and Kirin. See table V in the appendix.). As the year 1937 drew near, the output of these arsenals, coupled with the production of the various machine industries(in turn supplied by the Showa Steel Works and the Penhsihu Iron Works) grew to the point where the Japanese Army General Staff was able to support more and more the Japanese troops in Manchuria on the products of Manchurian industry.

In 1937, the Japanese planned the "China Incident" to be but a quick affair. At the outset, Japan put into the field twenty-five divisions(1). For the fall fighting, Japan's North China Army was given four more divisions. At this point, a reorganization of Manch-

urian industry took place - especially in the iron and steel industry.

Japan began in July 1937, to build national economy on a wartime basis. The plan included a ¥ 2,000,000 trade agreement with Germany, which indicated a failure to develop with the inadequate Manchukuo state funds(2). The Manchuria Heavy Industry Company(3) made efforts to obtain additional funds from foreign sources but failed to impress American financiers. The officials of this company labored in vain to prove the safety of Manchukuo for both Japanese and foreign capitalists.

By the end of 1937, the money expended in Manchuria was a drain upon Japanese resources. The optimists pointed to the reformed budget system, the rise in customs revenues, the more efficient tax collections, the redemption of old currencies, and the coordination of banking organizations which eventually would bring returns. The realists on the other hand, had concrete answers. They called attention to the huge military expenses for the maintenance of garrisons and the suppression of "banditry", with Manchukuo contributing only about ten per cent of these costs in 1936.

(b)Reorganization of the Manchuria Heavy Industry Company in 1941:

When in December 1937, the Manchuria Heavy Industry Company(Mangyo) was organized, the Nissan interests moved their headquarters to Hsinking and Aikawa became the actual director of Manchurian industry. Matsuoka, who was too independent to suit the military, gave way in 1939 to Takuichi Omura, a former chief of the Communications Supervisory Section of the Kwantung Army. Thus the proud SMR became but one of the several agencies of the Kwantung Army in its exploitation of

Manchuria. This was what a powerful section of opinion in that army had been aiming at ever since 1931. But Aikawa soon ran into unexpected difficulties. The non-recognition policy of the American government in regard to Manchukuo was strengthened by the withdrawal of various American and foreign firms in view of the monopolistic practices of the Manchukuo regime, as well as by the advance of Japan into the rest of China. The China affair made it difficult to secure adequate supplies of capital goods from Japan, while the outbreak of the European War in 1939 paralyzed the operation of the German-Japanese-Manchurian tripartite trade and loan agreements by which Germany was indirectly assisting in the building up of the Manchurian iron and steel industry. Furthermore, Aikawa was confronted with management problems. His real authority was limited by the interference of the Hsinking bureaucracy and by jealousy between the Nissan staffs and those of the companies under his control. Aikawa and his subordinates were businessmen interested in efficient and profitable management and they had frequent feuds with Army theorists and bureaucratic state planners.

By the end of 1940 Mangyo had made ¥ 1,422,000,000 of new investments, of which 78% was in Manchuria. It was paying 10% on its privately owned shares and 5% on its government ones, but it was enabled to do this mainly through receipts from the Manchukuo treasury, in fulfillment of the 6% guarantee. This subsidy accounted for 70% of Mangyo profits in the latter part of 1940(4).

This unsatisfactory situation resulted in a reorganization ofthe

Manchuria Heavy Industry Company in 1941. Under this Aikawa agreed to dispose of his interests in Japan, mainly to a group of Japanese insurance companies, who also agreed to invest an annual ¥ 100,000,000 in Mangyo during 1941-1944. It was arranged that Aikawa's control over the subsidiary and affiliated companies should be strengthened by making Mangyo their sole avenue of approach to the Manchukuo government. To assist in the coordination of activities the various undertakings were organized into four main groups: iron and steel concerns, coal mining, non-ferrous metals, and machinery, with a director over each who was responsible to the central board of Mangyo. But before the results of this new scheme could become apparent the Pacific War broke out and was accompanied by fresh stringent war-time controls, increased shortages of materials, and other problems which eventually proved too much for Aikawa and compelled him to resign from the presidency of Mangyo.

The execution of the first five year plan immediately ran into obstacles. From 1937-1941 the Japanese economy had to bear the threefold burden of the maintenance of large armies in China, of preparation for the greater war which the Army envisaged, and of providing the bulk of the capital goods for the Manchurian industrial program. Although Japan's industrial capacity was greater than was generally supposed by outside observers, and proved surprisingly resilieht, it was not entirely sufficient for the simultaneous performance of all these tasks. There were bottlenecks in production, especially in machine tools, and a shortage of skilled labor. Moreover Japan's slender

foreign exchange reserves hampered her in the purchase of essential equipment abroad. She was dependent upon Germany and the United States for imports of certain types of machinery and the outbreak of the European War largely cut off German supplies. It furthermore disrupted the profitable Manchuria soya bean trade, thus depriving the Japanese of an important source of foreign exchange, and greatly adding to the obstacles impeding the five year plan. It is therefore not surprising that the planned totals of even the first draft of the second five year were not reached. According to Japanese sources Manchuria in 1941 produced 20,700,000 tons of coal, 1,417,000 tons of pig-iron, 573,000 tons of steel ingots and 356,000 tons of steel materials(5).

(c)The second five year plan; 1942:

A second Manchurian five year plan was launched in 1942, but this was confronted not only by all the adverse circumstances which hadprevented the full execution of the first one, but by new ones which arose from Japan's entry into war with the United States and Great Britain. It should be observed that although the rapid initial conquest of the East Indies with their immense mineral and agricultural wealth caused a diversion of popular attention from Manchuria, the Japanese government from the first strove to counteract this tendency, and to stress the importance of Manchuria as a vital part of the inner zone of defense. Japan's armament program was directed toward a fight among the islands of the Pacific and not toward mainland warfare. Such ground operations as were conducted on the Asiatic mainland were for the most part supplied by the Manchurian industries themselves. The greatest

achievements of Japan's war economy were registered during 1944, peak output of many essential items being reached in the early fall. By an immense effort overall production was raised to record heights despite the basic limitations within which the Japanese were compelled to work. Large additions to plant capacity were made, not only in Manchuria, but in Japan too. It proved impossible however, to raise basic industry to a level which could sustain the peak output of essential munitions products.

(d) Increased dependency of the domestic Japanese steel industry on Manchuria:

By the time the munitions industries had reached their peak, the supply of basic materials(iron, steel, coal) was suffering a sharp decline. By fall of 1944 it had already become impossible to hold steel and coal production at the 1942-1943 level, and thereafter the foundations of basic industry progressively collapsed. The Japanese war economy disintegrated at its base, even while the utilization of available stocks kept munitions output at high levels for a few additional months (6).

Despite the problems that beset the basic industries in Japan and Manchuria, a review of the accomplishments of the Manchurian iron and steel industry needs to be made in this wartime period.

Japanese troop dispositions during the war, as related to northeast Asia, were as follows: Manchuria(Kwantung Army), 675,000 men - as of August 1945; North China, 561,000 men. The Japanese had forty-three divisions in Manchuria when the war ended and thirty-five in North China. The significance of the Manchurian iron and steel industry is that it

furnished the machine industries of Manchuria with the materials to keep over 1,200,000 men in the field, at almost no drain on the Japanese home production. The main armament works, operating in direct subservience to Mangyo(under which Showa Steel Works and Penhsihu Foundry operated), were located in Mukden under the title "Hoten Zohei-sho"(7). In close proximity to this arsenal was the Dowa Jidosha Kogyo K.K. - the only producer of tanks and Japanese mechanized equipment on the continent. Affiliated with the Hoten Zohei-sho were seven other arsenals. These have been mentioned before in passing, but table VII in the appendix shows the areas for which these arsenals were the supply centers.

The Manchurian arsenal organization was supplied chiefly by the Penhsihu Iron Works and the Showa Steel Works(together they produced 85% of all iron and steel in Manchuria during the war). The heavy industries supplied Japanese field armies in North China and Manchuria with the following: 100% of required ammunition; 70% of artillery plus replacements for all barrels burned out in action; 100% of small arms used; 40% of tanks and mechanized equipment; 55% of anti-aircraft artillery; 10% of aircraft and 35% of all communications equipment(8). The remaining supply needs in regard to heavy industry were taken care of by Japanese home production. Besides the contributions of heavy industry, it must also be noted that Japanese armies in North China and Manchuria were furnished 90% of their food requirements by Manchuria and 60% of their clothing needs.

Analyzing these facts, it becomes obvious that Manchuria was in-

deed an arsenal. From 1937 on, the heavy industries played an increasingly greater role in meeting the needs of continental Japanese armies. As in Japan, peak production came in the fall of 1944.

As the war progressed, it became evident that the already inadequate iron ore supplies had to be spread thinly. The air-sea blockade aggravated this weakness. From April 1943 on, imports of iron, in ore and pig form, began to decline. Steel production cuts were staved off however, for over a year, since stockpiles provided a cushion and even permitted an expansion of output during this period. But iron ore stockpiles in the home islands, amounting to about 2,600,000 tons in December 1941, had dwindled to 800,000 tons in June 1944(9). Chinese iron ore accounted in 1943 for 89% of the Fe contents of iron ore imports to Japan. This movement dropped from an average of 374,000 tons per month in the period January-June 1943 to 252,000 tons for the following six months and by December 1944 to a mere 37,000 tons(10). The loss was principally the result of 14th Air Force sinkings of Yangtze river shipping, but was also partly due to submarine action off the estuary of the Yangtze. After June 1944, the drop in iron ore imports was closely paralleled by a drop in ingot steel production. Even before stockpiles of iron ore were exhausted, blast and steel furnace operations were reduced and production was allowed to fall below plan without apparent regard to the effect on scheduled production of finished goods.

In the July-September quarter of 1944 a reduction in imports of

pig-iron, ingot and rolled steel from Manchuria was added to the results of attack on iron ore transportation. The decline in Manchurian pig iron shipments was 28% from the previous quarter. In the next three months there was another drop of 5%. This was primarily due to the 20th Bomber Command attacks on Anshan's Showa Steel Works(the three raids on the Anshan works caused a loss in production of approximately 200,000 tons of pig-iron - 15% of fiscal year 1943 output - 136,000 tons of ingot steel and 93,000 tons of rolled steel(11). The main impact was on the availability of iron and steel for Manchurian consumption. At this time too, 14th Air Force and Chinese guerilla operations against Chinese railroads greatly reduced the movement of North China coking coal to Anshan.

Tables VIII through XIV are a helpful key to the study of wartime influences on the heavy industries of Manchuria. Table VIII illustrates how, when sinkings gradually forced Japanese shipping northward, the pressure for raw materials began to influence North China and Manchuria. Then, as North China exports to Japan decreased because of railway rolling stock losses and losses in light shipping, Japan desperately began importing as much coal as possible from Manchuria. Though Korea supplied most of the raw iron imports into Japan after 1943, table IX reveals that by 1944 and 1945 even difficult to obtain Manchurian ores were imported in increasing quantities. Tables X through XV state that Manchuria was definitely a pillar of Japanese economy. As the war progressed it is evident that Manchurian iron ore, pig-iron, and coal were shipped

to Japan in increasing amounts. But actually one might readily note that when considered in the overall picture, these exports to Japan from Manchurian basic industries were but drops in the bucket compared to exports from other areas to Japan. Yet the significant fact is this: without Manchuria's heavy industry, Japan would never have been able to field her armies when her own home basic industries were so limited. Moreover, Japanese armies in North China and Manchuria operated with very little demand on the Japanese home economy other than for replacements and clothing. Therefore it becomes apparent that the bulk of Japan's iron and steel industry was focused on the Pacific fighting; Manchuria's on the continental campaigns.

(e) Condition of the Manchurian iron and steel industry at the end of World War II:

When Japan surrendered on August 14, 1945, the iron and steel industry of Manchuria was not severely damaged. Anshan had suffered three serious raids at the hands of the 20th United States Bomber Command in June and September 1944. Production had declined in the heavy industries, but this was partly due to guerilla activities and American air attacks on rolling stock on the railways of North China and Manchuria. If left alone, there is not one doubt that the basic industries would have expanded tremendously as a result of the discoveries and development of the Tungpientao area. The greatest problems arose in the acquisition of new mining machinery and electrical equipment - most of which had hitherto been purchased in the United States or Germany. The inability to expand in Manchuria however, did

not materially change the picture as far as the Japanese troops were concerned. Throughout the war an elite corps of over forty divisions was supposed to be in Manchuria. But when the U.S.S.R. attacked Manchuria on August 9, 1945, it was discovered that the Kwantung Army's strength had been sapped, as through the course of the war, veteran units were transferred elsewhere to fight. The replacements that then arrived were older men, and weren't veterans. This made a difference in the quality of the troops from the first.

The Russians had been moving troops to the Far East since the capitulation of Germany and had assembled a formidable force, under the general direction of Marshal Vassilevsky(12). The Japanese Kwantung Army under General Otozo Yamada, was not only outnumbered, but heavily outmatched in artillery and armor. On August 9 it was assailed by one Soviet army under General Meretskov, moving from the Vladivostok area upon northern Korea and eastern Manchuria; by another, under General Purkayev, which crossed the Amur into North Manchuria; and by a third - the main force - under Marshal Malinovsky, which struck from the northwest towards Hailar and the Khingan mountain range. On Malinovsky's right flank was the Outer Mongol army, under Marshal Choibalsan, which moved upon Chahar and Jehol(Outer Mongolia duly copied its Soviet protectors in a war declaration against Japan. See note 13.).

The Japanese defensive units on the frontier were speedily rounded up, penetrated, or by-passed, as the Russian armored divisions swept in towards the heart of the country. The Russians bombed Hsinking and Mukden - the sites of the two most important arsenals(not counting Harbin,

which was captured very quickly by Meretskov) and did extensive damage to the armaments works. When Japan surrendered on August 14, Malinovsky had crossed the Khingan range and was moving in on Tsitsihar. In the northeast a great struggle took place at Mutanchiang, on the Sungari, but the Japanese fought in vain because Meretskov had succeeded in flanking all Kwantung forces by his sweep to Harbin.

On August 23, under Imperial decree, the Japanese forces in Manchuria surrendered. The Russians gave their losses at 8,219 dead and 22,264 wounded, and put Japanese losses at 80,000 dead. They claimed to have taken 594,000 prisoners, but it is not clear whether this includes Manchukuo forces(14).

Thus the war ended with all the military action taking place in North Manchuria. After the Japanese surrender, Russian glider units occupied the South Manchurian Railway and all the cities along the tracks. No damage took place in the instillations of the iron and steel industry as a direct result of hostilities. The only damage occurred through American and Soviet air attacks. Much of this damage had been quickly and thoroughly cleaned up. All that Manchurian heavy industry needed was enough coal and iron ore. This could have been had with the reconstruction of the railroads in North China. The capacity of the iron and steel industry was enough to carry on the work of reconstruction by itself, once the railways were functioning properly again. Then Soviet power politics took shape in the form of hundreds of civilian technicians that suddenly descended upon Manchuria.

****

(1)Ennis, T.E. "Eastern Asia". Chicago, 1948. p. 356(259,304 men; 17,343 officers; 6,944 air force personnel).

(2)The Manchukuo Ministry of Finance(prior to the importation of the Nissan interests) had found it very difficult to obtain enough money and equipment for economic expansion. By 1937, the Axis allignment was shaping up very well and Germany provided not only an agricultural market for Manchurian wheat and soybeans, but also another source of finance and equipment.

(3)Formed in December 1937 by the Manchuria Industrial Development Company(organized in October 1937 by the Nissan interests) as a subsidiary firm to handle directly the Manchurian iron and steel industry.

(4)United States Strategig Bombing Survey. "Effects of Strategic Bombing on Japan's War Economy". Appendix ABC. Washington, 1946 p. 13

(5)Stewart, J.R. Op. cit. p. 202-204

(6) U.S.S.B.S. Op. cit. pp. 22-23

(7)Pauley, E.W. "Report on Japanese Assets in Manchuria to the President of the United States". Washington, 1946. Chapter II. pp. 16-54

(8)Ibid.

(9)U.S.S.B.S. Op. cit. p. 45

(10)Ibid.

(11)Ibid.

(12)Byrnes, J.F. "Speaking Frankly". p. 217
70 divisions according to Marshal Stalin. The Japanese had 43.

(13)London Times, August 23, 1945

(14)Op. cit., September 11, 1945

PART FIVE

The Industry Today: A Bone of International Contention

(a)Soviet war booty:

Soviet-Chinese friendship was at its highest peak when the Far Eastern War ended - or so it appeared. A week before the signing of the Japanese surrender the new treaties between Russia and China that had just been drawn up were ratified in Moscow and Chungking. Soviet troops were by that time deep in the heart of Manchuria, but who doubted that in accordance with the Moscow agreements the activity of these troops would be limited to disarming the Japanese and restoring occupied regions to the sovereignty of the Chinese Central Government, and that they would evacuate Chinese within the agreed period of time - three months?

When it became clear a few weeks later that despite the upheavals in Far Eastern relations a grave Manchurian problem still existed, the world was startled. Manchukuo was dead; Japan had capitulated; Stalin's solemn declaration had been unequivocal on Manchuria. Was there any reason to expect trouble over Manchuria? For the Soviet government the Manchurian problem remained far from solved. It was estimated that American interest in Manchuria would be manifested by both economic and political penetration. Moscow looked forward to a growing antagonism with the United States and China - if, and so long as, Manchuria remained free of Soviet influence.

Moscow had two ploicies in store for Manchuria. The immediate Soviet program was simple and narrow, hence insufficient; it called

for the neutralization of Manchuria's military and economic potential by the destruction of her war and heavy industries. This would vouchsafe the security of the Soviet Far East, but for the short range period only. After a few years industrial plants could be rebuilt, mines reopened, and railroads put back into operation. The second set of policies, therefore , aimed at an effective and lasting settlement of the Manchurian problem by means of establishing a friendly government in Manchuria and placing it under the control of the Soviet Union. The dangers of such a policy were well known to Moscow. But now there was one very important factor which had been absent in Tsarist times: a large and popular pro-Soviet movement inside China; the Communist party and its armies.

Reduced to its simplest terms, the Moscow policy aimed at the acquisition of Manchuria. In making his solemn pledge of "respect for China's full sovereignty over Manchuria" Stalin had the same mental reservations that he had had in similar cases: a nation is sovereign even when under Soviet control; a "friendly" Chinese government means a sovereign China; so long as any other kind of government rules over the Chinese people the formula is something less than 100% perfect.

The Sino-Soviet treaty of August 14, 1945, a treaty of friendship and alliance(1), supplemented by four subsidiary agreements and two exchanges of notes, had been concluded in Moscow. The stipulations regarding Manchuria were, firstly, that the Port Arthur naval base should be jointly used by the U.S.S.R. and China for a period of thirty years, the actual defense to be entrusted to the Soviet Union, and the

military administration to be in the hands of the Sino-Soviet military commission of five, including three soviet representatives, one of whom should be the chairman. Civil administration was to be in the hands of the Chinese, but appointments and dismissals were to be made by agreement with the Soviet government. This gives the U.S.S.R. de facto control of an area extending to longitude 30 degrees 20 minutes north, and latitude 123 degrees eight minutes east, or approximately over the former Kwantung Leased Territory, exclusive of Dalny. Dalny was to be a free port open to the trade and shipping of all nations, but certain piers and warehouses were to be reserved on lease to the Soviet Union, and the harbormaster was to be a Soviet national, chosen by the Soviet manager of the Changchun Railway in agreement with the Mayor of Dalny: Russian imports and exports passing through Dalny and via the Changchun Railway were to be free of customs duties. The military regime established at Port Arthur was to be expanded to Dalnyonly in the eventof war with Japan. As no peace treaty has been concluded with Japan the Russians justify their continual occupation of Dalny on this score, and have refused to open the port to general commerce.

The railway agreement provided for the uniting of the main trunk lines of the Chinese Eastern Railway and the South Manchurian Railway Company in a single system which was to be called the Chinese Changchun Railway. This was designated the joint property of the U.S.S.R. and China and was to be jointly administered. All other Manchurian lines and subsidiaries were to be the full and exclusive property of the

Chinese government. General control was vested in a Sino-Soviet commission of ten members, in equal proportion from both nationalities, but with a Chinese chairman. Joint administration was to continue for thirty years after which the line was to revert to Chinese ownership(2).

China was not exactly happy at this Soviet intrusion. But nevertheless, Chinese press comment was favorable as China had actually regained control of the northeastern provinces. But very bitter feelings were soon aroused when it became known that the Soviet government, in a memorandum to China of January 21, 1946, declared that it regarded as its war booty all Japanese enterprises in Manchuria which had rendered services to the Japanese army, and that in pursuance of this principle the Soviet governmental occupational authorities were removing large quantities of industrial equipment to the Soviet Union.

At the very time that the Chinese premier and the Russian foreign minister were negotiating the new treaties in the Kremlin, Soviet agencies were hard at work preparing for the large scake removal of Manchuria's industries. The work began immediately upon the arrival of the Soviet troops. Soviet engineers arrived in considerable numbers; the NKVD put Japanese prisoners to work. Heavy machinery, tools, grinders, huge dynamos, hundreds of turbines and generators and rolling stock were removed. Attention was focused on iron and steel plants, arsenals, and aluminum, lead, and magnesium factories. The equipment was removed in part by railroad directly to Russia, in part to the

southern ports of Manchuria to be shipped to Vladivostok by sea. In the course of a few months the job was nearly done. The aggregate value of the looted installations and machinery was huge, impossible of measurement by any standards. The American Reparations Commission, which visited Manchuria in June 1946, estimated the direct damage, in a special report to the President of the United States, issued by Ambassador Edwin W. Pauley, at $895,000,000. The total damage, including deterioration and cost of replacement, was put at over $2,000,000,000. The Russians first removed the complete facilities at the arsenals of Mukden, Harbin, Tsitsihar, and Kirin. As a result of two major battles fought between the Japanese and Soviet armies, the arsenals located in Hailar and Mutanchiang were for the most part destroyed. The Soviet technicians of Vnestorg descended next upon the Showa Steel Works at Anshan and the Penhsihu Iron Works at Penhsihu. The Tungpientao Iron manufactuary suffered the next greatest loss, as it possessed some of the newest equipment in iron and steel manufacturing - imported from Krupp Grosenwerk in 1939 and 1940(3).

Along with the Red Army, two other Soviet agencies - the Commissariats of Foreign Trade and of Transportation - immediately began to operate in Manchuria. These two agencies were often rivals. The latter was assigned the task of taking over the railways in accordance with the Moscow treaties while the Foreign Trade Agency had the task of acquiring for the Soviet Union the "commanding heights" of the Manchurian economy. A number of Sino-Soviet mixed companies were to be established for the control of industry. These companies were to embrace 90% of all

metallurgical works, 85% of the coal output, and a large part of the chemical and machine building installations(4). In addition, the Soviet mission in Changchun claimed the property rights to all Japanese enterprises acquired by Russia during the period when the Red Army was issuing its occupation currency; there were some forty-one such enterprises in Manchuria. This currency, which was circulated primarily for the needs of the Red Army, was not recognized by the Chinese Central Government; the Soviet negotiators insisted that it be redeemed by the Chinese government agencies. It had actually been the intention of the Soviet government to disrupt the finances of Manchuria along with the large scale looting of the region. Therefore, knowing that Manchukuo note issue was approximately M¥ 8,000,000 , the Red Army circulated currency to the extent of M¥ 19,000,000. The net result was that Russians in many cases paid worthless money for their loot, while at the same time they started inflation to spiral; prices rose 700% in six months(5).

(b)Effects of the Communist-Nationalist civil war:

Even more serious than the Soviet looting, were the losses resulting from the Communist-Nationalist civil war. These were estimated at one to one and one-half billion dollars(U.S.). In 1947 one-half of Manchuria's coal mines were being operated within Nationalist territory and 1947 coal production was estimated at less than 4,000,000 tons. Only 200,000 kw. of electric power capacity remained for the use of industry in Nationalist territory out of a prewar capacity of more than two million kw. The civil war also prevented Manchuria's valuable

mineral deposits from being mined in anything but a fraction of pre-war output. Minerals and manufactured goods which were produced could not be distributed even within Manchuria because of damage to the railroads which were already burdened by troop movements.

1947 also saw the Kuomintang star begin to fall in Manchuria. The fighting was fierce and the already damaged basic industries suffered greater damage. The havoc created by these hostilities covered every phase of life. The Chinese Communists destroyed 165 miles of the former SMR's main line between Hsinking and Mukden, while at the same time having removed the rails, and burned the sleepers and telegraph poles. The damage to industrial establishments was equally heavy. The output of the Fushun coal mines was about 6,000 tons a day. Soviet removals of equipment and damage inflicted by the Chinese Communists at the iron and steel works at Anshan and Penhsihu had largely crippled production. During 1947, 23,000 tons of pi-iron, 48,000 tons of steel bars, 44,000 tons of other steels and 310 tons of alloy steels were produced. Besides graft and corruption in Nationalist circles, inefficient field armies and Communist guerilla warfare, the lack of skilled Japanese managerial personnel, in consequence of the repatriation of most of the Japanese civil population, made production quotas difficult to obtain(6).

(c)The industry as a pillar in Chinese economic recovery:

The fate of Manchuria cannot be separated from that of China as a whole. Yet the net influence on China's recovery in the near future remains too slim. The civil war has destroyed communications to the extent, that if iron and steel goods were shipped by rail from Anshan

to Hankow, theshipment would have to cross eighteen different sections of missing railroad roadbed - interms of milage, 224. Such conditions are not conducive to rapid economic recovery even in peace times.

To bolster Chinese recovery, several items of note need to be mentioned in regard to the Sino-Soviet treaty of February 1950. This treaty was signed by Chinese Communists - not Nationalists - and they did manage, at high personal cost, to secure Russian economic aid. The U.S.S.R. agreed to loan the People's Republic of China, $300,000,000. This sum in itself cannot compare to the millions the United States gave the Chinese Nationalists, but if applied exclusively to Manchuria, a rather large degree of recovery could be registered - perhaps enough to permit the Manchurian basic industry to carry on by the proverbial shoestring for several years(7). Then too, the Soviets announced plans for a new railway Ulan Bator, Mongolia, to Kalgan, north of Peiping. If this road is built, it will permit Soviet goods to be shipped directly to North China from the Trans-Baikal region - thus taking a great load off the rail facilities in Manchuria and permitting the basic industries to get the maximum use out of the available transportation. This would hasten the recovery of the iron and steel facilities. Last, and perhaps most important of all, the U.S.S.R. agreed to lend China large numbers of Soviet technicians. This is to be over a long period of time. If the joint Sino-Soviet companies are successful, and if peace is extant for some time, it is highly probable that Manchurian basic industries will recover completely within fifteen years. But we know today through press dispatches from all parts of the world - in particular from the Far East - that Sino-Soviet cooperation is not all

it seems to be. Russian technicians have been lent to China alright, but most have notified the Chinese government in Peking that they must first work on the various construction projects at naval bases which are leased to the U.S.S.R. by China in the recent February treaty. Therefore we might say with certainty that due to Soviet looting, civil war, and post-World War II mismanagement, the Manchurian iron and steel industry and the coal mining industry have reached the point where the cost of putting them back into operation grows greater every day. Mines are flooded, equipment missing or destroyed and electric power at a standstill. The only nation that produces all the highly technical equipment needed for rejuvenation, and in sufficient quantities for export, is the United States. The Soviet Union acted after the Japanese capitulation under the philosophy that they had to keep the United States out of Manchuria. With the U.S.S.R. opposed to American influence in Manchuria, and with the U.S.S.R. unable herself to supply the Chinese Communists with the necessary equipment, Manchuria's basic industries face a slow death by decay. Only a free Japan, without any United States interference, could furnish the needs of the iron and steel industry today. Yet we know we cannot permit Japan now, or in the immediate future, to help build up the economy of a communist state - regardless of the economic aspects of markets and raw materials logical though they may be.

(d) Communist planning and its influence on the iron and steel industry:

Since October 1949, the Peiping regime of the Chinese Communists has been the de facto government of China. Chinese Communist economic planning has worked hand in glove with Russian strategic considerations. The scope of the combined Sino-Soviet programs is immense. The

Soviet Union is now engaged in the first stages of a long range program to integrate North China and Manchuria into the economic structure of the U.S.S.R., with indications that political absorption of that vast area may be an ultimate goal. Already certain specific changes have been made in the administration of several provinces bordering the U.S.S.R., and there is ample reason to believe that Moscow's eventual desire, over a period of years, is to take over the entire and enormous region between Vladivostok and the Central Asian republics in order to construct a land bridge between the Maratime Provinces and Alma Ata. Territorially China has been forced to yield the following concessions to the U.S.S.R.:

1) A special type of autonomy has been established for the three northeastern provinces and Manchuria has been placed under the "Northeast People's Government" - the only area of China so designated. It is also known that Stalin exacted concessions from Mao Tze-tung during the February 1950, Sino-Soviet treaty talks.
2) Part of Manchuria and the three eastern provinces of Jehol, Chahar, and Suiyuan have been formed into an "Inner Mongolian Autonomous Area" - again indicating a special status not applying to the bulk of China. The capital of this autonomous government has been shifted from Wangyeh Miao in Manchuria to Kalgan in Chahar province, extending the zone of Soviet penetration.

To further the project of integrating Northeast China within the Soviet orbit, and to strengthen Sino-Soviet economic and military collaboration, the following railroads are being planned and construction has already begun:

1) Extension of the Ulan Ude-Naushki railway, south of Lake Baikal, through Outer Mongolia to connect with the Peiping-Kalgan line.
2) Final double tracking of the railroad from Peiping to South Manchria near Mukden.

These projects are under the supervision of Soviet technicians and

engineers. How successful they will be remains to be seen. The Chinese Communists have been hard put in trying to patch the Mukden-Harbin-Tientsin railway and have even had to tear up lengths of double track to keep the line in operation.

It is clear therfore, that Soviet policy today is to work to consolidate its political victories in Asia on a long range basis. The reconstruction of China and the gradual swallowing and digestion of parts of that country is a huge project demanding years if it is to be successful. There are already hints of disgruntlement within China at what is shaping up now for the country's future(8).

Spectacular production goals in heavy industry to make Manchuria the "Ruhr of Asia" have been revealed in several official Communist reports received from China. Most important of these reports was the text of a speech delivered at the Northeast China Members of the Communist Party's first conference. The speech was made by Kang Kao on March 13, 1950. Kang Kao, secretary of the Northeast Bureau of the Communist Party's Central Committee, broadcast from Peiping. In this and other reports, Manchuria is pictured as booming, while the rest of China is beset with depression. Manchuria is said to be crying out for greater manpower, while cities in China are raising funds for unemployed. Manchuria is described as overflowing with a food surplus which is being shipped to famine areas.

For the first time actual Manchurian production goals are given in tons. It had been previously reported that total industrial output was to have been 93% greater than last year. Heavy industries are to increase production five or six times. Generally however, 1950 will

not see Manchurian industry reach the peak of output obtained under Japanese rule. The general industrial goal this year is only about 57% of that achieved in 1943. Some of the targets of the state controlled industry are as follows: 1)720,000 tons of pig-iron, as compared to 172,000 last year; 540,000 tons of ingot steel, compared to 100,000 last year; 340,000 tons of rolled steel, compared to 72,000 last year. 2)It is hoped to mine 17,000,000 tons of coal, compared to 11,000,000 last year.

Following Russia's removals and Nationalist Chinese demolitions, only four of Manchuria's thirteen former blast furnaces were operating, according to a report printed in Shanghai several months ago. The report said five other blast furnaces were being repaired. Such units are basic to industrial recovery. It was estimated that these furnaces, when all were working, could have produced 1,750,000 tons of steel annually. The Communist said that when they took over Anshan, only 1,200 workers were left where 170,000 had labored before. To fill gaps like this 240,000 workers were added to Manchuria's labor force last year and the plan is to increase this force by another 220,000 this year. Kang Kao also announced plans to import $160,000,000 worth of goods, mostly industrial equipment and raw materials, this year and to export and barter an equal amount of surplus raw materials. While a large part of this trade will be with Russia, Manchuria also is expected to export considerable tonnage through Hong Kong(9).

****

(1)New York Times, September 13, 1947

(2)Op. cit., August 27, 1945

(3)Pauley, E.W. Op. cit. Appendix 5; also see table XV in this appendix.

(4)New York Times, December 14, 1946

(5)Hawkins, E.D, "Manchuria's Postwar Economy". Far Eastern Survey, Vol. XVI No. 3, February 1947, p. 35. Also, see London Times, September 27, 1947

(6)China News Week, June 19, 1947 pp. 6-10

(7)New York Times, March 1, 1950

(8)Op. cit. May 23, 1950; July 5, 1950.

(9)Op. cit. June 7, 1950

CONCLUSIONS

The future strategic and economic implications of the Manchurian iron and steel industry

Manchuria today is one of the most controversial places on earth. Besides its strategic and political ramifications, the country is in possession of a highly prized heavy industry base. The first nation to realize the potentialities of the economic resources of Manchuria was Japan. To Japan goes the credit for initial development.

Manchuria has now passed for better or for worse into the Sino-Soviet zone of political control. At first Soviet policy was to destroy all possibilities for other powers to build up a continental industrial complex that could rival the Soviet Far East by eliminating the Manchuria basic industry complex itself. But a change of policy took place when the Chinese Communists succeeded in gaining control of continental China. An agreement between Russia and Communist China was reached in Moscow in February of this year, whereby thousands of Soviet advisors and technicians have spread throughout China. The notable difference between the Soviet and former American missions is that with the Russians there appears to be no central control unit. Individuals are assigned to Chinese agencies and factories.

The emphasis is on growing Soviet influence and administrative authority in China and Manchuria. Russia considers Manchuria the most valuable portion of China both strategically and economically. All of Manchuria's exports(with the exception of some steel products) go to the Soviet Union. Administratively, Manch-

uria is under the iron-fisted control of Li Li-san, the most rabid communist in China, who, in the past, has been more pro-Russian than the more nationalistic Mao Tze-tung. Russia is taking no chances on Manchuria becoming another Yugoslavia.

With all indications pointing to Manchuria's future integration within the Soviet economy rather than the Chinese economy, it seems reasonable to expect that Manchuria may, in the cold war, be employed by the U.S.S.R. to fulfill an entirely different role than that of China. Today, American intelligence officers in Korea have proven beyond a shadow of a doubt that though much of North Korea's equipment was left by the departing Soviet occupation forces, much of the newer equipment has been manufactured in Manchuria. The implications of this news is very great. We know now that the $300,000,000 loan to China has been put to work in one area - the iron and steel industry of Manchuria. Though Russia may never be able to reach the peaks obtained under Japanese rule, she nevertheless will develop Manchuria's heavy industries to the point where she can supply the Communist forces in the Far East with all the smaller needs of warfare. This is not an exclusively Far Eastern policy - it is evident all around Russia's periphery. In Poland, Czechoslovakia, Hungary and Rumania, Russia is attempting to build up strong puppet armies backed by equally substantial industrial bases, so that in the event of an American attack, the West will not be able to attack the Soviet Union directly. Instead the West will have to conduct long campaigns through the satellite nations before it can crack the hard core of

Russian strength.

With this thought in mind, it is easy to see that in a future conflict between the Soviet-controlled nations and the West, Manchuria's heavy industries must be destroyed. If war does not materialize and an East-West rapprochement occurs, western diplomacy must intrigue to restore China's full control over Manchuria. Then, and then only, can China utilize the iron and steel industry of Manchuria for the rehabilitation of her communications system and her economy. Then the Chinese people can seriously think of bettering their economic standards. Then, through industrialization, China may have the long cherished opportunity of limiting her population and educating her people. On such peaceful foundations, heavy industry can transform society.

*****

APPENDIX A

APPENDIX A

Statistical Tables

Table I

Manchukuo Coal Production, 1932-1936 in metric tons:

1932	Production -	7,132,000;	Exports -	3,342,000
1933	" -	9,069,000;	" -	3,758,000
1934	" -	10,338,000;	" -	4,303,000
1935	" -	12,187,000;	" -	4,182,000
1936	" -	13,606,000;	" -	3,738,000

Table II

Manchukuo Iron and Steel Production, 1931-1936 in metric tons:

	Iron Ore	Showa Works	Penhsihu Works	Total	Steel Ingots
1931	673,000	277,000	66,000	342,000	
1932	743,000	287,000	81,000	368,000	
1933	770,000	318,000	116,000	434,000	
1934	740,000	322,000	153,000	476,000	
1935	985,000	457,000	151,000	608,000	162,000
1936	1,325,000	473,000	160,000	633,000	479,000

(Above tables from Japan-Manchukuo Yearbook, 1940. pp. 755-756)

Table III

Manchuria Industrial Development Company(1940), capital ¥ 450,000,000:

Principal affiliated companies in Manchukuo; in millions.

Showa steel works *	authorized capital	¥ 200	Paid up	200
Penhsihu Colliery and Iron Works	"	100	"	100
Manchuria Coal Mining Company	"	300	"	275
Manchuria Mining Development Co.	"	50	"	50
Manchuria Light Metals Co.	"	80	"	80
Manchuria Mining Co.	"	100	"	90
Manchuria Lead Co.	"	30	"	11
Tungpientao Development Co.	"	140	"	91
Dowa Jidosha K.K.	"	30	"	30
Manchuria Magnesium Co.	"	10	"	10
Manchuria Automobilt Mfg. Co.	"	100	"	25
Manchuria Aircraft Mfg. Co.	"	100	"	50
Manchuria Heavy Machine Co.	"	50	"	50

* In 1933 the Anshan Iron Works were reorganized as the Showa Steel Works. (Manchukuo Yearbook, 1941. p. 434)

Table IV

Production in the basic industries, 1933-1936 compared with goal of the five year plan, 1937-1941:

	1933	1934	1935	1936
Iron Ore	1,777,000	1,133,000	1,478,000	1,795,000
Pig-iron	434,000	476,000	608,000	647,000
Steel ingots	-	-	137,000	344,000
Coal	9,063,000	10,619,000	11,187,000	12,082,000
Coke	476,000	521,000	667,000	712,000

Goal of five year plan:

	Original	Revised
Iron Ore	6,600,000	12,000,000
Pig-iron	2,400,000	4,800,000
Steel ingots	2,500,000	3,500,000
Coal	27,000,000	38,000,000
Coke	-	-

(5th and 6th Reports on Progress in Manchuria; Manchuria Economic Yearbook, 1938, pp. 92-94. SMR Tokyo, 1939)

Table V

Arsenal locations and military regions they supported:

Arsenal	Location	Military region supplied
Penhsihu	Penhsihu	North China
Hailar	Hailar	Great Khingan line
Mutanchiang	Mutanchiang	Eastern frontier; Lake Khalka to Rashin, Korea
Tsitsihar	Tsitsihar	Lesser Khingan Defense Zone
Kirin	Kirin	Sungari River " " (Kirin province)
Szepingkai	Szepingkai	North China, Chahar(Jehol)
Harbin	Harbin	North Manchukuo Regional Arsenal (Fed other North Manchurian Arsenals)
Mukden Central Armaments Works(Hoten Zohei-sho)	Mukden	North China, South Manchuria, - Central Arsenal for all Manchuria

(Pauley, E.W. "Report on Reparations - ". Appendix 5.)

Table VI

Five year industrial development plan:
a)Estimated capital outlay(in million yen)

	Original Plan	Revised Plan
Iron and Steel	230	700

Coal	150	300
Coal liquefaction	320	1,000
Machinery and chemicals	310	1,300
Transportation and Communications	1,000	640

b)Estimated annual production in 1941(in thousand metric tons)

	Original Plan	Revised Plan
Coal	25,500	38,000
Iron Ore	6,600	12,000
Pig Iron	2,400	5,000
Steel	2,225	5,500
Steel products	-	2,000
Coal liquefaction	500	1,700

(Far East Yearbook, 1941, p. 865)

Table VII

Coking coal imports into Japan and percentage by source(1940-1945)in tons:

	%	North China	%	Manchuria
1940	85	3,315,000	2	83,000
1941	96	3,417,000	1	38,000
1942	87	4,025,000	-	-
1943	84	2,939,000	-	-
1944	81	1,435,000	9	159,000
1945	68,	116,000	32	51,000

(United States Strategic Bombing Survey; The effects of strategic bombing on Japan's war economy - Appendix ABC, p. 108)

Table VIII

Iron Ore imports into Japan from Manchuria and percent of total:

	%	metric tons
1931-1939	0	0
1940	1	57,190
1941	1	50,000
1942	1	48,000
1943	-	-
1944	4	83,400
1945	3	32,900

(Op. cit., p. 109)

Table IX

Pig-iron imorts into Japan from Manchuria and percentage of total:

	metric tons	%
1932	325,000	50
1933	456,000	57
1934	392,000	53
1935	340,000	35

1936	277,000	25
1937	261,000	19
1938	214,000	20
1939	385,000	38
1940	427,000	50
1941	532,000	71
1942	698,000	81
1943	678,000	60
1944	560,000	62
1945	20,500	39

(Op. cit., p. 111)

Table X

Ingot steel production in Manchuria(Open hearth) in 1,000 metric tons:

1935	137
1936	344
1937	451
1938	622
1939	562
1940	554
1941	573
1942	724
1943	837
1944	437
1945	-

(Op. cit., p. 112)

Table XI

Finished steel production, Manchuria, 1935-1945, in 1,000 metric tons:

1935	141
1936	303
1937	417
1938	490
1939	434
1940	438
1941	333
1942	375
1943	569
1944	244
1945	20

(Op. cit., p. 114)

Table XII

Coal productin in Manchuria, 1938-1944 in metric tons:

1938	15,988,000

1939	19496,000
1940	21,132,000
1941	24,147,000
1942	24,169,000
1943	25,390,000
1944	25,627,000

(Op. cit., p. 129)

Table XIII

Coal imports into Japan from Manchuria, 1939-1945 in metric tons:

1939	848,000
1940	773,000
1941	687,000
1942	642,000
1943	414,000
1944	561,000
1945	36,000

(Op. cit., p. 129)

Table XIV

Japanese imports of iron and steel from Manchukuo, 1940-1945:

	Metric tons	% of total imports
1940	450,000	72.5
1941	780,000	84.7
1942	830,000	83.6
1943	542,000	55.5
1944	782,000	71.3
1945	80,000	47.1

(Op. cit., p. 190)

Table XV

Summary of damage to basic Manchurian industry:

Industry	Loss in $US	% reduction limit
Electric power	208,000,000	71
Coal	100,000,000	55
Iron and steel	141,260,000	51-100
Railroads	137,000,000	40
Non-ferrous mining	10,000,000	75

(Pauley, E.W. Op. cit.)

****

APPENDIX B

APPENDIX B

Biliography

Allen, G.C. "Concentration of Economic Control in Japan". Economic Journal. London, 1931

" "A Short Economic History of Modern Japan". London, 1946

Andrews, T.G. "Japanese Industry: Its Recent Development and Present Condition". New York, 1940

" "Iron Ore Resources of Japan". SCAP, 1947

Asahi, I. "Economic Strength of Japan". Tokyo, 1939

Asia Statistica Co. "Orient Yearbook". Tokyo, 1942

Bardill, J.D. "Ferroalloy Metallurgy in the Japanese Empire". SCAP, 1946

Bisson, T.A. "Japan's War Economy". New York, 1945

Bloch, K. "German Interests and Policies in the Far East". New York, 1940

Borton, H. "Japan Since 1931". New York, 1940

Byrnes, J.F. "Speaking Frankly". New York, 1947

Carus, C.D. & McNichols, C.L. "Japan: Its Resources and Industries". New York, 1944

Chennault, C.L. "Way of a Fighter". New York, 1949

Chiang Kai-shek. "China's Destiny". New York, 1947

China Ministry of Information. "China Handbook".(1943-1945) New York

Chosen, Bank of. "Economic History of Manchuria". Seoul, 1920

Clyde, P.H. "International Rivalries in Manchuria,1689-1922". Chapel Hill, 1933

" "The Far East". New York, 1948

Cohen, J.B. "Japan's Economy in War and Reconstruction". Minneapolis, 1949

Copping, V.P. "Expansion of Japan's Foreign Trade and Industry".

Council on Foreign Relations. "United States in World Affairs,1945-1949". New York

Cressey, G.B."China's Geographic Foundations". New York, 1934

Cutlack, F.M. "Manchurian Arena". New York, 1934

Dallin, D.J. "Soviet Russia and The Far East". New Haven, 1948

Dep't. of the Army General Staff. "Man-Mo Shigen Yoran(Glossary of the Natural Resources of Manchuria and Mongolia)". Tokyo, 1933

Ehlers, J.H. "Raw Materials of the Japanese Iron and Steel Industry". New York, 1928

" "Japanes Trade in Iron and Steel Products". New York, 1929

Ennis, T.E. "Eastern Asia". Chicago, 1948

Farley, M.S. "Problem of Japanese Trade Expansion in the Postwar Era". London, 1940

Fischer, Jacob. "Mandschukuo's Kampf und Sieg". Shanghai, 1933

Fujihirada, B. "Minami Manshu no okeru Sekitangyo(Coal industry in South Manchuria)". Dairen, 1930

General Direction. "Manchukuo State Railways". Mukden, 1936
Grew, J.C. "Report from Tokyo". New York, 1942
" "Ten Years in Japan". New York, 1944
Haugland, V. "The AAF against Japan". New York, 1948
Haushofer, K. "Geopolitik des Pazifischen Ozean; Studien über die wechselbeziehungen zwischen Geographie und Geschichte". Berlin, 1933
" "Japan und die Japaner". Berlin, 1933
" "Japan's Werdegang als weltmacht und Empire". Berlin, 1938
Holland, M. "Industrial Transition in Japan". New York, 1927
Hsieh, C.Y. "Foreign Interest in the Mining Industry of China". Pacific Affairs. January, 1932
Hull, C. "Memoirs of Cordell Hull". New York, 1948
Imperial Geological Survey of Japan. "Geology and Mineral Resources of the JapaneseEmpire". Tokyo, 1926
Japan Economic Federation. "Heavy Industry of Manchukuo". Tokyo, 1940
Japan Yearbook Co. "Japan Yearbook, 1932-1940". Tokyo
Jones, F.C. "Manchuria Since 1931". London, 1949
Jones, M.T. "Iron and Steel Trade of the Pacific". San Francisco, 1926
Kamii, Y. "Industrial Transformation of Japan, 1929-1936". Tokyo, 1937
Kawashima, T. "Hako Man-Mo wa maneku(Manchuria and Mongolia; Treasure Houses of the World)". Tokyo, 1933
Kenney, G.C. "General Kenney Reports". New York, 1949
Kinnosuke, A. "Manchuria". New York, 1925
Kobauishi, U. "The Basic Industries and Social Histroy of Japan". New Haven, 1930
Latourette, K.S. "Manchuria;Cradle of Conflict". London, 1932
" "Mongols Of Manchuria". London, 1934
" "A Short History of the Far East". New York, 1946
Manchuria Yearbook Co. "Manchukuo Yearbook".(1941-1942) Hsinking
Mitchell, K.L. "Japan's Industrial Strength". New York, 1942
Mitsubishi Economic Research Bureau. "Japanese Trade and Industry". London, 1936
Morton, T.K. "Today in Manchuria". London, 1939
Murakami, H. "Geology and Mineral Resources of Southern Manchuria". Dairen, 1926
Norman, E.H. "Japan's Emergence as a Modern State". New York, 1940
Orchard, J.E. "Japan's Economic Position". New York, 1930
Overseas Consultants. "Reports on Industrial Reparations Survey inJapan". New York, 1948
Pauley, E.W. "Report to the President of the United States on Japanese Assets in Manchuria". Washington, 1947
Rowe, D.N. "China Among the Powers". New York, 1945
Royal Institute of International Affairs. "Survey of International Affairs, 1932-1938". London
Sansom, G.B. "The Western World and Japan". New York, 1950
Scherer, J.A.B. "Japan's Advance". New York, 1934
Schumpeter, E.B. "Industrialization of Japan and Manchukuo".(1930-1940) New York, 1940
Smith, Sara. "The Manchurian Crisis".(1931-1932) New York, 1948
Snow, E. "Far Eastern Front". New York, 1933
" "Contemporary Manchuria". Tokyo, 1938
South Manchurian Railway. "Manchuria: Land of Opportunities". New York 1922
" "Manchuria, A History". Dairen, 1935
" "3rd, 4th, 5th, and 6th Reports on Progress in Manchuria". Dairen, 1932, 1934, 1936, 1939.

Steiger, G.N. "Histroy of the Far East". New York, 1944
Stilwell, J.W. "The Stilwell Papers". New York, 1948
Stimson, H.C. "Far Eastern Crisis". Washington, 1936
Suzuki, Y. "Seitetsu kara no Man-Mo-Kan(Iron manufacturing in Manchuria and Mongolia)". Tokyo, 1932
Takeuchi, T. "War and the Diplomacy of the Japanese Empire". New York, 1935
Tegengren, F.R. "Iron Ores and Iron Industries of China".(1923-1924) Peking, 1925
Tokyo Dep't, of War. "Manshu no kogyo kaihatsu no kutaro",(Industrisl development in Manchuria). Tokyo, 1933
Torgashev, B. "The three largest coalfields of Northern Manchuria". China Economic Journal, Shanghai, 1927
United Nations. "Economic Survey of Asia and the Far East, 1950". New York, 1950
United States Strategic Bombing Survey. "Effects of Strategic Bombing on Japan's War Economy, Appendix ABC". Washington, 1946
Utley, F. "Japan's Feet of Clay". New York, 1937
Uyehara, S. "Industry and Trade of Japan". Tokyo, 1936
White, T.H. & Jacoby, A. "Thunder out of China" New York, 1946
Whyte, F. "Japan's Purpose in Asia". Oxford, 1941
Winfield, G.F. "China: The Land and the People". New York, 1948
Yoshida, O. "Manshu no Kogyo Chosa(Research on the Mining Industry of Manchuria)". Dairen, 1929
Young, C.W. "International Relations of Manchuria". Chicago, 1929
"Japan's Special Position in Manchuria". Chicago, 1931

****

Newspapers and Periodicals:

Manchester Guardian	Manchester
New York Herald Tribune	New York
New York Times	New York
Japan Times and Advertiser	Tokyo
Shanghai Times	Shanghai
Contemporary Japan	Tokyo
Contemporary Manchuria	Tokyo
Far Eastern Survey	New York
Foreign Affairs	New York
Oriental Affairs	Shanghai
Oriental Economist	Tokyo
Pacific Affairs	New York

****

Bibliographies:

American Council of Learned Societies: A Selected list of books and articles on Japan in English, French, and German. Hugh Borton, Serge Elisseeff, Edwin Reischauer. Washington, 1940

Japan Institute Inc. Doctoral Dissertations on Japan accepted by American Universities, 1912-1939. New York, 1940

Kerner, R.J. Northeastern Asia. Berkeley, 1939

Kokusai Bunka Shinkokai. Short Bibliography of English Books on Japan. Tokyo, 1936

Nachod, O. Bibliography of the Japanese Empire, 1906-1926. Leipzig, 1928

SMEAD'S
PRESSBOARD
GENUINE
COVER
No. G-129

MANUFACTURED BY
THE SMEAD MANUFACTURING CO., INC.
HASTINGS, MINN., U.S.A.