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ECONOMIC DEVELOPMENT IN COMMUNIST CHINA:

THE PROGRESS OF INDUSTRIALIZATION

A Report From A. Doak **Barnett**

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The Chinese Communists have created for themselves a vision of China crowded with roaring steel machines, belching smokestacks, and blue-clad industrial workers. They aim to "transform China into a powerful, industrialized Socialist state," and to create a **"great, Socialist industrial country and one of the most advanced in the world."** To the Chinese Communists, modern industry is the symbol of complete independence, national power, and economic improvement.

The Communists in China not only wish to carry out the industrial **revolution** in the world's largest agricultural country; they insist on trying to do it at a frantic pace and the **"Socialist industrialization"** of the U.S.S.R. is their model. They point to the Soviet Union, contrasting its industrialization in **"ten to fifteen years"** with the longer periods required for industrialization (**"fifty to one hundred years"**) in Western countries, and they proclaim that China has decided to **"travel the road of the Russians."**

According to the Chinese Communists, when their industrial revolution is completed, in a **"comparatively short space of time,"** all modern industry in China will be socialized and will account for close to three-quarters of the combined product of industry and agriculture. In their impatience to reach this goal, they have already begun to inflate grossly the importance of industry in China. When they first came to power, the Chinese Communists said that modern industry produced ten per cent of total industrial and agricultural output; by 1952 they **used** the figure of 28 per cent; by 1953 the official claim had risen to 31.6 per cent. Now they assert that in 10 to 15 years modern industry will provide 30 to 40 per cent of all industrial and agricultural production in China and that ultimately **it** will account for 70 per cent.

At the present stage of their development, the Chinese Communists are hypnotized by heavy industries -- particularly

iron, steel, and machines -- and these are receiving their greatest attention. They say that China's eventual goal is for **heavy** industry to constitute 60 per cent of all modern industry in the country.

Publications in China are full of discussions of these **grandiose** goals. They are also full of glowing accounts of rapid progress allegedly being made toward achieving them. A superficial reading of Chinese Communist propaganda statements could lead one to believe that China is currently making almost fantastic strides toward industrialization. Travelers from China report that work is proceeding on many projects, and these reports often contribute to the widely-accepted image of a China industrializing at a very rapid pace,

The actual facts of the situation are fairly difficult to determine, however, since from the start the Chinese Communists have maintained great secrecy about statistics. Most economic data are classified as "**state secrets**," and the penalty for revealing such secrets is severe. Since the **generalized data** made public **are** usually presented in the form of percentage figures giving **rises in production**, there is much guesswork involved in trying to determine what these percentages mean (the base year or figure as rarely specified) and how they can be translated into **real figures**. There is also a great deal of confusion, in reports of industrial development in China, between new construction and restoration, replacement, or reconstruction of old plants. Further confusion arises from the fact that the Chinese Communists often fail to distinguish between projects completed, begun, or merely planned. Therefore, the task of judging real developments is extremely complicated, involving a great deal of economic jigsaw-puzzle work -- the sorting out and fitting together of innumerable fragmentary reports on specific situations and facts.

Despite these difficulties, and the possibility of a sizeable margin of error on any estimates, an analysis of the incomplete information available can give some indication of **Communist China's** actual **plans** and accomplishments in the field of modern industrialization. On the basis of any careful study, one is forced to conclude that although the Chinese Communists **are** devoting a great deal of **China's** energy, skills, and resources to industrialization, and as a consequence are making gradual progress, the pace of industrialization is much less spectacular than general propaganda claims would indicate.

"Restoration" of China's Industry

When the Chinese Communists came to power, the small amount of modern industry already existing was badly disrupted and run down. Even before the Sino-Japanese War, China had less industry than any important large nation. The attrition of over a decade of political chaos and war, plus the disruption of **China's** main industrial base in Manchuria by post-war **Soviet** removals and Chinese looting, meant that even existing industry was in bad

shape. Therefore, the immediate task facing the Chinese Communists was one of restoring existing industry, in itself a tremendous job. For over four years they have tried desperately to get industry back into operation and to increase its productivity; in this effort they have had considerable success. Many industries in China still do not have as much plant and equipment as before the war, but the Peking regime has provided needed raw materials and labor, opened up markets (to a considerable extent by state purchasing), pressed for greater utilization of existing equipment and, where possible, expanded industrial plant.

By the end of 1952, the Chinese Communists announced that the "period of restoration" was completed; they claimed that all major industries except coal had surpassed the "pre-liberation peaks" of production. With the first Five Year Plan, starting in 1953, they said, China would inaugurate a period of new construction and development.

In actual fact, much "restoration" is still under way and it probably will continue for some time, but it is true that by 1952 Communist China had made great progress in its efforts to get existing industry back into production. In view of all the difficulties encountered, the magnitude of this accomplishment should not be underestimated.

The Chinese Communists say that in terms of past production peaks, industrial output in 1949 was down to 10 to 20 per cent in iron and steel, under 50 per cent in coal, roughly 75 per cent in electricity, about 30 per cent in cement, and between 70 and 90 per cent in most key consumer goods. By 1952, they claim, general industrial production of 33 major products had risen to 26 per cent above previous record levels (16 per cent in capital goods, and 32 per cent in consumer goods). More specifically, they claim that iron production in 1952 was 2 per cent above past peak levels, processed steel 48 per cent, petroleum 19 per cent, electricity 43 per cent, cotton yarn 41 per cent, and cotton cloth 67 per cent. (The only industry officially admitted to be producing below previous record levels was coal, which they said was five per cent below past peaks.) On the basis of the best detailed data available, almost all of these percentage claims are greatly exaggerated. However, it is true that industrial production in China by the end of 1952 was approaching past "normal" levels in many key industries.

In the three years of "restoration" fastest progress in raising low production levels was made in iron and steel. Starting at a level of 10 to 20 per cent of past peaks, iron and steel production in 1952 was, according to official claims, seven to nine times that in 1949. In the same period, coal, cotton yarn and cloth production was doubled, while large increases were claimed in other industries. But, it should be remembered, most of these increases merely indicate restoration of industries which were badly disrupted in 1949 and were small and underdeveloped to begin with,

The Five Year Plan and 141 Projects

Toward the end of 1952, the Chinese Communists began to prepare for the start of their first Five Year Plan of industrial development. In August and November of that year a significant government reorganization took place; several important new economic ministries were established, a National Planning Commission was set up, and central control over regional administrations in China was tightened. At the same time, a series of Chinese delegations, including top government leaders and heads of key economic organs, made pilgrimages to Moscow to discuss with Soviet leaders the kind of equipment and assistance which could be obtained from the U.S.S.R. Members of these missions were in Russia from August, 1952, through June, 1953. There are many indications that hard bargaining went on between the Chinese and the Russians. Obviously the Chinese did not obtain promises for as much equipment as they had hoped for, but agreements were made on a specified number of projects for which the Soviet Union would provide machines and technical advisors. On October 1, 1952, the first hint that a Chinese Five Year Plan would soon begin appeared in the Soviet press; then on December 24 Chinese Premier Chou En-lai announced that China's first Five Year Plan would start in 1953.

In the year and a half since this announcement, the general aims of the Plan have been made very clear: to develop modern industry and to concentrate upon heavy industries including metals, fuels, power, "machine building" and chemical industries. But to date no detailed comprehensive plan has been revealed. As a matter of fact, there are many reasons to believe that no such comprehensive plan yet exists. Apparently, the Five Year Plan at this stage consists primarily of annual goals for production increases in key industries and plans for a number of specific projects to expand old plants and construct some new ones.

By the end of the current Soviet aid program (1959 or thereafter), China hopes that production of coal will be 160 per cent, electric power 200 per cent, rolled steel 250 per cent, and steel ingots 400 per cent, of 1952 levels. However, even vague goals of this sort have not been announced for most other industries.

Somewhat more specific has been the revelation that the "core" of the present Five Year Plan consists of 141 major projects which are receiving Soviet "aid" (for which the Chinese are paying). Apparently, these 141 aid projects were chosen during the Moscow Sino-Soviet discussions of 1952-1953. Undoubtedly, the Soviet Union, which has a key bargaining position as virtually the only source from which China can obtain needed equipment, played a large role in determining what these projects should be. Of the 141 projects, some merely involve renovation or expansion of old plants, so the actual number of new industries called for is unknown. Furthermore, the program really extends over a ten year period; of the total 141, 50 were started during 1949-52, prior to the official announcement of the program, while present plans

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call for the start of work on all 141 by 1959 -- or half way through **China's** second Five Year Plan,

Although no complete list of the 141 Soviet aid projects has ever been released, some information on over 20 of them has been revealed. A majority of these involve expansion of existing factories rather than construction of completely new ones. It is officially stated that "**most**" of the 141 projects are concentrated in Manchuria,

It is extremely difficult to judge how much new capital equipment will be added to modern industry in China when these key projects are completed. There are **some** clues, however, which indicate that it cannot be too large. The Chinese Communists have stated, for example, that **China's** own industries must provide 30 to 50 per cent of the "**equipment and supplies**" required for the 141 projects, as well as the equipment for most other industrial enterprises scheduled for the first Five Year Plan. This suggests that the whole program cannot be very large, because **China's** existing industries, particularly in the field of capital goods, are extremely small and underdeveloped. Furthermore, China apparently must pay for the 50 to 70 per cent of the "**equipment and supplies**" which will be imported for the 141 projects from the Soviet bloc; and **China's** ability to pay is definitely limited.

There is no doubt that by 1957, or 1959, China will have considerably more in the way of iron and steel plants, oil refineries, automotive factories, machine tool plants, power stations, chemical factories, and defense plants than it has today. However, it is most unlikely that by then "**China will,**" as some official Chinese Communist statements assert, "**have her own heavy industry and a firm foundation for her industrialization.**"

Planning

Although China now has a Five Year Plan, it is uncertain how much real planning the Communists have been able to introduce into the economy. It is true that the state has extended various types of economic controls to all sectors of the economy, but China nonetheless is, and **will** for some time remain, a "**mixed economy,**" with a complicated combination of state enterprises (under the control of both the central and local governments), private enterprises, cooperatives, and "**state capitalist**" enterprises. At best, it would be difficult to apply detailed planning techniques in such an economy. China, furthermore, has very few trained economic planners -- or even economists for that matter -- and although Soviet advisors, who are numerous, help fill this gap at top levels, they cannot possibly make up for all of **China's** deficiencies in skills.

The complete inadequacy of statistical data provides another major obstacle to planned development of the industrial economy in China. Although a State Statistical Bureau has been established, it was not until last year that it really began to

set up extensive regional offices and to simplify and regularize statistical procedures. In spite of the fact that a drastic reorganization of statistical reporting took place at the end of 1953, the Communists admit that statistical data on the Chinese economy is **still** far from satisfactory, a state of affairs which is likely to continue for a long time.

At present, however, despite many problems, the Chinese Communists do attempt to set definite production quotas in all state-owned enterprises. Individual economic ministries in the central government are probably the key level in the process of formulating plans. Quotas are not only set for a whole industry -- for example, textiles -- but also for individual factories, workshops, work teams, and individual workers within factories. And they are set on an annual, periodic, monthly -- and sometimes on a daily or hourly -- basis. Every effort is made to increase these quotas from year to year, or period to period, and wherever possible, "**advanced average norms**" of production by above-average workers and **machines** are adopted as the basis for new quotas. Party organizations and unions in individual factories, who participate in planning conferences, use their influence to press for quotas which will insure maximum output of equipment and increased efforts by labor.

At a top level, the Committee on Financial and Economic Affairs adjusts and coordinates the plans of various industrial ministries, fitting them into the plans of other key organs such as the **Ministry** of Finance and the **Ministry** of **Commerce**. It is at this level that broad decisions on allocation of national resources and overall investments are made. The role of the State Planning Commission is still obscure, for although it is undoubtedly designed to be a top level coordinating organization, there is little indication that it is effectively serving this role at present. During the past year, in fact, there have been few references to this body. The head of the Commission, who may have been removed from office, has been in complete **eclipse** since the end of 1953.

The responsibility for insuring implementation of economic plans apparently rests to a large extent upon the Ministry of Finance (and under it the **People's** Bank) and the **Ministry** of **Commerce**. The **People's** Bank serves as a clearing house for financial transactions by all state enterprises, and it now supervises and controls all credit transactions of any significance in China. The Ministry of Commerce dominates domestic trade throughout the country and consequently has great power in determining the allocation and distribution of both raw materials and finished products.

Even though economic planning in China is probably still fairly crude, the Chinese Communists have been able to extend a **significant** degree of control, and some degree of planning, to the **remaining** private sector of the economy, and have done so largely through the medium of **the Ministry** of **Commerce** and the **People's** Bank.

Ownership of Industry

The Chinese Communists' industrialization program calls not only for "**Socialist industrialization**" -- i.e., the development of state-owned industries -- but also for "**Socialist transformation**" -- i.e., the steady conversion of existing private industries into state-owned enterprises. The latter process has been going on since the Communists came to power in 1949, although it has been defined as official policy in completely clear terms only since the end of 1953.

One of the unique aspects of this socialization policy in China, as contrasted with earlier Soviet policy, is the fact that the Chinese Communists have proceeded in a relatively gradual, systematic, step-by-step fashion instead of attempting to nationalize private enterprises all at once. The pace of socialization has not been slow, but the pattern has been one of steadily extending -- controls, infiltrating, and finally taking over, private industries, rather than one of sudden, outright confiscation.

The Chinese Communists now define several stages of **what** they call "**state capitalism**," through which all private industries of any importance are expected to progress. Each stage represents an increase of government control and supervision and is considered "**transitional**" to final socialization. At the "**lowest**" stage, the state purchases the products of a private industry, or state trading agencies 'serve as its selling agents. (The state also controls the sale of all key industrial raw materials.) At a higher stage, the state either places orders with a private industry for processing jobs, buys all of its finished products, or underwrites the marketing of its entire output. The "**highest form**" of "**state capitalism**" is the "**joint state-private enterprise**," in which the reality of complete state control is combined with the fiction of private ownership.

The dependence of private enterprise upon the state is now **almost** complete. Last year, for **example**, 75 per cent, by value, of the total output of private factories in Tientsin consisted of goods produced to meet government orders or contracts, and the percentage was comparable in other large industrial cities. (For further details on policies toward private enterprise, see ADB-2-1952 through ADB-6-1952 on the Five Anti Campaign and ADB-1-1954 on the Metamorphosis of Private Enterprise.)

Despite the gradualism of the Chinese Communist economic policy (compared to that of the Soviet Union) the degree of outright state ownership of industry in China is already very high. The last official claims, made over a year ago, were that roughly 50 per cent of modern industry in China (including 40 per cent of light industry and 70 to 80 per cent of heavy industry) is **state-owned**, and state enterprises account for 60 per cent of modern industrial production in the country.

When they first came to power the Chinese Communists

immediately took **over** all industries formerly owned by the Nationalist Government as well as those which belonged to large Chinese owners whom they classified as "**bureaucratic capitalists.**" Since then, they have steadily taken over, or converted into "state capitalist" enterprises, the most important large industries belonging to both Chinese and foreigners. In a great many cases, every effort has been made to preserve a semblance of legality and to avoid the appearance of outright confiscation by giving nominal compensation, or by claiming that **take-over** is necessary to pay back taxes and employees wages; but state ownership has **increased** steadily nonetheless,

The Chinese Communists are frank in stating that their ultimate aim is complete socialization of modern industry in China. They have followed a policy of relative caution in taking over private enterprises because they recognize their own shortage of managerial talents and have wanted to use those of private entrepreneurs. This policy has certainly been less disruptive than one involving sudden confiscation would have been, and it has minimized the problems of socialization during the past four years. But private entrepreneurs in China have not been hoodwinked. Most of them now operate in a twilight zone between private and state ownership in which they are required to use their administrative skills but are forbidden to employ their initiative. They know that their days are numbered, and they realize that their future depends solely upon the timetable of Communist planners. It is not surprising that in these circumstances private enterprise in Communist China today plays a role which cannot be compared to that of its counterpart in non-Communist countries. Those modern industries in China which are still ostensibly in private hands are subject to controls which, however crude, make them the tool of the state instead of the expression of private aims and initiative. Although private entrepreneurs are still helping to keep part of **China's** existing industry going, they will gradually be pushed out of the picture and will have virtually nothing to do with development of new industries.

New Industrial Development -- Geographical Location

The industrial base which the Chinese Communists acquired when they came to power was not only small but also highly concentrated. Manchuria, developed as an industrial center by the Japanese between 1932 and 1945, was the most important single region, containing the bulk of **China's** heavy industries. Centered on the Anshan-Fushun-Mukden area, **Manchuria's** industries included the largest coal mines, iron and steel mills, power plants, and metal factories, as well as the best railway net, in China. Soviet removals, looting and civil war damage after 1945 badly crippled the industrial base left by the Japanese. Postwar surveys indicated, for example, that over one-half of Manchuria's steel capacity, almost three-quarters of **its** electric capacity, and four-fifths of its metal working equipment, were either destroyed or badly damaged. However, despite this fact, Manchuria remained **China's** most highly developed industrial base and virtually her only

center of heavy industries.

As China's second most important industrial base, Shanghai (together with the cities in a triangle enclosed by Nanking and Hangchow) produced the bulk of the country's consumer's goods. Textiles and flour milling, China's two most important prewar industries, were concentrated in this area,

There were four other industrial centers of secondary importance: the Peiping-Chinwangtao-Tientsin triangle (including Tangshan); the Shantung area on an axis between Tsingtao and Tsinan; a Central China area including Wuhan, Pinghsiang and Changsha, and the Pearl River region with Canton as its core. In addition, there were a number of smaller industrial centers of minor importance,

The projects and plans for industrial expansion which the Chinese Communists are now developing will alter this regional distribution of industry in a number of significant ways.

Manchuria will not only continue to be vital, but will clearly become even more important than ever before. Great efforts are being made to restore Anshan and develop it as the "steel capital" of China. Coal production is being increased at Fushun and Fuhsin, while power, aluminum, shale oil and heavy machinery output at Fushun is also being expanded. At Mukden, the biggest center of heavy manufacturing in China, restoration and expansion of many plants is under way -- including two machine tool factories, a pneumatic tool plant, a wire and cable factory, and others. To the north, Harbin is being developed into an important new industrial center, with work in progress on China's first automobile plant and factories to produce machine tools, electric generators and motors, meters and other important products. Dairen, Penki and a number of other cities are also being developed. "Most" of the key 141 Soviet aid projects are in Manchuria. This concentration of effort on Manchuria has a great deal of economic justification, but in addition the political implications cannot be overlooked. Manchuria's proximity to the U.S.S.R. and the special importance of Soviet influence and interests in the area are significant factors,

Shanghai, by contrast, has been relegated into the background in plans for future development, although the light industries already located there will undoubtedly make it China's main center producing consumer goods for some time to come. Since the Chinese Communists' take-over, almost no important new investments or large-scale plant expansion in Shanghai have been revealed. In fact, when the Communists first took Shanghai there were widespread rumors that part of the city's industries would be moved to the interior, but this has not taken place on a significant scale, perhaps due to the impracticality of the scheme. It is clear, however, that the Communists plan to reduce the relative importance of Shanghai in the economy of China as a whole. Shanghai was the center both of foreign economic influence and of China's indigenous

capitalist class; as such it has been a headache to Chinese Communist administrators, who consider it to be potentially dangerous in its influence upon the country. As a coastal city, it is in an area exposed to immediate throat in time of war.

A number of interior areas of China are now slated for new industrial development. The Communists plan to construct two new iron and steel centers outside of Manchuria which, they claim, will eventually be on the scale of Anshan. Of these, one involves expansion of small plants now existing in Central China at Tayeh, near Wuhan; some work is already under way there. The other involves the building of a "huge" center, entirely new, at Paotow, present railhead of the Inner Mongolia rail line. The latter is being given great publicity, but in most respects it still remains a gleam in the planners', or propagandists', eyes.

New railway and electric power development also indicates the rise of industries in new areas in China. The most important rail lines to be undertaken during the first Five Year Plan are in remote Northwest and Southwest China. The Plan calls for ten "major" electric power projects. Six of these involve plant expansion (five in Manchuria and one at Tayeh), while the remaining four are new projects located in the interior areas of North and Northwest China -- Paotow, Lanchow, Taiyuan, and Sian.

Another significant development is work on the construction of several new textile centers in the cotton growing areas of North and Northwest China. Large cotton mills are being built at Sian, Shihchiachuang, Chengchow and Peking. It will be a long time before these new centers can compare in importance with places such as Shanghai, but they do represent a significant trend toward the dispersion of China's primary consumer goods industry.

General industrial growth of some importance, but still on a relatively limited scale, is underway in a number of other interior centers. Taiyuan, formerly a small center of both light and heavy industry controlled by a local Chinese warlord, is being built up into a sizeable base. Several areas in Sinkiang Province (Chinese Turkestan) are being developed; here Soviet assistance is important, and the Chinese army supervises some of the projects. Not much is known of progress to date. Modern plants at Tientsin, Tangshan, and Peking in North China, at Wuhan, Nanchang, and Hsiangtan in Central China, at Sian and Lanchow in the Northwest, and at Chungking in the Southwest, are being expanded in varying degrees. (Peking is slated for a good deal of new development, which may change considerably the character of that traditional center of culture, education, and administration.) Soviet aid is helping to increase basic mineral production, including that of oil in the Northwest and tin and copper in Yunnan.

The one area which most obviously is being neglected in Chinese Communist plans is South China. Very few projects in this region have been reported. South China seems, in fact, to lag behind in almost every field of Chinese Communist activity. It is

behind the rest of the country in political **consolidation** and agricultural organization as well as in industrial development,

These trends in geographical location of industry have not yet significantly altered the regional pattern of industrialization in China, but they will certainly have an important effect in time. By the end of one or two Five Year Plans, Manchuria will dominate the Chinese industrial scene even more completely than before, coastal **cities** such as Shanghai will probably have declined in relative importance, new industrial centers in the interior -- particularly in North, Northwest, and Southwest China -- will have been developed, and South China, in **all** probability, will be the most industrially backward region **of** the country.

1953-1954 -- First Two Years of the Five Year Plan

China **is** now in the second year of its first Five Year Plan. The Chinese **Communists'** official announcements of over-all plans and accomplishments during this period do not give an accurate picture of the dimensions of the Plan, nor of real attainments, **but** they do present some idea of what **is** being **done**.

When the Communists first announced industrial production **targets** for 1953, they said that during the year they planned to increase total national production, both agricultural and industrial, by 12 per cent -- **i.e.**, about one-tenth over 1952. (Official statements are vague on the meaning of **such** targets, but it must be assumed that the percentages represent value of production.) The goal for **industry** alone was higher. **By the end** of 1953, the Chinese Communists said, over-all industrial production would be one-fourth (25.6 per cent) over that of 1952. **Much of this** increase was to come from higher labor productivity; **the planned rise** in **labor** productivity for the year was 16 per cent, and costs of production in industry were scheduled to be lowered 4.4 per cent. The largest rise in production was planned for state-owned industries, slated for a **32** per cent increase.

Proposed production increases in specific **industries** were sizeable. For example, output of pig iron was to rise 14 per cent, steel 23 per cent, electric power 27 per cent, and petroleum 42 per cent. Capital goods industries were also scheduled to increase production greatly. For example, a 34 per cent rise in the output of machine tools was proposed. Contemplated increases for major consumer goods industries were generally more modest, however -- 9 and 16 per cent for cotton yarn and cloth respectively, and 23 per cent for sugar,

The Plan had barely got under **way**, however, when it became clear to the Chinese Communists that they would encounter difficulties in achieving these goals; downward revisions of targets were soon publicly announced. (Negotiations in Moscow were still in progress, and the revisions may have been related to failures to obtain expected promises of Soviet assistance or support.) Early in 1953, the Ministry of Building Construction

(responsible for new plants) announced an over-all cut of 30 per cent in its plans. Official statements on production goals in May indicated that the goals for eight industries had been scaled down; for example, the scheduled increase in electric power was reduced from 27 to 18.3 per cent, petroleum from 42 to 29.1 per cent, and cotton yarn from 16 to 10.5 per cent. The target for increase of production of state enterprises was cut from 32 to 29.4 per cent. In June, the Ministry of Heavy Industry -- responsible for a very high-priority segment of the Plan -- announced that its projects for capital construction (i.e., new or expanded plant) had been cut to 66 per cent of original goals. By midyear it was clear that everything was behind schedule. It was officially revealed, for example, that only 30 per cent of over-all production targets for the year had been fulfilled in the first half-year. The Chinese Communist press carried many reports of bad planning, waste, inefficiency, and "bureaucratism." It also admitted, at various times, that imports of needed equipment were lagging and that China was having difficulty absorbing even that which was being received.

The second half of 1953 was a period of tremendous effort. The Chinese Communists clearly used every possible means of pressure to speed up work and to step up the pace of development. However, it is also clear that they revised their plans drastically, so that final claims for the year were probably made in terms of targets which had been considerably lowered from the original ones.

A summary of the results for 1953 did not come out, finally, until mid-1954. At that time it was claimed that "most" of the important sectors of state industry had fulfilled the Plan, but the Chinese Communists felt compelled at the same time to explain that "the rate of development of the national economy in the period of construction naturally is not the same as that for the stage of reconstruction." They admitted that four important industries did not meet goals; these were flour, sugar, salt and gunny bags, all of which are directly related to agriculture (in which 1953 output was dangerously behind schedule). Despite these admissions, however, it was asserted that total industrial production in China had risen 28 per cent during 1953 (even more than originally planned)!

These general claims of success during 1953, made six months after the end of the year, do not conceal the fact that the Chinese Communists encountered great difficulties during 1953 and probably failed to meet many of their original goals for industrial expansion. It is significant that detailed data on specific industries (even in percentage form) have not yet been made public; when such data are finally released the picture presented may well be a bright one, but if so it will be suspect.

The 1954 production goals for industry reflect the difficulties encountered by the Chinese Communists during the previous year. Although the planned increase in total national production is about the same as in 1953 (12.6 per cent in 1954;

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12 per cent in 1953), the scheduled rise in industrial production alone has been scaled down considerably -- from 25.6 per cent in 1953 to 18.3 per cent. (The planned increase in 1954 is 24 per cent for light industry and 15 per cent for heavy industry.) The size of the annual targets for production increases has been reduced in many key industries (1953 compared to 1954), from 27 to 15 per cent in electricity, from 23 to 19 per cent in steel, from 30 to 14 per cent in cement and from 9 to 6 per cent in cotton yarn. The most significant increases in targets, compared to 1953, are in fuels; the 1954 plans call for a rise in coal output by 13 per cent, petroleum by 51 per cent, and all fuels by 19 per cent. It seems clear, however, that in general the pace of industrial development in China has slowed down, rather than increased, during the second year of the Communists' Five Year Plan.

Percentage figures are the main yardstick used by the Chinese Communists for measurement of their industrial plans and accomplishments, at least for public consumption (they almost never give over--all national figures on production in terms of real quantities), but some idea of the scope of their plans can also be obtained from official statements on the number of actual projects which figure in their plans.

Iron and steel, nonferrous metals and chemicals are extremely important in the Chinese Communists' schemes for development. At the beginning of 1953, they stated that during the year work would proceed in 21 "large" plants in these categories; only eight of these would be new factories; the other 13 would be renovation or expansion of existing plants. Later in the year they revealed that these plans had been cut in half and that the total number of projects was ten (most of which undoubtedly were renovation or expansion projects). Original 1953 plans in the machine building industry called for 24 "large" projects, nine new ones and 15 involving renovation or expansion. A total of 24 electric power projects (not all large) was planned for the year, 21 thermopower and three hydroelectric; of these nine of the thermal plants were to involve new construction. Work on 40 vertical and inclined coal shafts was to be continued during 1953 -- 14 in Manchuria and 26 in the rest of China -- but it was admitted that most of these involved reconstruction of old ones. In short, during the first year of the Five Year Plan, industrial development plans involved principally repair and expansion of old plants plus construction of a few new heavy industries, mainly concentrated in Manchuria. Furthermore, there has been no firm indication of how many of these planned projects were actually completed. At the close of the year, the Chinese Communists announced that during 1953, 173 "major projects of economic construction" had been in progress, but undoubtedly "major" included every project of any significance whatsoever, and the term "economic construction" included categories other than industry. The number of projects completed during the year was vaguely described as "many." In actuality, probably not many major new projects were completed in the first year of the Five Year Plan.

Plans for industrial projects in 1954 are probably even more modest than those in 1953. One official statement claims that 70 projects, including mines, power plants, factories and oil fields, will start operations in 1954, but a high percentage of these are undoubtedly repaired or expanded old installations. Another official statement asserts that 103 "major items of industrial construction" are scheduled for 1954, and that a "number" of these will be completed during the year. It seems likely, however, from the information available, that many of the projects for this year involve continued work on those already started. In late 1953, the Chinese Communists stated that it was necessary for them to cut down on all "unessential" construction plans, and it is possible that the number of important new industrial projects to be started during 1954 will be smaller than last year.

The sort of information discussed above -- vague percentages, and statements on numbers of projects -- is virtually the only kind of generalized information on industrial development which the Chinese Communists release, either to their own people or to the world at large. Unless this information is translated into real terms, it does not have a great deal of meaning. This is extremely difficult to do, but it is not impossible to make educated guesses. Chinese Communist publications contain a considerable amount of detailed information on specific projects. The Communists are less secretive about real figures in describing individual projects than they are in their general claims. Furthermore, it is possible to apply their percentage figures on production to what is known of previous "peaks" in China, before Communist take-over. There is a sizeable margin of possible error in this process, because in many cases it is not definitely known what the Chinese Communists themselves use as the peak production figures (in general they use 1943 figures for Manchuria and 1936 figures for the rest of China, but they have admitted scaling down the real figures for these years in various ways). Nonetheless, rough estimates, which are probably not far off the mark, can be made for some of the major industries (and for transportation, which is so closely linked to modern industry). These estimates are more meaningful as a basis for judging the pace and extent of industrialization in China under the present Communist regime than the claims which they make for world-wide consumption.

Railways

Modern transportation, particularly railroads, is basic to industrial development; the lack of such transportation has been a major factor limiting economic growth in China. Whether expressed in terms of mileage per capita or mileage per square mile, China's system of modern transport is one of the least developed in the world. It has been estimated that only five per cent of freight tonnage in China is carried by all forms of modern transport and that 45 per cent is carried by man-pulled junks and carts and 50 per cent on human backs. Such primitive

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transport is very expensive (estimated prewar at 15 to 50 cents per ton kilometer, compared to 1.5 cents on railroads) and consequently limits internal trade and requires huge amounts of manpower. Before the war it was estimated that 20 million Chinese were engaged in transport, yet surveys showed that less than ten per cent of all production in rural China moved out of the county of its origin. For years, therefore, Chinese leaders have dreamed of developing modern railways, and people like Sun Pat-sen talked of building a network of 100,000 miles of track,

Before the Sino-Japanese War, China had roughly 23,500 kilometers, or 14,700 miles, of railways (based on Chinese Communist figures), of which about one-third was in Manchuria. This amounted to under 30 miles per million people or 300-400 miles per 100,000 square miles of area. (In 1950 U.S. and U.S.S.R. mileage was 227,000 and 57,000 miles respectively.) When the Communists came to power in 1949, a large percentage of this inadequate network had deteriorated or had been destroyed. The Chinese Communists placed a very high priority on restoration of railroads, and during the first two years of their rule, expenditures on railways constituted the largest single item in their construction budget. Literally millions of laborers were mobilized into work gangs to carry out a rapid rehabilitation of old lines. In 1949 alone, according to official claims, 8,000 kilometers of line were put back into operation. The major job of restoration was completed by 1951, and by the end of 1953 it was claimed that almost 10,000 kilometers of rail line in China had been rehabilitated. Passenger lines were operated, largely by old personnel taken over from the Nationalist regime, with an efficiency which greatly impressed visitors to China.

The task of building new railways has proved to be a much more difficult job, however, so that progress has not been very rapid. In 1949 the Chinese Communists spoke of a five year plan to construct new railways totaling 6,250 miles (10,000 kilometers); such a plan would have involved almost 2,000 kilometers of new line construction every year. But actual new construction, even since the initiation of the Five Year Plan, has been less than one-third of this annual goal.

The building of new railways in Communist China began in 1950. In that year the Chinese started three important new lines: Laipin-Chennankwan, Tienshui-Lanchow, and Chungking-Chengtu. The first was completed in 1951, and the other two in 1952. In 1952, two more major lines were begun -- Lanchow-Sinkiang and Chengtu-Paoki -- as well as a few other minor lines. When the over-all Five Year Plan was started in 1953, work on these lines was continued while surveying began on ten new ones, including major lines from Paotow to Lanchow and from Chengtu to Kunming,

It is difficult to reconcile conflicting Chinese Communist figures on total new railway construction, but official claims indicate possibly 400-500 kilometers were built in 1950-

1951, 472 in 1952 and 589 in 1953, and at the end of 1953, total new construction since Communist **take-over** was stated to be 1,473 kilometers. The 1954 construction plan calls for 603 kilometers of new line,

In terms of new railroad construction, therefore, the Chinese Communists present rate of development is less than 600 kilometers (roughly 375 miles) a year. If this rate of increase remains constant during the first Five Year Plan the total addition to **China's** rail net during the five years would be about 1,850 miles,

At the start of 1954, the Communists said that China had a total of about 25,000 kilometers, or roughly 15,500 miles, of railway line in operation. If the present pace of development continues, the total in 1957 will be under 17,000 miles. Even if the rate of new construction speeds up (which is possible) **China's** rail net at the end of the first Five Year Plan will still be very inadequate for industrialization on a large scale.

The inadequacy of **China's** rail net has made it necessary for the Communists to utilize existing railways as intensively as possible, and the wear and tear on them has been severe. As a result, it is admitted that a large percentage of the increased investment in railways this year must be devoted to maintenance and repair. But campaigns to increase the speeds and loads of trains continue, while the high rate of accidents and deterioration remains a major problem. The 1954 plan nonetheless calls for a 15.5 per cent increase in freight and a 14 per cent increase in passengers, although the planned increase in rail lines is less than three per cent; so the strain on existing equipment is likely to increase rather than decrease,

The location of new rail lines is of considerable interest because it indicates that strategic factors have played an important role in the planning.

Three important new lines have already been completed. The 410 kilometer Laipin-Chennankwan railway, finished in 1951, stretches to the Indo-China border, and its importance is primarily military. The 505 kilometer Chungking-Chengtou line links the most populous and important province in Southwest China with the Yangtze River (and also connects with roads to Tibet), while the 346 kilometer Tienshui-Lanchow rail connects **China's** main east-west trunk railway with Lanchow, one of the two major cities in Northwest China. Both of these lines are extremely important for strategic as well as economic reasons.

At present three other major lines are being pushed. The Lanchow-Sinkiang line was begun late in 1952 and will stretch northwest to Chinese Turkestan, providing a new link with the Soviet Union. About 180 kilometers of this line were completed in 1953, with 150 more scheduled for this year. Obviously, it will take several more years to complete the total 2,800 kilometers of

this railway. Another important new line, from Paoki to Chengtu, started in mid-1952. Upon completion, its total track of over 700 kilometers will provide the main trunk line of transport connecting Northwest and Southwest China. By the end of 1953, about 160 kilometers were laid, while 185 more are planned for this year; at this rate it may be finished by the end of 1956. The third new project under way is the short, 105 kilometer Fengtai-Shacheng line in North China. This branch supplements a line already in existence and is designed to improve transport to developing industrial centers in the Peking-Tatung-Paotow area; it is scheduled for completion in 1955.

Other new lines already completed or now under way are of minor significance. Most of them are short branches to mining and forestry areas, and they are concentrated in Manchuria,

Since the start of the Five Year Plan, surveys and initial planning have been initiated on ten more new lines, including two of major importance. One of these is the 810 kilometer Chengtu-Kunming line, drawing the important Southwest China province of Yunnan into the developing interior rail net. Surveying for this line was completed in 1953, and construction is scheduled to begin this year. The other is the Paotow-Lanchow line, over 1,000 kilometers long, which will be a vital artery if Paotow develops into a steel center. There has been no indication yet of when this project may be started, although surveying is now under way.

The construction or planning of these new railways **has** been given great fanfare by the Chinese Communists, and it is true that the new lines are of much importance, perhaps as much for strategic as for economic reasons. (They link together the whole Northwest-Southwest region, which was **China's** main defense base in the Sino-Japanese War and might be equally important in any future war.) But the fact remains that the pace of rail development in Communist China today **is** not spectacular, even when compared with past construction in China. The Communists admit that even during 1928-1941, a period of political instability and war, new railway building averaged about 450 kilometers a year; the Chinese **Communists'** own program, averaging so far about 600 kilometers a year, is not much better, and it is certainly not enough to support any very large-scale program of industrial development. Consequently, the underdevelopment of railways (and other modern transport) is likely to continue to be a serious obstacle to the Chinese **Communists'** plans to industrialize China.

Iron and Steel

Iron and steel are the foundation of modern industrialism, They are particularly important in any program which concentrates, as does that of the Chinese **Communists'**, upon rapid **development** of heavy industry. Iron and steel are the basis for the metals, machines, defence, transport, and other industries which Communist China rates most highly,

It is not surprising, therefore, that the Communist regime in China gives top priority to the development of iron and steel. During 1953, the first year of China's Five Year Plan, more publicity was given to the restoration of blast furnaces and other steel facilities at Anshan than to any other industrial projects. But when Communist percentages and propaganda claims are translated into some approximation of the truth, the situation in iron and steel dramatically highlights China's underdeveloped condition and the long road the Communists must travel before they can create a "powerful, industrialized Socialist state."

China possesses the raw material base for a sizeable iron and steel industry. Coal resources are large, and although iron reserves are smaller (as well as scattered and not generally of high quality) they are sufficient for considerable development. Iron ore reserves in China were variously estimated at 680 million to 1.8 billion tons before the Communist take-over; now the Communists claim China's reserves are 6.7 billion. Possibly new deposits have been discovered in the past four years, but Chinese Communist claims are obviously exaggerations. The main obstacle to iron and steel development at this stage, in any case, is not lack of raw materials. As China acquires the capital, equipment and skills required to expand iron and steel, the industry can be developed.

Very little has been done to date, however, to exploit existing resources. China's only important steel producing region is Manchuria, where there is a major center at Anshan and a minor one at Penki. Outside of Manchuria, small centers have been developed, in the past, at Tangshan, Tientsin, Taiyuan, Lungyen, and Peking in North China, and at Wuhan-Tayeh, Shanghai, Maanshan, and Chungking further south, but the combined peak production in all China prior to the Communist take-over totalled about 1.9 million tons of pig iron, a little over 800,000 tons of steel ingots, and about 500,000 tons of rolled steel. (In 1950, the U.S. produced 65 million tons of pig iron and 97 million tons of steel; the U.S.S.R. claimed an output of 27 million tons of steel in 1950, and its 1955 target is 45 million tons.)

When the Chinese Communists came to power in 1949, furthermore, the iron and steel industry, which had been badly hurt in Manchuria by Soviet removals and by civil war destruction, was the worst off of any major industry in China. Compared to past peak levels, production was down to 11 per cent in pig iron, 16 per cent in steel ingots and 18 per cent in rolled steel, according to official figures,

The Communists immediately set about the task of restoring the production of the remaining facilities capable of being repaired, particularly at Anshan, and in the three years ending in 1952 pig iron and steel ingot output rose by 784 per cent and 848 per cent respectively. In terms of percentage increases, this presented a spectacular picture, but even if one accepts official Communist claims, the figures merely indicate that by the end of 1952, pig

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iron production was two per cent above the previous peak and steel ingot production was 48 per cent higher. Furthermore, there is no doubt that these claims were an exaggeration.

In all probability, just prior to the commencement of the Five Year Plan at the end of 1952, Communist China's total iron and steel production amounted to perhaps 1.4 million tons of pig iron and roughly 850,000 tons of steel. China's equipment in this industry was still considerably less than it had been ten years previously, but it was being used intensively.

Anshan produces almost all the iron and steel in Communist China at present; it will continue to be the focus of Chinese efforts to develop this basic industry for some time to come. (Formerly it produced three-fourths of China's steel, and the percentage may be even higher now.)

In 1943, when Anshan was producing at its peak level, nine blast furnaces were in use, but when the Communists took over in 1949 only one of these was operable. During 1949-1950, two more were restored. Communist claims indicated that Anshan's three furnaces at this time were producing at one-third above previous peak rates.

Then in 1953, the first year of the Five Year Plan, two large, new, Soviet-type, automatic blast furnaces were installed at Anshan. At the same time, four coke oven furnaces, a seamless tubing plant, and a large steel rolling mill were built, increasing Anshan's existing capacity by 80 per cent in pig iron, 78 per cent in coke, and 88 per cent in rolled steel -- according to Communist claims,

This year, further work is going on at Anshan in the form of construction (restoration) of two more large, modern, blast furnaces. Completion of these will take time, however, and the Communists admit that production increases scheduled for this year will "chiefly depend upon the existing installations." When these new furnaces are finished, Anshan will have a total of seven blast furnaces (four large new ones), compared with nine in 1943, and Communist plans may call for some additional construction.

During 1953, although major efforts were concentrated at Anshan, work also was undertaken to restore six small furnaces at Maanshan, two small furnaces at Lungyen, and a small steel mill in Tientsin. China's other minor steel plants were all working under considerable pressure, and some plant improvements were made during the year. (For example, the Chungking plant began to produce new types of rails.)

In terms of plans for production increases, the Chinese Communists have indicated that by about 1959 they hope to raise steel production to 400 per cent and rolled steel production to 250 per cent of 1952 levels. So far, however, there has not been much progress toward these goals. The annual plan for 1953 called for increases in production of only 14 per cent in pig

iron and 23 per cent in steel ingots, while year-end claims indicated a rise of 15 per cent in pig iron, 30.4 per cent in ingots, and 25.5 per cent in rolled steel. Production schedules for this year call for increases of 30 per cent in pig iron, 15 per cent in steel ingots, and 18 per cent in rolled steel. Unless this pace of development is stepped up, the Chinese Communists will not be able to achieve their goals.

The press in China gives a great deal of attention to plans for the building of two large **new** steel centers, comparable in size to Anshan. One of these is at Tayeh, in Central China, where some work on expanding existing power and steel facilities has been started this **year**. The other is at Paotow in Inner Mongolia, near to rich iron deposits at Pailingmiao and coal at Tatung. Preparatory work is said to be under way here, but no construction of iron and steel facilities has started. If the Chinese obtain the equipment for large projects at these two places, there is no doubt that in due time China's iron and steel output will be **significantly** increased, but at best it will take several years to develop these new centers, so production during the first Five Year Plan will depend primarily upon Anshan.

Even if one accepts Chinese Communist percentage claims at their face value, and gives them the most optimistic interpretation possible, production will reach only a total of 2.9 million tons of pig iron and 2.6 million tons of steel by the end of this year. However, there are many reasons to believe that these figures are much too high, and estimates based upon the detailed **information available** indicate an annual production rate around 2.1 million tons of pig iron and 1.3 million tons of steel by the end of 1954.

It is clear, in any case, that at the close of the first Five Year Plan, China will still be an underdeveloped country, in terms of iron and steel. It is **also** evident that the shortage of these basic metals will be a severe limitation on any rapid development of heavy industry and modern industrial power for some time to come.

Fuel and Power

Sources of energy, like transportation and basic metals, are fundamental to modern industrial growth, because all other industry depends upon them. Coal, electricity and oil are the three most important energy sources at present for industrial development, and in many respects the pace of general development can be measured in terms of progress in these industries.

When the Chinese Communists first came to power they gave insufficient attention to power sources, and by the time the Five Year Plan was launched it was obvious that lack of power for industrial purposes was a serious bottleneck to their entire program. Consequently, higher priority was given to coal and electric power projects; these now figure prominently in the Five

Year Plan and in the 141 projects scheduled to receive Soviet assistance. This year even greater stress has been laid in the field of fuels and power than was the case in 1953. According to one official statement, about one-half of the total investment in industry during 1954 has been allotted to the coal and electric power industries. The Communists claim this investment will increase fuel and power output in China by 19 per cent, or about one-fifth, over 1953.

Coal is the main source of industrial energy in China, either directly in steam engines or indirectly through production of electric power. It provides most of the power for modern industry and transportation as well as the fuel for home consumption.

China possesses large coal resources. It not only has the largest reserves in the Far East, but its deposits can be compared with the biggest in the world. (supplies of coking coal for the iron and steel industry are limited, however.) Prewar estimates of known coal reserves in China varied greatly, but several reputable sources estimated them to be approximately 250 billion tons. (The Chinese Communists now claim the country's reserves to be about 400 billion tons, however, and this is possible.) Much of China's coal is scattered and is not ideally located in terms of its accessibility to industry, but in the foreseeable future China's problem will be the difficulty of extracting enough for the country's needs rather than a lack of underground resources.

In the past, China's highest annual coal output was between 50 and 60 million tons. When the Communists came to power in 1949, production had dropped to less than one-half of past peaks and was perhaps 25 million tons a year, or considerably below minimum real needs.

During the three years of "restoration" from 1949 through 1952, recovery of coal production was steady but, due to many difficulties, slower than that of any other basic industry. Of the major industries, coal was the only one which the Chinese Communists officially admitted to have failed to reach prewar peak production levels by the end of 1952; production in 1952, they said, was 95 per cent of the highest previous level. More specific figures have been revealed on the coal industry than on most other industries, and these figures indicate that 1952 production was approximately 52 million tons.

The major coal production centers in China at present, as in the past, include Fushun and Fuhsin in Manchuria and Kailan in North China. There are many other important mines, such as Tatung, Pinghsiang and Hwainan, as well as innumerable scattered smaller producers. The Chinese Communists have been exerting strenuous efforts to restore and expand production at these places, to introduce Soviet methods of mechanization, and to develop a few new mines. These efforts have been stepped up since the start of

the Five Year Plan,

The 1959 coal production goal of the Chinese Communists is a 60 per cent increase over 1952. If achieved, this will mean an annual output of 85 million tons a year. (U.S. production in 1950 was over 560 million tons; the U.S.S.R. official 1950 goal was roughly 250 million tons.) The experience of the past four years suggests, however, that as in the case of many other industries, Communist China will have a hard time meeting the standards set for 1959. Plans and attainments during the first two years of the Five Year Plan have been modest,

The 1953 construction plans called for work on 40 coal shafts in China, 14 in Manchuria and 26 in the rest of the country, but it is not known how many of these were completed. Production plans were not announced at the beginning of the year, but at the end of 1953 the Communists revealed that coal production had actually declined 2.2 per cent since 1952.

Construction goals for 1954 include the completion of nine new pairs of coal shafts (five vertical and four inclined) as well as a number of new open pits. Production is scheduled for a significant increase of 13 per cent over last year, and if this goal is reached, 1954 output may be slightly over 58 million tons, or not much more than peak production in the past.

One would think that coal production should be among the least serious problems in the Chinese Communists' development plans. China has adequate resources, and coal production requires less in the way of capital or skills than many other industries such as those in the fields of metallurgy, engineering, electricity, and chemicals. Nonetheless, the Communists have encountered great difficulty in restoring the production of coal, and progress under the Five Year Plan has not been impressive,

Electric power is another significant key -- and a major bottleneck -- to general industrial growth in China; almost all modern industry depends upon thermoelectric or hydroelectric power. Lack of resources is not a basic problem; as already mentioned, China has large coal deposits, and its hydroelectric potential has been estimated to be as large as 22 million horsepower. However, the hydroelectric potential is almost totally undeveloped in most areas, and thermal power is underdeveloped. Even with its existing industries, China is straining its electric capacity to the utmost. Expansion of capacity is expensive and complex. Although China has started to build a few electric plants, it will depend upon imports of equipment for any significant new development in the foreseeable future.

Careful estimates of electric capacity and production in the past reveal that when the industry was at its peak China had a capacity of about 2.6 million kilowatts (1.7 million kw in Manchuria and .9 million kw elsewhere) and produced about 7 billion kilowatt hours (4.5 billion kwh in Manchuria and

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2.5 billion kwh elsewhere). The Soviet occupation of Manchuria in 1945-1946 reduced the capacity in that region, however, by between 60 and 70 per cent, according to postwar surveys, and by the time the Chinese Communists took over, the industry was in very bad shape.

There is reason to believe that Chinese Communist percentage figures on production increases during the past four years are even more misleading about electric power than they are about most industries. The "preliberation peaks" which they use as a base for their data are believed to exclude all power plants in Manchuria which had been physically removed or were found impossible to repair.

The Chinese Communists claim that electric power production at the time they took over was 72 per cent of previous peaks. They assert that by the end of 1952 this had been raised to 15 per cent (another claim was 43 per cent) above the highest level in the past. It is true that during the period from 1949 to 1952 the Communists did intensify the utilization of existing plant and were able to carry out some restoration in Manchuria and slight expansion elsewhere. But in 1952 China certainly still had much less electric power equipment than ten years previously. Actually, from 1949 to 1952 electric power production in China probably rose from about 2.5 billion kwh to 4.1 billion kwh, or slightly more, while capacity in 1952 may have been roughly 1.2 million kwh. In short, 1952 electric production was probably well below the past peak level and electric power capacity was perhaps half or more of what it had been ten years before, despite official claims. (These estimates may be on the low side, but there is almost no specific information to support higher claims.)

Electric power expansion plays a vital role in the first Five Year Plan and in the current Soviet aid program. In terms of construction, 1953 plans called for expanding 12 thermal and three hydroelectric plants and starting work on nine new thermal plants. In 1954, work is scheduled on 20 projects, and ten thermal and hydroelectric plants are to start operations. More than ten of the planned electric projects have been mentioned as part-of the program of 141 "major" projects receiving Soviet aid,

In terms of power production, Chinese plans call for doubling 1952 output by the year 1959. The first year of the Five Year Plan aimed at a 27 per cent increase in electrical production, and this year's goal is set at 15 per cent.

A number of important electric power plants have been expanded or built in China during the past two years. In Manchuria, expansion is going on at Tafengmen, China's largest hydroelectric station; Fushun, Manchuria's biggest thermal plant; Fushin; Dairén; Harbin; and elsewhere. A new thermal plant in Chungking, reported to be the largest in Southwest China, has recently begun to operate. Building has started on four important new plants at Paotow, Lanchow, Taiyaan, and Sian; the Sian plant is expected to double

the electric capacity of Northwest China. New plants of considerable importance are being constructed at Chengchow, Tihwa, and Tayeh. In addition, a fairly large number of projects of either expansion or new construction on a smaller scale have been started in scattered locations including Chengtu, Tngchuan, Kwangting, Kweisui, Tientsin, Tungchow, and others.

As a result of new construction and of intensive utilization of existing plant, capacity in 1954 will probably reach 1.5 million kw and production during the year may rise to roughly 5.5 billion kwh. When the projects now underway are finally completed, Communist China may have an electric power capacity of somewhat over 2.5 million kw (not much more than the highest figure in the past) producing somewhat above the previous peak of seven billion kwh annually. (In 1950, the U.S. produced over 330 billion kwh; the 1950 goal in the U.S.S.R. was 82 billion kwh.)

Even if these estimates, admittedly based upon fragmentary and questionable data, are too low, it is clear the electric power will remain a serious bottleneck to all industrial development during **China's** first Five Year Plan, while the limited electric power capacity will be under severe strain as **new** manufacturing industries are built.

Petroleum is much less important as a source of energy in China than either coal or electricity, **China's** known oil reserves are small (the Chinese **Communists** now claim about 700 million tons), and existing resources have never been extensively developed.

Nonetheless, the Chinese Communists are doing what they can to restore plants developed in the past and to prospect for new sources. The main producer of natural oil in China is **Yumen** in the Northwest, and the Communists have restored perhaps half of the wells there. Work has also been undertaken at small oil centers located at Wusu and Yenchang in Northwest China. Restoration of shale oil production in Manchuria has also been started. Developed by the Japanese, two major plants at Fushun, with a combined capacity of two to three million barrels a year, and seven **minor** synthetic oil plants elsewhere in Manchuria, produced most of **China's** oil. These plants were badly damaged by the Russians, but one of the Fushun plants is scheduled to resume operations soon.

The Chinese have also been doing a good deal of prospecting in Northwest and Southwest China, and this year they claim to have 230 petroleum teams at work, but what has been discovered is not known.

It is probable that last year Communist **China's** production of crude petroleum was about three million barrels (in 1950 U.S. output was 1.9 billion barrels), and although China -- which has never extensively developed automotive transport or other uses for petroleum products -- has relatively small needs, it still depends

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to a large extent upon imports, from Sakhalin and elsewhere. Even if petroleum products remain of secondary importance in the Chinese economy, and if China doubles her production capacity during the Five Year Plan, it will still be a net importer of petroleum and petroleum products in 1957.

Heavy Manufacturing Industries

Heavy manufacturing industries receive a priority second only to basic transport, metals and fuels in the Chinese Communists' plans for industrial development. Machine tools, machines and vehicles of all sorts, electrical equipment, and chemicals are essential to a program calling for plowing a maximum amount of increased industrial production back into investment in further industrial development. "The higher the proportion of heavy industry in the national economy," said the official Peking People's Daily in an editorial early this year, "the greater the possibility for accelerating the accumulations and the higher the speed of reproduction. In other words, only by first developing heavy industries which make the means of production can industrial construction be accelerated."

In developing "heavy industries which make the means of production" the Chinese Communists are starting from close to scratch. In the past, China developed very few such industries; most of those which did exist were concentrated in Manchuria, with Mukden as the main center, and, according to one estimate, almost four-fifths of the metal working industry in Manchuria was damaged or removed during the Soviet occupation in 1945-1946. Elsewhere in China, industries in this category were mainly small assembly or repair plants, with very few primary producers. One dramatic illustration of how little heavy manufacturing exists in China is the fact that China's first modern measuring instrument and cutting tool plant, scheduled for completion in Harbin this year, "will produce more precision tools," according to the Chinese Communists, "than the present combined output of all existing plants in the country."

During the period 1949-1952 the Chinese Communists did everything they could to restore or renovate the existing, small, machine manufacturing plants scattered throughout China, but it was only when the Five Year Plan began in 1953 that significant projects to restore Manchuria's heavy industry or to construct new ones were begun. Most of the major projects in the field of heavy industry since then have been included in the Soviet aid program, and the majority of them are located in Manchuria.

Plans for 1953 called for construction of nine new factories in machine building and renovation or expansion of 15 others, (These were all under the First Ministry of Machine Building Industry.) The most important new projects started during the year were China's first automobile plant, China's first modern measuring and cutting tool plant and an electric wire and cable plant in Mukden, a heavy machinery plant and a

textile machinery plant in Taiyuan, and a shipyard in Wuchang. Major renovation or expansion projects started during the year included two machine tool plants, a pneumatic tool plant, and a heavy machinery plant, all in Mukden. In addition, about 100 projects of renovation or expansion, mostly of small scattered factories or shops, were said to have been undertaken. The Chinese Communists claim that machinery production in China during 1953 rose 65 per cent over the previous year, and that 600 "new products" (of which 394 were electrical, including large 6,000-kw generators) were produced for the first time in Chinese history.

This year work is continuing on most of the projects started in 1953, and a few of the Mukden and Harbin plants are scheduled for completion (including the Harbin plants for measuring and cutting tools and for electrical machinery, one Mukden machine tool factory and a pneumatic tool plant). In addition, important new renovation projects during 1954 include a heavy machinery factory at Anshan, another at Fushun, a bridge assembly plant at Mukden, and various other machinery, weights and measures, railway bridge, farm tool, textile machinery, and mining machinery factories,

When the heavy manufacturing industry projects now under way are completed, the result will be to restore Mukden to its former importance as the main center of machine manufacture in China, and to create one major new center of importance, at Harbin near to the Soviet border. At present Mukden has over 20 "large-scale" factories for machine manufacture, 16 of which are scheduled for renovation or expansion, and the most important new construction in China is now going on at Harbin. In short, Manchuria's importance as primary center for the limited heavy manufacturing in China is being further increased; of ten "major" projects in this field in China during 1954, eight are located in Manchuria,

The process of building a completely new heavy machine manufacturing industry in China is complicated, difficult and slow, but any addition to existing plant is significant, because China has so little to start with.

What is happening in the field of munitions and arms manufacturing in China at present is unknown. Defense plants in these categories are under the mysterious Second Ministry of Machine Building Industry, and strict secrecy is observed concerning all of its activities. In view of the high priority which the Chinese Communists place upon military power, however, significant growth is undoubtedly taking place, with Manchuria unquestionably the largest center of military industry,

Chemical manufacturing is another major and as yet undeveloped, industry to which the Communists are now devoting much attention. Sulphuric and nitric acid, caustic soda and chemical fertilizers are very important to both industry and agriculture, and the Communists claim that they are increasing their production

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fairly rapidly; the target for growth in "major chemicals" this year is 15 to 74 per cent. But not a great deal of information about construction of new plants, or even expansion of old ones, has been made public. During the past two years, the Chinese Communists have mentioned completion of a major chemical plant in Dairen, expansion of the important Yungli chemical works in Central China, and work on various smaller projects, including an ammonium sulphate plant in Hsiangtan, a small chemical plant in Nanchang and a caustic soda factory in Suiyuan province. But details on these projects are lacking,

All of these facts seem to indicate that although the Chinese Communists are making some headway in developing heavy manufacturing, it will be a long time before they achieve their aim of self-sufficiency in these key industries. In the meantime, they will have to depend heavily on imports of machinery and equipment to carry out their program of industrial development.

Light Industries -- Cotton Textiles

In their economic program, the Chinese Communists are **concentrating** upon heavy industries, and relatively little is being done to expand the light industries which produce **consumers'** goods required by the mass of the population,

By far the majority of industries developed in China in the past, however, were light industries, with cotton textiles and flour milling predominating. When the Communists came to power, furthermore, these enterprises were producing at a much higher percentage of capacity than China's few heavy industries, and, as a result, recovery of their production was relatively **rapid**. By 1950, the Communists claimed that most basic consumers' goods industries, except sugar, had surpassed previous peak levels of production,

Since the start of the Five Year Plan there has been very little new investment in light industries, but the Chinese have continued to demand sizeable production increases from them. This year, for example, only one-fifth of the capital being invested in industry in China is earmarked for light industry, and yet plans call for a 24 per cent over-all rise in its output -- compared with an increase of only 15 per cent in heavy industry, which is receiving four-fifths of the investment. Apparently, the Communists believe that the output of light industry can still be raised by speed-up methods and more intensive **utilization** of existing equipment.

The most important light industry in China, and one that is essential to the standard of living of the population, is cotton textiles (almost everyone in China wears cotton clothes), and developments in this industry illustrate the Chinese **Communists'** policy toward light industry as a whole.

Prior to the Sino-Japanese War, China's cotton textile

industry grew until it had over five million spindles. It was the biggest modern industry in China and included a high percentage of the country's large-scale factories. Shanghai, with 50 per cent of the spindleage, was the main textile center, but important producing cities included Tientsin, Tsingtao, Wuhan, Wusih and others. A large part of the prewar ownership was foreign, but at the end of the war most of the textile industry passed into Chinese government hands. At present, although many of the largest mills are state enterprises, quite a few factories are still private or "joint state-private"; they are, however, tightly controlled by the state, which distributes the needed raw materials to them and buys almost all of their output. All new construction is being carried out by the state,

The production level of cotton textile factories was relatively high when the Chinese Communists took over in 1949 -- roughly three-fourths of "preliberation peaks," according to official claims -- and the Communists energetically proceeded to press for production increases, mainly through better utilization of existing equipment. Within a year, they claimed, output had surpassed prewar levels. By 1951, however, the U.S. embargo, imposed after the start of the Korean War, caused serious shortages of raw cotton in China, so that many mills slowed down to part-time operation. The Communists tried to meet this situation by putting top priority on cotton cultivation; through preferential prices and direct pressure, cotton acreage and output were raised, and the Chinese soon claimed self-sufficiency in raw cotton, although they continued some buying abroad. At the end of the "restoration" period, in 1952, it was asserted that China was producing roughly one-half more cotton yarn and cloth than ever before; these figures were probably an exaggeration, but there was no doubt that China's old textile equipment was being used intensively,

In 1949, China's cotton textile industry had 5.17 million spindles; of these, however, only 4.98 million were operable, and four million were actually in operation. During the next three years, about half a million spindles were restored to production giving a total of probably 4.5 million operating in 1952. This represented a rise in spindleage during the three years of roughly ten per cent, and yet, during the same period the Chinese Communists claimed production increases of well over 50 per cent. Great strain was obviously being imposed upon both the machines and the workers in the cotton textile industry.

Cotton textiles, although an industry of great importance to China's consumers, have been given a low priority in the Chinese Communists first Five Year Plan. Plans call for continued rises in production, and a small expansion of capacity, but the Chinese Communists admit that during the Five Year Plan they must depend basically upon existing mill capacity. At one point they claimed that during the five years starting in 1954 the capacity of the industry would be increased 50 per cent, but later they stated that one million spindles -- a rise of less than 20 per cent--

would be added during the "next few years," and part of this increase undoubtedly will represent restoration of some of the half million spindles in China which are still idle but operable. During the first year of the Plan, it was asserted that the number of spindles operating in China increased to 15.5 per cent (and looms to 20 per cent) over 1949. This year's goal is a rise of eight per cent in operating spindles over 1953. By the end of 1954, therefore, Communist China will probably have about five million spindles running, and by 1957 the number may total six million. (In 1952, the U.S. had 23 million spindles.)

The Chinese now claim to be self-sufficient in production of textile machinery, and undoubtedly most of the equipment for the modest textile expansion scheduled will be manufactured in China. It is claimed that in 1951-1953, China produced 600 thousand spindles (and 18,500 looms), and by 1953 production capacity of the seven textile machinery plants in China was probably about 250,000 spindles a year. A new textile machinery plant being built in Taiyuan during 1953 will add the capacity to produce another 200,000 spindles a year, bringing the total annual capacity up to 450,000 spindles, this year or next. By 1957, therefore, China will probably have produced only two million spindles during the Five Year Plan, and a large part of production is required for replacements in existing factories.

Construction of new plant, with the limited amount of machinery available, is at present focused upon four large mills, each with 100,000 spindles, and nine smaller mills. The most significant aspect of this new construction is not the magnitude of the program, for the expansion of capacity is fairly small, but the fact that it represents a conscious attempt to disperse the industry. All of the new building is being carried out in centers located in the cotton-growing regions of North and Northwest China, rather than in the traditional coastal centers of the industry. The four large new mills, construction of which reportedly began this year, are located at Sian, Shihchiachuang, Chengchow and Peking. The smaller mills, each with 50,000 or less spindles, are also located in the interior.

Only a limited amount of new construction has actually been completed in the four-and-a-half years since Communist takeover, however. Since 1950, only 21 textile mills of all sorts, including wool, silk, hemp, and flax, as well as cotton, have been either expanded or built in China, and since the start of the Five Year Plan the only important new mills finished are those at Changchow, Hsiangtan and Peking, each with 50,000 spindles.

To date, no five-year production target for cotton textiles has been officially revealed, but undoubtedly the Chinese hope that production of textiles, as of most other industries, can be increased by more than actual increases in plant capacity, through intensive utilization of existing plant. It is doubtful how much more production can be raised by speed-up methods, however, since the utilization rate of existing equipment in the cotton

textile industry is already 95 per cent, according to official claims, and most factories are now operating on a three-shift basis. Nonetheless, 1953 plans called for a production rise of nine per cent in cotton yarn and 16 per cent in cotton cloth, and a further rise of six per cent in yarn output is scheduled for this year.

In terms of the needs of China's huge population, the present production of cotton yarn and cloth by modern factories in China is still pitifully small. The Communists themselves admit that at present China produces less than one-half as much cotton cloth per capita as the U.S.S.R. did in 1928 -- 8.77 meters per capita compared to 20.1 meters per capita -- and there is little prospect of this situation rapidly changing. Not only are supplies for consumers limited, but prices, in relative terms, are high, particularly for the rural population. The Communists frankly say that the state must make a profit from textiles to help finance development of heavy industry, and although the dollar prices of cotton yarn and cloth have been slightly reduced in the past two years, the real prices in terms of grain, raw cotton and other agricultural products have steadily risen. The quality of the products offered to consumers has also been debased; the Communists have cut down production of all better grades of cloth and are now concentrating upon poorer materials.

The textile industry illustrates the low priority being given to almost all consumers' goods in the Chinese Communists' development program. Despite the shortage of yarn and cloth, which are so basic to the needs of the population, very little is being invested to develop production, and consumers are being asked to accept this policy because heavy industry comes first.

There are, of course, quite a few projects under way in various parts of China, involving the construction or expansion of some consumers' goods industries. A majority of "local state-operated" industries fall into this category, and the Communists put considerable emphasis on the need to "revive" these. (Last year, according to official claims, local state-operated industries accounted for 14 per cent of all industrial production and 28 per cent of the production of state enterprises.) But in terms of the tremendous needs of the population, projects under way will do little to solve existing shortages. The Chinese population is being told that development of industry which will have a direct effect on the standard of living must be postponed until China has built up its heavy industries. "During the transition period," the Communists say, "the strength of our country is mainly concentrated on the development of heavy industry; in the sphere of light industry, state-operated enterprises can only confine themselves to the production of the most essential products."

Handicraft Industries

The Chinese Communists have inherited the Soviet obsession with bigness. They dream of huge factories, employing thousands of workers and using tremendous machines. They also

dream of the push-button age; although China has a plethora of manpower and a shortage of capital, the Communists proudly describe new factories with automatic machinery which use a minimum of labor. It is not surprising, therefore, that the growth of small-scale handicraft industries does not receive much attention in the Chinese economic program. The Communists grudgingly admit that handicrafts are of considerable importance in the Chinese economy at present, but they hope that handicraft enterprises can slowly be replaced by modern factories,

In actuality, small-scale handicraft industries are extremely important in China today. The Chinese Communists estimate that 24.5 million workers, supporting roughly 100 million people, (one-sixth of the total population) are engaged in handicraft enterprises scattered all over the country, in both urban and rural areas. Selective surveys indicate that the average establishment is very small (about three persons in urban areas and often just one in rural villages), and has a total of only U.S.\$40 in capital, with an annual production averaging about U.S.\$40 a year per person dependent upon handicrafts. But these small and primitive industries are important to the whole economy in China. If one accepts official estimates, handicraft industries account for about one-third of total industrial production in the country (by value), and supply between 70 and 80 per cent of peasant needs for both consumers' and capital goods.

The Chinese Communists assert that although modern factories will eventually replace most handicrafts, this cannot be accomplished "within a short period of time;" therefore, they say, handicrafts must "remain in existence" and in a few cases "there is room for their development," primarily to supplement the production of modern factories,

At present, however, there is little to indicate that the Communists are actively stimulating increased production by handicraft industries; instead they are more concerned with organizing (i.e., collectivizing) handicraft producers. Because craftsmen, like the peasants, are dispersed and difficult to control, the Chinese Communists fear their "spontaneous tendencies toward capitalism." Consequently, they insist that handicraft industries follow the "path of cooperativization" and undergo "Socialist transformation."

Several distinct stages of "Socialist transformation" have been outlined, as in the case of both private industry and commerce and agriculture. The first is the organization of craftsmen into marketing and production teams, in which members pool their capital and tools, engage in collective labor, and make contracts with supply and marketing cooperatives to buy raw materials and sell finished products. The second stage involves the merging of several such teams into larger cooperatives, while the final phase is the organization of "semi-Socialist" or Socialist handicraft producer cooperatives (which the Communists hope will some day facilitate mechanization of handicrafts).

The implementation of this program of reorganization has not progressed very far, however. By the end of last year the Chinese Communists had organized only about 5,000 handicraft producer cooperatives, with a membership of 300,000 -- roughly one per cent of the total working force engaged in handicrafts. But state control over handicrafts has probably increased more than it appears on the surface; through state trading companies and supply and marketing cooperatives the state is able to dominate sources of raw materials and markets, and indirectly to exercise a controlling influence over almost all primary producers.

The Chinese present policy toward handicraft industries, thus, is to maintain, control and reorganize them, but not to place any great emphasis upon developing them.

Industrial Labor

The size and quality of the industrial labor force is a vital factor in any industrialization program. In the program which the Chinese are now attempting to carry out, the role of labor is particularly significant, because the Communists are trying to increase industrial production more rapidly than they expand industrial equipment -- and are trying to effect this increase by raising labor's productivity. At the same time they are attempting to keep wages low so they can "economize" and accumulate capital for further investments in industry. Needless to say, such a policy involves many problems.

The forced pace of the Communists¹ economic program in China has created other problems. During the past four years, for example, the Communists have faced an anomolous situation in which they have encountered serious shortages of skilled industrial workers and at the same time have had to cope with unemployment problems caused by the severedislocation of the economy resulting from their policies.

The **size** of the industrial working force in China today is very small. Before the war it was estimated that only two million workers were engaged in modern industry, and they were concentrated in a few centers. China has **always** had an over-supply of cheap, inefficient labor, but it has **had** a shortage of skilled industrial workers.

At present the Communists state that China has an urban, modern "working class" of over 1.5 million (out of a total urban population said to be 100 million), but this includes wage earners of all sorts. The figure they use for urban "industrial workers," including those in modern transport, **etc.**, is three million. (The few specific figures which have been published reveal that textile workers **total** almost 600,000, railway workers 620,000 and coal miners ~~460,000~~.) If one accepts the rough figure of three million for Communist China's industrial labor force, this means that modern industrial enterprises employ about one-half of one per cent of China's total population (which is now officially

claimed to be 602 million,)

Despite the relatively small number of urban laborers of all sorts in China, the present regime has faced rather serious unemployment problems in the major cities, during the past few years. The main cause of this lies in the fact that the elimination of "unessentail" or "undesirable" industries and occupations and attempts to reorganize industry have seriously dislocated the economy. Another cause has been the fact that the Communists' agricultural policies, and conditions in the countryside, have resulted in what they refer to as a "blind flow" of peasants to the cities,"

Many steps have been taken to help solve the difficulties of urban unemployment. The government has established relief and labor employment committees in the cities, organized public works gangs, repatriated people to the countryside, restricted movements from villages to cities, set up vocational training centers for urban unemployed, and given relief loans and direct relief handouts. But the unemployment problem still has not been fully solved. In mid-1952 it was officially admitted that there were three million unemployed in China's cities, and a special unemployment program was adopted, involving registration and "centralized distribution" of all urban unemployed. At the end of last year the regime claimed that since 1950 it had found employment for 2.2 million unemployed -- including 250,000 in work relief and 66,000 in vocational training -- but the problem is still said to be "rather serious," and a special conference on unemployment early this year urged pressure on the unemployed to "find work themselves."

Actually, the difficulty of absorbing manpower in the cities would be even greater if the regime were not restricting the "blind influx" of peasants to cities and organizing huge numbers of people in labor groups in the countryside. There is a great surplus of labor in many rural areas in China -- which is likely to increase as agricultural collectivization proceeds -- and the Chinese Communists have absorbed thousands (perhaps millions) in many types of labor corps, including "reform through labor" (forced labor) organizations, to work on public works such as railways and water conservancy projects,

At the same time that they face a problem of "surplus labor," the Chinese Communists suffer from a shortage of skilled industrial workers. To minimize this problem, they have tried to institute complete control of the labor market, to distribute available skilled labor where it is most needed, and to introduce sizeable worker training programs. Since 1952, all industrial enterprises in China have had to obtain approval from government Labor Bureaus to hire or fire workers. Skilled laborers have been shifted on a significant scale from one region to another; for example, large numbers of automobile mechanics have been sent from Shanghai to Harbin where China's first auto plant is under construction. Large programs of on-the-job training have been

started; perhaps the most notable example of this is the training on Manchurian railways of workers for rail lines all over the country. Special training schools, both part-time and full-time, have been set up in many places. Most of them are managed jointly by the government and labor unions, and they are attended by thousands. In time, these training programs will greatly increase the number of workers with low-level skills in China -- but it will take time. The entire educational system has also been reorganized by the Chinese Communists, and it is now geared to turn out skilled workers and technicians for industrialization. By the end of the first Five Year Plan the Chinese Communists hope to have produced 150,000 - 200,000 "senior construction cadres" plus half a million "intermediate and junior technical personnel."

In addition to adopting long-range policies of this sort to develop skilled labor, the regime from the start has made every effort to bring the existing labor force under strict control. The main instrument of this control has been the All-China Federation of Trade Unions (ACFTU).

The ACFTU has little resemblance to trade unions in non-Communist countries. It is really a mass political organization through which the regime controls labor. This is most clearly symbolized by the fact that unions have no right to strike. Stress is laid upon members' obligations, not their rights, so that the primary mission of the unions is to see that party and government policies are implemented and to strive for higher production.

Organized on the principle of "democratic centralism," the ACFTU is divided into a number of nationwide industrial unions (23 at present) and into area federations of local union branches in every administrative region of the country. Member unions are supported partly by management, which contributes the equivalent of two per cent of its payroll, and partly by union dues, which amount to one per cent of wages. By the end of last year, the 180,000 basic branches of the ACFTU had a total membership of 11 million "wage earners" (including people like teachers as well as industrial workers), and this figure included well over 90 per cent of the industrial workers in the country as well as a majority of all urban workers.

As previously stated, the performance of labor is particularly important to development plans in China today, because the Communists are attempting to achieve a significant part of their planned production rises by increasing labor output, without lifting wage levels. "It is only by incessantly raising labor productivity," they say, "that smooth completion of the nation's construction plans" is possible,

In their attempts to raise labor output, the Chinese Communists are using both the stick and the carrot -- threats and incentives -- but the most important technique used is "Socialist

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emulation." Emulation competitions, they assert, are "the fundamental method for construction of the Fatherlandⁿ because through them it is possible to **"raise** the capacity of existing plants without the installation of new equipment."

There are many kinds of emulation campaigns. There are competitions between regions, factories, teams and even individuals; competitions to surpass **"norms"** and set new records; and competitions to become individual labor heroes, **"Patriotic compacts,"** or pledges to achieve certain production levels, are common. Rewards are both monetary and psychological. By 1952, it was claimed that 80 per cent of all industrial workers in China were involved in some sort of labor competition, and by last year **one-quarter** of a million workers had been honored as **"advanced production workers or model laborers."**

Until recently the emphasis in emulation campaigns was primarily upon harder work, but this showed diminishing returns. Physical exhaustion has had an adverse affect upon production in some instances. Now the emphasis is upon increasing efficiency through new methods and **"rationalization"** of production, and the Chinese claim that hundreds of thousand of workers' rationalization proposals are being put into effect.

In addition to emulation campaigns, the Chinese Communists use numerous other negative and positive incentives to induce workers to raise **production**. On the negative side, great stress is **placed** upon "labor discipline." On the positive side, appeals are made to **labor's** pride and patriotism; industrial workers are called the **"masters** of society and the state." Workers are given preferential treatment in various ways. A labor insurance law, entirely supported by management's contribution (which equals three per cent of an **enterprise's** payroll), has been started and is now claimed to cover 3.2 million workers. Preference is given workers in new housing, with many **"labor palaces,"** clubs and schools built for them. Workers have also been given new responsibilities. In state enterprises they are brought into Administrative Committees organized with equal worker-management representation, while in private concerns they participate in Labor-Capital Consultative Committees in which they not only negotiate agreements on working conditions but also advise on production methods and policies. All of these developments have given the small industrial labor force in China a new status in society, and to a certain extent they undoubtedly have stimulated laborers to work harder.

The one labor incentive conspicuously lacking in China **is** the promise of significantly increased income. The Chinese Communists are trying to get laborers to work harder and more efficiently, but they hope to increase **labor's** productivity more than they do wages. Wage policies are used, however, to spur **production**. Wherever possible the Communists are introducing **the** Stakhanovite piecework system, to replace flat wages, so that pay will depend directly upon the amount which a **worker** produces.

How successful the Chinese Communists will be in getting the maximum out of labor for minimum compensation remains to be seen. The policies they have adopted are ones, however, which could lead to considerable dissatisfaction among industrial workers, and it seems likely that strict organization and control of labor may become increasingly essential to their whole industrialization program.

The Pace of Industrialization

A careful examination of available facts on the progress of industrialization in China indicates that the Chinese Communists' dream of a "powerful, industrialized Socialist state" is not likely to be achieved overnight. Undoubtedly the surge toward industrialization in China will now be faster than in the past, because the present regime is a disciplined, totalitarian one capable of making policy decisions and translating them into action, and because the Communists are determined to mobilize and devote to the task of industrialization the maximum amount of available resource, capital, labor and skills. But the problems they face are tremendous. China starts with a much less favorable basis for modern industrialism than the Soviet Union did 35 years ago. It is more overpopulated (in terms of population compared to land and other resources), possesses less modern industry, has a poorer raw material base, will find it harder to obtain capital equipment abroad and faces a more serious problem of getting either domestic capital or foreign exchange, than did the Soviet Union a generation ago,

The propaganda which the Chinese Communist regime is now spreading, gives the impression that China is already making very rapid strides toward becoming an industrialized power. However, the facts indicate that although China is making some progress in this direction, the pace is not spectacularly rapid, at least to date. At present rates of development, China at the end of its first Five Year Plan, in 1957 will have perhaps 17,000 miles of railways, coal output of about 85 million tons annually, maybe a little more than 2.5 million kw of electric power, steel production of at most three to four million tons (probably less), the beginnings of a few important heavy manufacturing industries, and about six million cotton spindles. For a country of 600 million people this does not constitute modern industrialization. It is possible, of course, that the process of development will gain momentum as it progresses. So far, however, this has not been the case, and during the first two years of the Five Year Plan the regime has encountered increasing difficulty in achieving modest development goals, and in many sectors of industry the pace of growth seems actually to have slowed down rather than accelerated.

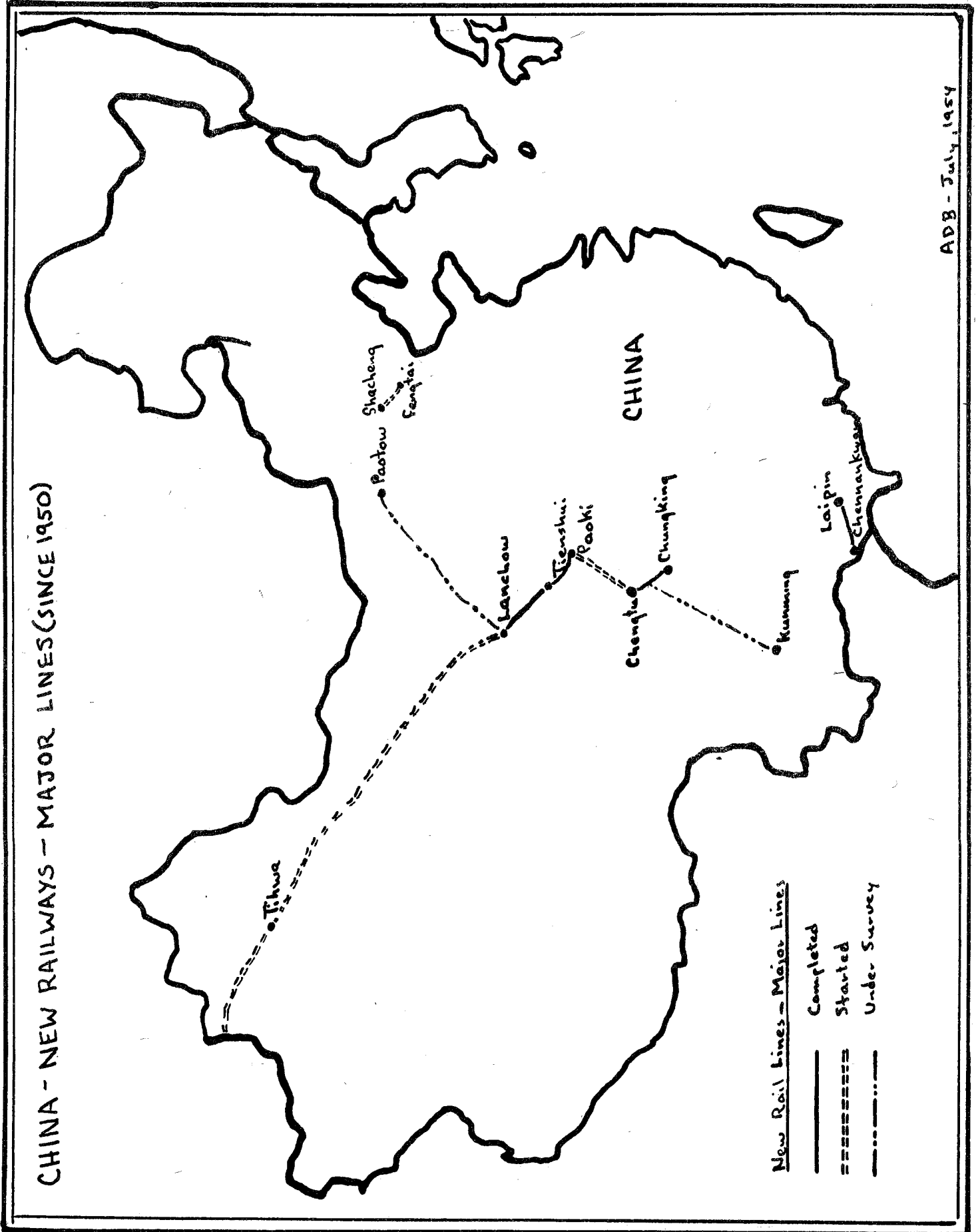
At the close of the first Five Year Plan, therefore, China will still be an underdeveloped, nonindustrialized, agricultural country. By comparison with the major industrial powers of the world, Communist China still will lack any really significant basis of modern industrial power. It would be a mistake to

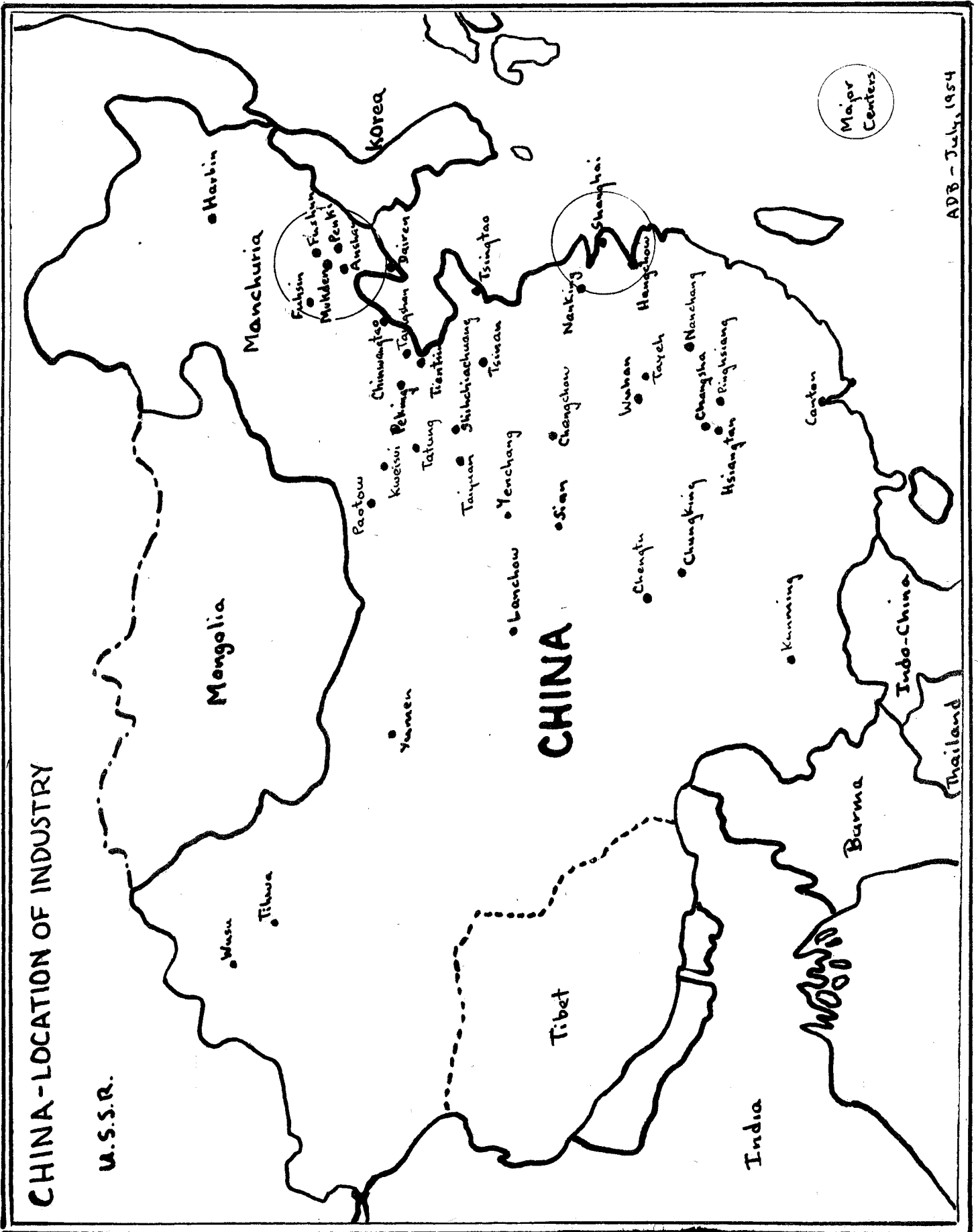
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underestimate the importance of the progress being made, however. In a country such as China, a little bit of modern industry can have a much greater impact than in a more developed country, and small increases in industrial production can be stretched a long way. Backed by the Soviet Union, Communist China with its discipline, organization, and huge reserves of manpower is already an influence to be reckoned with on the international stage, even though **it** lacks its own industrial basis for power. And as China develops her own industrial power, however small **it** may be compared with that of a colossus such as the U.S., the regional influence of the Chinese Communist regime may increase still further.

In the foreseeable future the Chinese population will not benefit very much from the Communists' program of industrialization in any event. Chinese Communist plans do not call for balanced development; they concentrate upon heavy industries and neglect consumers' goods industries. The Chinese people are being urged to **work** hard for industrial goals, but they are being **told** to have patience and wait for improvements in their material welfare until the **millenium** -- when China is a "great Socialized industrial country and one of the most advanced in the world." At present, **it** looks as if they may have to wait for quite a long time.

A. Doak Barnett





ADB - July, 1954

TABLE I

(official Claims)

Industrial Production - "Restoration Period" - 1949-1952General Recovery - Percentage Comparisons with
Pre-Communist Peaks

(Index: "Preliberation Peaks" = 100)

	Past Peak	1952
General Industrial Production (33 major products)	100	126
"Investment Goods"	100	116
Consumer Goods	100	132

Source: Report of Committee on Financial and Economic Affairs
(Peking).

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TABLE II
(Official Claims)

Industrial Production - "Restoration Period" - 1949-1952

Pace of Recovery since 1949 - Percentage Comparisons with
Pre-Communist Peaks

(Index: "Preliberation Peaks" = 100)

	1949	1950	1951		1952		
	(a)	(a)	(a)	(b)	(a)	(b)	(c)
Electricity	72	78	94	117	115	114	143
Coal	45	59	69	77	90	x	95
Petroleum.	38	51	65	82	136	x	119
Pig Iron	11	49	64	80	104	105	102
Steel Ingots	16	69	97	x	155	170	148)
Rolled Steel	18	67	120	x	167	x)
Copper	x	253	333	x	x	x	x
Tungsten	x	76	80	x	x	x	x
Tin	x	38	46	x	x	x	x
Cement	31	66	107	115	148	153	133
Cotton Yarn	72	100	106	108	144	150	141
Cotton Cloth	73	109	118	115	161	165	167
Paper	90	115	185	150	234	212	223
Cigarettes	83	x	x	x	145	x	x
Matches	85	x	x	x	111	x	x
Wheat Flour	78	x	x	x	106	x	x
Sugar	40	48	60	90	100	x	119
Glass	x	120	138	x	x	x	x
Caustic Soda	x	82	244	x	x	x	x
Soda Ash	63	97	124	x	x	x	x
Gunny Bags	x	43	99	x	x	x	x
Auto Tires	36	66	196	x	x	x	x

Sources:

- 1949 (a) Figures on Petroleum, Cigarettes and Matches are from Li Fu-chun report of October 1, 1952. All other figures are from Li Fu-chun report of October 25, 1951.
- 1950 (a) Figure on Sugar is based on People's Daily, report of October 15, 1951. All other figures are from Sung Shao-wen article in People's Daily on October 6, 1951.
- 1951 (a) Figures are forecast and estimate of the year from Sung Shao-wen article in People's Daily on October 6, 1951.
- 1951 (b) Figures are based upon the Statistical Bureau communique of September 1953, in New China News Agency, September 29, 1953.
- 1952 (a) Figures are forecast and estimate of the year in Li fu-chun report of October 1, 1952, except Sugar which is in Po Yi-po report of the same date.
- 1952 (b) Figures are from People's Daily, January 1, 1953.
- 1952 (c) Figures from Wu Lun-hsi article in New China News Agency, September 25, 1953.

TABLE III

(Official Claims)

Industrial Production - "Restoration Period" - 1949-1952

Pace of Recovery since 1949 - Percentage Comparisons with 1949

(Index: 1949 = 100)

	1950	1951	1952	
	(a)	(a)	(a)	(b)
Electricity	106	134	164	180
Coal	132	164	202	200
Petroleum	166	248	358	310
Pig Iron	394	597	784	750
Processed Steel	288	496	848	940
Cement	x	x	x	350
Cotton Yarn	x	x	x	200
Cotton Cloth	x	x	x	230

Sources:

1950 (a), 1951 (a) and 1952 (a) - Figures released by State Statistical Bureau in September, 1953.

1952 (b) Figures from Chia To-fu report, May 7, 1953.

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TABLE IV

(official Claims)

Long-Range Economic Goals

(Compared with 1952)

	1952	Final Aim
Modern Industrial Production as % of Total National Production	28%	70%
Heavy Industry as % of all Modern Industry	44%	60%
Socialization of Modern Industry - Industry	50%	100%
Socialization of Modern Industry - Industrial Output	60%	100%

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TABLE V

(official Claims)

First Five Year Plan (1953-1959) and Soviet Aid Program1959 Goals - Production

(Compared with 1952; 1952 = 100)

	1952	1959
Steel	100	400
Rolled Steel	100	250
Electric Power	100	200
Coal	100	160

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TABLE VI

(Official Claims)

Industrial Production - Five Year Plan - First Two Years: 1953-1954General Expansion

(Percentages of Annual Increase)

	1953 Targets	1953 Claims	1954 Targets
Total Industrial Production of Modern Industry	25.6 (23.0)	28	18.3
Industrial Production of:			
State Industries	32.0 (29.4)	33.7	35
Cooperatives		46.5	
Joint Private-State Industry		39	
Private Industry		18.5	
State Heavy Industry - All Industries under the Min- istry of Heavy Industry			15
State Light Industry - (in- cluding Joint State- Private)			24

Sources: Tables IV, V and VI are compiled from several official Chinese Communist publications. The two main sources for Table VI are the Po Yi-po report of February 12, 1953 and the Teng Hsiao-ping report of June 17, 1954.

TABLE VII

(official Claims)

Five Year Plan - First Two Years: 1953-1954General Aims and Accomplishments

(In terms of Percentage Annual Increase)

	1953 Targets	1953 Claims	1954 Targets
Total Industrial and Agricultural Production	12	11.4	12.6
Total Modern Industrial Production	25.6	28	18.3
Industrial Production			
State Industries	32	33.7	
Cooperatives		46.5	35
Joint State-Private Indus- tries		39	
Private Industries		18.5	
Agricultural Production	7	1.5	3
Domestic Trade - Retail Sales		20	13.8
Domestic Trade - State Com- merce		56.6	8.2
Labor Productivity	15		
Wages (in state enterprises: 1953 - "average real wage" ^N 1954 - "average wages" ^N)		5	5.2
"Purchasing Power of Society"		20	13.8
Railway Freight	7.4	19.9	15.5
Railway Passenger Traffic		36.8	14
Inland Water Freight			26.6
Marine Freight			44
Railway Mileage ^{*(1)}		589	603
Percentage of National Pro- duction: ^{*(2)}			
Modern Industry		31.6	
Handicrafts		14	
Agriculture & subsidiary occupations		54.4	

[%](1) Railway Mileage not calculated in percentage, but in miles of track increase per year.

^{*}(2) Figures represent breakdown of 1953 production claims; they do not indicate annual increase.

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TABLE VIII

(Official claims)

Industrial Production - Five Year Plan - First Two Years: 1953-1954

(percentages of Annual Increase)

	1953 - Targets		1953 Claims	1954 - Targets	
	(a)	(b)		(a)	(b)
Electricity	27	18.3	27	15	14.9
Coal	x	x	-2.2	13	x
Petroleum	42	29.1	42	51	x
Pig Iron	14	13.3	14	30	31.1
Steel Ingots	23	22.1	23	15	18.8
Rolled Steel	x	x	x	18	x
Structural Steel	x	34.8	34.3	x	x
Cement	x	29.7	29.7	14	x
Cotton Yarn	9	9.4	9	x	6.2
Cotton Cloth	16	10.5	16	x	x
Paper	6	7.9	6	x	14
Sugar	23	x	23	23	23.2
Glass	x	x	x	18	x
Cigarettes	x	x	x	20	16.6
Copper	39	28.6	28.6	(x
Lead	49	34.6	x	(10-27	x
Zinc	54	32	x	(x
Machine Tools	34	x	x	x	x
Industrial Mining Machinery	53	x	x	x	x
Electric Generators	x	90.9	90.9	x	x
Electric Motors	x	41.2	41.2	x	x
Nitric Acid	x	34.3	34.3	x	x
Ammonium Sulphate	x	32	x	x	x
"Major Chemicals"	x	x	x	15-74	x

Sources:

- 1953 Targets (a) - Po Yi-po report of February 12, 1953.
- 1953 Targets (b) - Chia To-fu report of May 8, 1953.
- 1953 Claims - Wu Lun-hsi article, Hong Kong Ta Kung Pao, October 1, 1953.
- 1954 Targets (a) - Figures for Cigarettes and Sugar are from New China News Agency, March 2, 1954. All others are from NCNA April 19, 1954.
- 1954 Targets (b) - Teng Hsiao-ping report, June 17, 1954.