THE ECONOMIC DEVELOPMENT OF THE SOVIET FAR EAST

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THE ECONOMIC DEVELOPMENT OF THE SOVIET FAR EAST

I

THE FAR EASTERN REGION IN THE GENERAL SCHEME OF SOVIET NATIONAL ECONOMY

THE FAR EASTERN Region is an organic, inseparable part of the Soviet Union, and its economic development is therefore closely bound up with the general course of the economic development of the whole country.

The development of productive forces in the Soviet Union is indissolubly bound up with the rational allocation of production to secure the minimum expenditure of labour in the transformation of raw material into finished goods. This is attained by bringing industry to the sources of raw material and power, and by concentrating production so as to use most effectively all the natural resources of any given region. In the final analysis, this signifies an even allocation of productive forces throughout the country, taking into account the natural resources of the various regions and the task confronting the whole state in the allocation of the various branches of industry. Moreover, the development of the economically backward regions is influenced by the industrial development which the old industrial regions of the country had previously reached.

In the Soviet Union it would be difficult to find a region in which some new branch of industry or other has not been created or set up in the years of the First and Second Five-Year Plans. Hence, in the general course of the development of the country, rapid rates of industrial growth are secured for the distant and backward regions, chief among which should be mentioned those populated by nationalities other than Russian. There has been much study of natural resources: the outlying and non-Russian regions of the Union were formerly the least explored; therefore, at the present time they must have a very

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large share of the general expenditure on geological and other investigations.

The Far East was, up to the Revolution, one of the most backward regions of Tsarist Russia. Considering the broad immediate tasks, it is easy to understand, therefore, the attention paid to the industrial development of this region in the First and Second Five-Year Plans.

By 1928 the Far East, like the rest of the Soviet Union, had reached the pre-war economic level. The First Five-Year Plan set the task of creating in the U.S.S.R. the technical basis for the reconstruction of the whole of our national economy, the consolidation and extension of socialist forms of economy in the countryside.

The successes of the economic development of the U.S.S.R. in the first years of the First Five-Year Plan permitted a considerable extension of industrial construction in new regions. In particular, this task was set and carried out: to create a coal and metallurgical base in the East, out of the combined utilization of the coke of the Kuznetsk coal basin and the iron ores of the South Urals. New industrial construction also began in East Siberia and the Far East.

The creation of a Soviet industry is a necessary technical basis for the socialist reconstruction of agriculture; and the success of the most advanced state and collective farms in the organization of large-scale agriculture could be relied upon to bring about in the beginning of the First Five-Year Plan a decisive turn of the bulk of the middle peasantry towards socialism. As a result, the First Five-Year Plan in the villages meant the collectivization of most of the peasant farmsteads along with the liquidation, on that basis, of the capitalist kulak farms. The Far Eastern regions also, of course, were faced with this task. The industrial construction and socialist reconstruction of agriculture in the Far East is now being developed by further strengthening the growth of its economic ties with the other regions of the Union. Hence the urgent need for the development of transportation.

Thus, the main tasks of economic construction in the Far East were fully mapped out and defined by the plans for the economic development of the Soviet Union. The constant growth of the Soviet Union requires that the as yet unutilized natural

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resources of the Far East should be drawn into its economic turnover and give this the necessary material basis. In connection with the balanced development and allocation of productive forces, there are being organized in the Far East not only branches of industry which directly utilize some natural resources (fish, timber, etc.) but also various branches of industry which provide a technical basis for the further economic development of the region (machine building and metallurgy). The planned socialist economic development of every region in the U.S.S.R. opens wide possibilities for a many-sided and harmonious development.

The Second Five-Year Plan provides for further economic development of the sections where national minorities predominate and of outlying parts of the Union, and in particular of the Far Eastern Region.

During the First Five-Year Plan, 1,027 million rubles were invested in the Far Eastern Region. In the Second Five-Year Plan such investments total 4,058.9 million rubles. The allocation of capital investment to the main branches of activity are indicated in table 1.

TABLE 1. SUM TOTAL OF CAPITAL INVESTMENTS IN THE FAR EASTERN REGION IN THE FIRST AND SECOND FIVE-YEAR PLANS
(in million rubles)

[illegible]	Total	Industry	Agriculture	Transport
Actual cap. inv. in First Five-Year Plan.....	1,027	454.4	173.6	287.9
Per cent.....	100	44.2	16.9	28.0
Actual cap. inv. in Second Five-Year Plan*..	4,058.9	1,530.8	370.0	1,674.0
Per cent.....	100	37.7	9.1	40.3

*_The Second Five-Year Plan of Development of the National Economy of the U.S.S.R._, vol. 2 (Moscow, 1934), p. 503. (In Russian).

The growth of capital investments in the national economy of the Far Eastern Region in the Second Five-Year Plan is called for by the necessity to complete the great economic construction works begun at the end of the First Plan. In the Second Plan a number of large-scale undertakings are being started (the Baikal-Amur main line, ferrous metallurgy, and so on), the

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completion of which extends beyond the actual five years of the Plan itself.

In table 2 the relation is shown between the capital investment in the Far Eastern Region and that in the other formerly backward, but less remote regions of the Union.

TABLE 2. GENERAL CAPITAL INVESTMENTS IN THE NATIONAL ECONOMY ACCORDING TO THE SECOND FIVE-YEAR PLAN*
(in million rubles)

	Total Capital Investment	Proportion to Cap. Inv. in whole Union Per Cent
Far Eastern Region.....	4,058.9	4.14
East Siberian Region.....	2,328.0	2.37
West Siberian Region....	5,481.2	5.59
Kazakh A.S.S.R.**.....	4,061.2	4.14

*_The Second Five-Year Plan of Development of the National Economy of the U.S.S.R._, vol. 2, p. 260.
**Autonomous Soviet Socialist Republic.

The Second Five-Year Plan will complete the work of creating a second metallurgical basis in the East. In the West Siberian Region, coal production in the Kuznetsk basin, which supplied not only the Kuznetsk but also the Magnitogorsk metallurgical plants in the Urals, is being greatly developed. A chemical industry and a number of large-scale enterprises of light industry and food industry are being created.

The industrial development of the East Siberian Region and of the Buriat Mongolian A.S.S.R. is making considerable progress. A powerful railway repair base has been created here. The gold industry has been greatly developed. The extraction of tin and rare metals has commenced, and also a series of large-scale enterprises of the food industry. As a result of the economic development of the regions of Central Siberia, the Krasnoyarsk Region was formed at the end of 1934. A new wagon-building plant and the first cellulose-paper combinat in Siberia are under construction.[1]

(1) A combinat is a vertical industrial enterprise responsible for every activity connected with the production, usually of a group of related commodities, from the collection of raw material to the delivery of the finished goods.

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The Kazakh A.S.S.R., which before the Revolution was one of the most backward regions, has important non-ferrous, metallurgical, coal-mining, and other branches of industry. Industries have been established also in the republics of Central Asia.

Industrial construction in the Far East, as in the above-mentioned regions, is the result of the general economic growth of the country and the new division of labour among the regions, which is part of the process of reconstruction of the national economy of the Union.

The remoteness of the Far Eastern Region from the chief industrial centres of the country, the restricted capacity of the railway, and the pronounced shortage of labour—these are the main difficulties which must be overcome in the process of developing economic construction in this region. These difficulties are increased by the fact that the industrial development of the Far East demanded the creation of new industrial centres in completely uninhabited regions (Komsomolsk, Kolyma, and others).

The industrial development of the region is accompanied by a rapid growth in urban population. In connection with this began the difficult and urgent task of reconstructing the whole municipal economy of old towns and the creation of new towns and urban settlements. The growth of the town population demands a similar forced tempo in agriculture. The further development of agriculture in the virgin lands of the Far East largely depends upon the clearing and management of forest areas.

However, despite these difficulties, the Far Eastern regions fulfilled the tasks set under the First Five-Year Plan and are successfully developing the economic construction program set by the Second Five-Year Plan. The construction of the second railway line will be completed in 1936. In this way the most serious limiting factor will be done away with. The double-tracked line can fully serve as the link between the Far East and other parts of the Union. Recent years of intensive work have created considerable cadres of permanent (non-seasonal) workers in this region; the seasonal transference of labour power from other parts of the Union is gradually diminishing. Urban housing and municipal construction are proceeding apace.

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Socialist agriculture, reorganized and equipped with new techniques, is extending production in all its branches; further preparatory work is going on to settle more people on the land from other districts.

In the three years of the Second Five-Year Plan that have elapsed, 3,350 million rubles, 82 per cent of the sum allocated by the plan, has been invested in the Far Eastern Region.

As a result of the economic construction in recent years, the Far Eastern Region has begun to specialize within the general economic system of the Union, and has established firm links with the other areas. The Far Eastern Region is a great gold-producing region; it also provides other rare and non-ferrous metals. Its fishing industry is also of All-Union importance—taking second place in the Union according to production. The region assumes great importance in the lumber industry and the procurement of furs.

Planned development and allocation of productive forces in the Soviet Union are based on its internal requirements, and do not depend on the world market. The different branches of national economy, which is based on a unified plan, are developed according to the internal demands. Moreover, the Soviet economic system has acquired great manoeuvering ability. The Far Eastern Region, relying on the industrial power of the many-sided development of Soviet economy, can participate in world exchange on the basis of this or that trade agreement; but it can also manage without such participation. The industry of the Far Eastern Region is being built and developed to serve the economic growth of the region, and to carry out those economic tasks which the inter-regional division of labour in the general system of Soviet economics demands of it.

The economic strengthening of the Soviet Union in the Far East is a powerful stabilizing factor. It can only serve the cause of peace. Defence of the right to peaceful labour, and the firm support of the cause of world peace in this most threatened region—these are the chief political tasks of the Soviet Union in the Far East.

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II

THE FIRST YEARS OF SOVIET POWER IN THE FAR EAST

Constructive work by the Soviet Government began considerably later in the Far East than in the other parts of the Union. Not until October 25, 1922, did the Japanese interventionists leave Vladivostok. In the beginning of November in the same year the National Assembly of the Far Eastern Republic met in Chita and passed a resolution declaring Soviet Power in the whole Russian Far East and its union with the land of the Soviets, with the extension to the Far East of the Soviet Constitution and the Soviet laws. On November 18, 1922, the All-Russian Central Executive Committee recognized the former Far Eastern Republic as an inseparable part of the country of Soviets and included it in the R.S.F.S.R., transforming it into the Far Eastern Province. As a result of their difficult struggle for freedom, the peoples of the Russian Far East became a member of the family of the peoples of the Soviet Union. In 1930 the Far Eastern Province was transformed into a Region, its Sretensk and Chitinsk districts becoming part of the East Siberian Region. With the establishment of Soviet power, the great task of restoring the national economy ruined by the interventionists was begun. In the first years of its existence the Soviet Government, while building up the economy of the country, had also to carry on a hard struggle to establish Revolutionary order. The White Guard armies which had been defeated and driven out had left in the region a number of small bandit gangs engaged in plunder and in killing representatives of the Soviet Government. Detachments of Tungusy and White Guards plundered and slaughtered the population of the border villages. The Ussuri railway was in constant danger from raids. The Japanese militarists supported any adventure which aimed at disrupting Soviet construction in the Far East. All this, of course, hindered the constructive work and kept back the economic development.

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In the first years of its existence the Soviet Government brought the economic system of the Far East out of its state of collapse. Regular traffic was soon restored on the Amur Railway in order to connect it with the Soviet Union. One after the other the old industrial enterprises, ruined during the intervention, were restored to order. They were not only restored but extended and adapted to the growing new needs. By 1928 industrial production was double that of 1923, and had reached the pre-war level. Coal production was increased to supply fully railway and water transport, and also industry. A number of measures were introduced to regulate fishing in internal and sea waters. The result was a big increase in the catch. Lumbering developed, and woodworking industries which were established grew rapidly. In 1928 oil production was commenced on Sakhalin. The restoration and development of agriculture received great attention. Arable land was extended, and a development of livestock rearing began. Agricultural settlers began to come in from the central regions of the Union.

The role of private capital in the industry of the Far East was, by the end of the restoration period, reduced to nil. Heavy industry had been transferred completely into the hands of the state, a fact which secured the possibility of its further planned development.

Economic development in the Far Eastern Region is closely bound up with the whole power of the national economy of the Soviet Union. The success of socialist construction in the principal parts of the country, the creation of the necessary technical basis for the reconstruction of all branches of industry, and the socialist reconstruction of agriculture have their reflection in the setting up of broad economic tasks in the Far Eastern Region.

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III

ECONOMIC AND CULTURAL CONSTRUCTION DURING THE FIRST AND SECOND FIVE-YEAR PLANS

1. The Principal Tasks of Economic Construction

Socialist economic construction faced a number of complicated tasks in the spheres of industrial, transport, agricultural, and cultural construction in the Soviet Far East.

The economic backwardness of the region, which was the legacy of the Tsarist regime, had to be overcome. This required wide development of new industrial construction and the formation of new branches of industry which would guarantee further progressive growth of the entire economy. Industrial development in the region depends on the utilization of the natural resources of the unexploited region, and the creation of new industrial centres and areas.

A limiting factor in successful economic development in the Far East was transportation. The single-track Amur line could not serve the growing internal traffic and the connections developed by the Far East with other parts of the Union. Road construction was needed to link up newly exploited districts with the inhabited territory of the region. It was necessary to develop water, air, and road transport, together with railway construction.

In the First Five-Year Plan, Soviet industrial development created a technical basis for socialist reconstruction of agriculture. The poor and middle strata of the peasantry definitely turned toward socialism. The integration of individual peasant holdings into collective farms began, and the equipment of agricultural production with new technique. The Far East was included in this general movement. The great task of transforming the agriculture of the Far Eastern Region on socialist lines began, providing for its further progressive development on a new basis.

Industrial growth and the socialist reconstruction of agriculture are bound up in Soviet conditions with the steady increase

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in the material and cultural standards of the workers and peasants. Hence the task of developing in the Far East a wide network of social and cultural establishments (schools, libraries, clubs, hospitals, *creches,* etc.) to meet the needs of the growing population.

In the planned Soviet economy these are all links of one chain. The First Five-Year Plan was fulfilled in four years, the Second is being speedily fulfilled. The tasks of Socialist reconstruction of the economy of the Soviet Far East have already been fulfilled to a considerable extent, which opens up new and even greater perspectives of development for the country.

2. *Industry, Mining, Lumbering, Fishing, and Generation of Power*

In the general pre-revolutionary economic structure, industry took a secondary place in the Far East. Local industrial enterprises covered only a small part of the demand, the bulk of industrial goods being imported from the central regions of Russia and, during the intervention, from abroad. The Soviet Government set itself the task of industrially developing the region. At the beginning of the First Five-Year Plan all industrial enterprises were re-established and reorganized, and new construction began on an extensive scale.

At the end of the First and the beginning of the Second Five-Year Plan a number of new large-scale industrial enterprises were set going. The reconstruction and extension of the principal existing enterprises also went on. The result was the swift growth in gross output of industry (see table 3) and a sharp increase in the proportion of industry in the general economic structure.

TABLE 3. GROSS INDUSTRIAL PRODUCTION
(in prices of 1926-27)

Year	Production in million rubles	Per Cent
1913	62.4	100.0
1923	33.7	54.0
1928	61.0	97.8
1932	262.5	420.7

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This growth is explained not only by the development of the old industries existing before the Revolution (gold and coal industry), but also by the creation of a number of new ones: the extraction and refining of oil, the cement, automobile repairing, and other industries.

The chief branches of heavy industry are gold, coal, oil and metal working. The gold industry is one of the oldest in the territory. In the eighties and nineties of the last century, big gold-producing companies existed in the Far East, attracting a great quantity of hired labour and utilizing the rich gold deposits of Primorye[2] and Priamurye[3]. Ultimately the gold companies broke up; the owners began to give up the mines developed by them to gold prospectors, receiving a fixed amount of gold according to agreement, regardless of the actual amount extracted, and compelling the miners to buy the goods they needed from the owners' stores. Thus the entrepreneurs were safeguarded against all possibility of loss arising from exploitation of the mines and, without putting in any capital, received a double profit. The income of the miners was very low. This resulted in the squeezing out of Russian workers from the gold industry and their replacement by cheaper Chinese labour.

In the years of intervention the gold industry was ruined. Its restoration began in 1923 and in the first years proceeded slowly, as a considerable number of the miners of the Far East were attracted by the newly opened Aldan gold district of the Yakut A.S.S.R., rumours of the riches of which had spread through Siberia and the Far East.

At the present time gold extraction is concentrated in the hands of the State. The gold mines of the Far East are combined in three trusts: Amur-gold, Primor-gold, and Upper Amur-gold. The richer of the old mines were restored and reconstructed. In recent years five new dredges have been brought into use.

The mechanization of gold extraction is growing, not only in state enterprises, but also in the miners' artels.[4] In Primorye a

(2) The littoral of the Japan Sea and the Gulf of Tartary.
(3) The region along the Amur River.
(4) Cooperatives of independent producers.

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new mine is being constructed with an electric station of 1,000 kw. which will supply with power two strong electric dredging branch establishments. The extraction of gold ore has been started and is developing. An important new gold-producing region has been created in the Kolyma district. There has been much prospecting, which ensures the further development of the gold industry of the Far Eastern Territory.

Coal mining in Primorye began at the end of the last century, after the building of the Ussuri railway; it was carried on by small owners, chiefly to supply the needs of Vladivostok. The requirements of the fleet were covered by imports from abroad. The Suchan coal mines, on one of the most important seams of Primorye, were opened up by the State in 1907. Private enterprise had not been forthcoming in the Far East at that time for this undertaking, which involved considerable expenditure. With the building of the Amur railway the Kivdinsk coal mines were opened in Priamurye; the production was inconsiderable; the coal went to supply timberless stretches of railway in that region.

Owing to the persistent demand of Vladivostok and the Ussuri railway, the coal industry of Primorye developed fairly rapidly. Before the war production reached 390,000 tons. In 1917, owing to the growth of military transport, it rose to 600,000, and was supplemented by imports from abroad.

During the intervention coal production did not decrease, but predatory methods of exploitation were employed here also. Equipment became worn out and was not repaired.

With the establishment of Soviet power the State at first only exploited the Suchan coal mines. The Suchan mines were re-equipped, and a number of new shafts were opened. In 1923 began the export of coal to Northern Manchuria, to supply the Chinese Eastern Railway and the town of Harbin. The economic development of the territory in the years of the First and Second Five-Year Plans caused a great increase of internal coal consumption which called for the rapid development of the coal industry.

Six new coal mines were opened up, which accounted for 70 per cent of the total coal production of the territory in 1935.

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The new shafts were mechanized. The proportion of mechanized production was 73 per cent in 1935.

A whole series of new seams were brought under exploitation in conformity with the economic demands of the region. The coal industry of Sakhalin was greatly developed; Sakhalin coal supplied Soviet shipping and was also exported. In Priamurye the Raichikhinsk seam is being worked. Preparations are being made to open up Rozengartovka, Tolbuzino, and Bira. Thus, along with the Primorye mines the territory is setting up the necessary coal base for the inner districts of Priamurye.

An oil industry was established on Sakhalin. The presence of oil on the Island was already known in the eighties of last century, but it was only in 1910 that preliminary boring began. The Japanese began to extract oil during the period of intervention. According to an agreement between the U.S.S.R. and Japan, the Soviet Government granted the Japanese companies concessions in part of the oil and coal resources of Sakhalin for a period of 45 years, beginning January 20, 1925. The Japanese oil concession areas, which occupy 2.4 thousand hectares, alternate, in chess-board fashion, with the State fields.

In 1928 the Soviet Government began to extract oil in the Okha region, on the eastern shore of Sakhalin. In 1934 production had reached 250,000 tons. The uninhabited Okha became transformed into an important industrial region with a population of 23,000 (1934). An oil refinery was established at Khabarovsk, which began working in 1935. Thus the territory was provided with liquid fuel.

Before the Revolution the region's metal industry served only the needs of transport and of the war office. The chief enterprises were the ship-repairing yards at Vladivostok and Blagoveshchensk, the railway-building shops in Nikolsk-Ussuriiskii (now Voroshilov), and the arsenal at Khabarovsk. Under the Soviets the old repair shops were reconstructed and converted into big plants. A factory for agricultural machinery was created out of the arsenal in Khabarovsk. Automobile repair factories were built in Khabarovsk and Voroshilov, to serve the region's rapidly developing motor transport. The largest of the new engineering enterprises is the ship-building yard now under

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construction of Komsomolsk. The first part of this, the biggest ship-building yard in the Far East, has already begun operation; an electric station and a number of branch enterprises have been built; the building of a metallurgical plant is in progress. Komsomolsk is the new centre of heavy industry in the region. Among other branches of heavy industry must be noted non-ferrous metallurgy, the extraction of molybdenum, and a cement plant.

The non-ferrous metallurgical industry is represented in the Far East by the Sikhota-Alin Combinat, located on the eastern slope of the mountain range of Sikhota-Alin, on the upper part of the River Tiutikha, 35 km. from the coast of the Japan Sea, with which the Combinat is connected by a narrow-gauge railway. The mining of ore was begun in 1907 by the entrepreneur Brunner; it was carried on by small-scale methods. The ore and concentrate were exported abroad. During the Revolution the mine did not work. In 1924 the Soviet Government granted a concession of the mine to the same Brunner. The concession agreement was not fulfilled. Brunner, as before, relied on primitive methods in extracting and exporting the ore. Out of fourteen beds included in the concession only four were worked. The equipment of the smelting factory was neglected. So in 1932 the Soviet Government withdrew the agreement and started to build a combinat itself. At the present time the combinat includes the mine, smelting works, a narrow-gauge railway, and an electric station. The mine has been mechanized and ore production considerably extended.

The development of Soviet high-quality metallurgy requires large amounts of tungsten, molybdenum and other metal ores. The presence of deposits of molybdenum in the upper parts of Bureya was known before the Revolution, but they were not prospected. Prospecting, begun by the Soviet in 1927, established the presence of workable supplies of molybdenum on the river Umalt in the upper Bureya River region. In 1930 industrial construction was begun on the Umalt. Ore-producing galleries are being worked at the present time, and a smelting plant and electric station. A workers' settlement has been established; a school, a hospital, and a workers' club have been built.

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The large industrial, transport, dwelling-house and municipal construction carried on in the territory called for the creation of a large-scale cement industry, the centre of which is Spassk.

The Far Eastern Territory is exceptionally rich in timber. There are sixty million hectares of wooded country with a stock of 7.3 million cubic metres of timber. The territory is one of the richest in the world for variety of timber. The forests of the Ussuri basin are distinguished for their special variety, as well as those of the South Coast of the Japan Sea, and the basin of the Middle Amur. Along with spruce, fir, larch, cedar and birch, are also found oak, barkhat, hornbeam, maple, lime, Manchurian hazel, and many other kinds.

The territory is favourably situated for the transport of timber to Japan, China, Australia, Indonesia, and also to European markets. All this provides promising perspectives for the development of the timber industry in the Soviet Far East and its extensive participation in the timber trade of the world.

Before the Revolution, the timber in the Russian Far East was undeveloped and worked almost exclusively for the internal market. The internal demands of the territory for rough timber and firewood were supplied by the peasants and timber merchants. Government timber supply on a large scale began only with the building of the Amur railway. The technique of timber production was on a low level. The only tools used were the saw and the axe; transport was exclusively by horses. Forest work went on in winter when the local peasants were not engaged in agriculture. There were no special cadres of timber workers. The only forest areas to be exploited were those adjacent to the railway and the main rivers of the inhabited part of the territory. The total supply of timber was about 3 million cubic metres.

The woodworking industry also had been undeveloped before the Revolution; its main branch was saw-milling. The sawmills were for the most part small, with one or two frames, and were mainly concentrated in the Priamurye province. In Priamurye there were several large sawmills. Before the World War, the sawmills of the Far East produced about 400,000 cub. metres of sawed timber; the chief consumers were the war office, the railways and the towns.

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Among other enterprises must be noted the plywood factory in Vladivostok and the match factory in Blagoveshchensk: they also were poorly equipped and of small power.

The export of timber began in 1904 but was not well developed. In the ten years from 1908-1917 the average annual export amounted to about 40,000 cubic metres which was less than one-tenth of the annual timber production of Primorye.

During the intervention the wasteful cutting and export of timber by Japanese entrepreneurs began. In 1922 the Japanese exported from Soviet Priamurye nearly 400,000 cubic metres; a huge quantity of timber was, as we have mentioned above, exported from Northern Sakhalin. The Japanese exported almost nothing but log timber; the sawmills of Priamurye during the intervention were either idle or worked intermittently for a sharply restricted internal market.

When Soviet power was established, the concession agreements made with the various provisional governments were annulled; the timber merchants were invited to make agreements on new conditions which guaranteed the rational exploitation and preservation of the forests of the Far East: the Japanese timber merchants elected to change over to trading in timber on short-term agreements of from one to two years. A State timber industry was then started in the Far Eastern Territory. This finally ousted the private timber industry.

As a result of the great work done in reconstructing timber-preparing and wood-working, the Soviet timber industry considerably extended the utilization of the timber wealth of the territory and opened up a number of new regions. Eight narrow-gauge timber-transport railways, totalling 200 km. in length, have been built, as have been a wide-gauge branch line of 52 km. and a number of motor and tractor roads. Over a hundred motor saws and 30 sleeper-cutting machines are working in the forests. The tractor assumes greater importance each year for the transport of timber. The chief river ways are provided with pinnaces for the timber-floating service. Considerable cadres of forest workers have been established.

The wood-working industry has been radically reorganized. The old sawmills have been re-equipped, and a number of new

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factories have been built. In Lesozavodsk (near Ussuri), in Nikolaevsk on the Amur, and several other places, production of wood tar for the fishing industry has commenced; also the production of building material, boxes, and furniture.

As a result of the technical reconstruction and re-equipment, the capacity of the Vladivostok plywood factory has been doubled; the match factory in Blagoveshchensk has been reconstructed, exploiting available power to the full, to cover the match consumption of the Far East. The building of wooden ships has now been widely developed.

In the early Soviet period (1923-28) and during the First Five-Year Plan (1928-32) the timber industry of the Far Eastern Region exported timber in considerable quantities to Japan, China, Australia, Oceania and, among the European countries, to Great Britain. The yearly export came to nearly a million cubic metres. Later the great range of construction in the Far East enormously increased internal requirements. In 1934, in comparison with the average for 1923-27, the internal demand for prepared wood had increased six times, and that for firewood three times. The export of timber was curtailed, and the industry began to work exclusively to supply internal demands. The timber industry holds an important place in the economic development of the Far East. Along with further development in the old inhabited regions, the timber industry will extend to the northern regions, as these become drawn into economic activity by the extension of the railway.

The food industry occupies an important place in the economy of the territory. Its chief branch is the fishing industry. The territory has also a number of branches of the food industry engaged in the preparation of agricultural produce.

There was no fishing industry at the time the region was united with Russia. Fishing for personal use was carried on by the scanty indigenous population and also later by the population of the Russian settlers on the banks of the Amur and the Ussuri. Because of the absence of outside markets, fishing for long continued to supply only local demand.

Japanese fish-buying schooners appeared in the mouth of the Amur in 1889; in 1900 Japanese fish merchants were allowed to

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buy fish from the Russian population along the Lower Amur, and to prepare it on the spot with the help of foreign workers. The Fishing Convention of 1907, concluded between Japan and Russia for twelve years in accordance with the Portsmouth Peace Treaty, was important in the further development of the fishing industry in Far Eastern waters. Japanese fish merchants were allowed to engage in the fishing industry on equal rights with Russians. They were also allowed to bring in, free of duty, the necessary equipment, and to employ Japanese labour.

The treaty waters included the whole coast, with the exception of 34 gulfs and inland waters. In the Amur estuary the Japanese merchants preserved the fish-buying rights granted them in 1900.

A vigorous exploitation of the fish wealth of the Far Eastern Territory began. A Russian fishing industry started to develop along the coast, alongside the Japanese. In 1907-09 there was an average annual haul of 620,000 centners in Far Eastern waters; in 1910-14 the average annual catch increased to 1,210,000 centners. This was confined to salmon. Crab fishing began on the shores of Kamchatka in 1914, and the herring industry still later.

Sea fishing was mainly done by the Japanese. The development of a Russian fishing industry was retarded by its dependence for a market on the Japanese fish merchants, as all products were sold in the Japanese market.

At the beginning of the World War, the marketing of Siberian salmon and garbush from the Lower Amur fishing centre for internal sale, was established, and also that of herring from the Gulf of Peter the Great. This fish (salmon and salmon-roe) went mainly to Siberia, and to some extent to European Russia. Sea fishing, as formerly, was carried on for the Japanese market.

During the intervention period the Japanese carried on predatory fishing, not only in the former "convention waters" (the terms of which expired in 1919), but also in the internal waters. This predatory fishing especially prejudiced the further development of the Lower Amur fishing region. At that time the canning industry had been developed to a certain extent. In 1922 there were 22 canning factories in Kamchatka, of which 19 belonged to Japanese industrialists. The Far Eastern fishing industry in those years worked entirely for the Japanese market.

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With the establishment of the Soviet Government, measures were taken to regulate fishing and to preserve the fish wealth of the Far East from depredation. Far Eastern waters were divided up, as in the past, into outer waters—in which foreigners were allowed to fish—and inner waters reserved for Soviet nationals. The leasing of sections by auction was established. Foreigners who rented these sections were allowed the same rights as those enjoyed by the Japanese under the Fishing Convention of 1917.

The organization of the Soviet fishing industry developed rapidly. The State-owned Kamchatka Company (A. K. O.) was organized. This company was to carry out all operations in connection with the economic development of Kamchatka, and of the fishing industry in particular. Important measures in the reorganization of the fishing industry of the Far East began to be taken in 1930. First of all the fishing fleet was greatly increased. By 1934 the number of motor vessels had increased eight times and numbered 890; at the same time the number of sailing ships increased at an uninterrupted pace. A number of drifters and trawlers begun to be used, catching and preparing the fish in the open sea. A whaling fleet was established, consisting of a parent ship, three whalers and another vessel.

At the beginning of the Second Five-Year Plan the fishing population of the Far East was united in artels. Six motor fishing stations were set up to serve them, provided with motor ships and manufactories serving the fishing collectives.

The growth of the fishing fleet, the participation of state industry in active deep-sea fishing, the considerable increase in productivity of petty fishing industry in conjunction with the collectivization of the fishing population, assured a considerable increase of catch.

Salmon (Siberian salmon, hump-backed salmon and red salmon) is the main item in the total catch, herring coming second. The chief salmon-catching region is Kamchatka, and that for herring Primorye. These two regions supply three-fourths of the products of the Soviet fishing industry. The remaining one-fourth is caught in the Lower Amur near Khabarovsk, on Sakhalin, and in Okhotsk. A whaling industry has been established and is developing successfully; its production has increased from 3.4

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thousand tons in 1932 to 30.8 thousand tons in 1935; blubber to 15.3 thousand, and sturgeon and pinniped oil to 7.1 thousand tons.

The fish-canning industry has been greatly developed. The Soviet fishing industry has 33 coastal canning factories and nine floating crab-canning factories; of these 18 coastal and eight crab-canning factories were built in the years of the First and Second Five-Year Plans. To serve the fish industry a large cold-storage depot with two refrigerators has been built in Vladivostok.

The bulk of the product of the Far Eastern fishing industry is sent to the internal markets and is widely distributed throughout not only Siberia, but also the European part of the Union. Cured, smoked, and frozen salmon, roe, and the canned fish of the Far East are at the present time in wide consumption and are in great demand in every part of the Soviet Union.

The Soviet Government, therefore, has not only created a large fishing industry in the Far East, but has also linked it up closely with domestic consumption. What for dozens of years was an insoluble problem for Tsarist Russia has become an accomplished fact. The fishing industry of the Far East has now got a firm basis on which to continue its development.

Along with the fishing industry other branches of the food industry have grown and become stronger. Sugar mills, fat refineries and salt factories were established. The work of the experimental agricultural station made possible the cultivation of beet in the Prikhankaisk plain[5]. Experimental sowing of sugar beet by the peasants gave favorable results. In 1932, the construction of a large sugar factory was begun in Voroshilov (Nikolsk-Ussuriiskii), and at the same time preparatory measures were taken to develop beet sowing in the adjacent districts. The sugar factory started working in 1935.

In 1928 the construction of a large oil-fat combinat in Voroshilov was begun. At present the combinat which includes an oil-extracting plant, a refinery, a soap factory, a hydrogenating plant, a thermo-electric centre, and a number of branch manufactories, is working. Through the hydrogenating plant, which

(5) The region around Lake Khanka.

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formerly worked on vegetable oil, the fat of sea-animals has in recent years begun to be used in manufacturing.

The Far East is a great salt consumer. In the beginning of the Second Five-Year Plan the total consumption of salt was 150,000 tons. Salt is imported by sea from the European part of Russia and by rail from Siberia. The creation of a local salt industry is therefore of great economic importance for the Far Eastern Territory. Work in that direction has been going on since 1931. In the Posetsk region on Lake Talma a salt factory is being built. The salt will be obtained from sea water. The lake is divided up by dams into basins for freezing, and a salt reservoir. By the method of winter freezing the firmness of the salt attains 12° Bome; this salt enters the reservoir and from there is drawn off through wooden pipes for evaporation in the salt factory. With the building of the factory in Talma the beginnings of the salt industry have been established in the Far East. Similar factories will be built along the Lower Amur, on Sakhalin, in Kamchatka, and on the Okhotsk coast, unless the active prospecting for rock salt, which is still going on, gives another solution of this problem.

Among other new enterprises started in recent years must be mentioned the milling combinats in Khabarovsk, Bogi and Voroshilov, a biscuit factory in Blagoveshchensk and an agar-agar factory in Vladivostok. A number of old enterprises have been reconstructed and extended.

The food industry has reached large-scale proportions, stands on a high technical level, and is a branch of industry that has not only local, but All-Union importance.

The growth of the material well-being of the toilers of the Soviet Union demands a rapid development in the output of consumers' goods. Since, according to the Second Five-Year Plan, local industry must increase two and one-half times, everywhere in the huge country of the Soviets construction of local industry has taken place, along with the search for ways of utilizing new kinds of raw material. Great attention is given to this question also in the Far East. The local industry of the Far Eastern Territory combines branches of light industry (tanning and pork curing), several branches of the food industry, and a building-material industry.

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In the Soviet period pork factories have been built in Blagoveshchensk and Vladivostok. In 1935 a large meat packing plant was opened in Birobidzhan. Tanneries were reconstructed and extended. A number of new brick factories were built. The next task is to set up knit-goods and silk manufactories.

The industrial backwardness of the territory before the Revolution was accompanied by great backwardness in its power development. The Soviet Government received as a legacy from the Tsarist regime a number of small electric stations with obsolete and outworn equipment. It was necessary quickly to modernize the backward region, and so in the years of the First and Second Five-Year Plans a number of large industrial generating stations were built as parts of new enterprises, and a new municipal station at Khabarovsk. The municipal stations in Vladivostok and other places were extended. In 1936 a municipal station, of 5,000 kw. power, is beginning to operate in Birobidzhan. The total power of the electric stations has increased from 26,000 kw. in 1932 to 72,000 kw. in 1935.

Soviet industry and after it other branches of the national economy of the country, as a result of the technical reconstruction of recent years, are and continue to be equipped with new techniques. With the building of new and the reconstruction of old industrial enterprises, Soviet power introduces into our country new technical achievements of the world. Soviet industry has successfully mastered this advanced technique.

A new mass movement for technical improvement has arisen—the Stakhanov Movement, which stirred the Soviet Union at the end of last year and spread in a great wave over the whole country, reaching the Far East as well. Now the Far Eastern Territory has its own leading cadres of Stakhanovites, not only in all branches of industry, but also in agriculture. New techniques are being successfully mastered; the productivity of labour is growing; the output of finished goods is increasing.

3. New Industrial Centres and Regions.

Before the Revolution the economic life of the territory was concentrated chiefly in the belt adjacent to the railway. As a result of the large-scale construction carried out in the years of the First and Second Five-Year Plans, the zone of economic develop-

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ment has been greatly extended. A number of new industrial centres and regions have sprung up.

In 1932 the building of Komsomolsk on the Amur, half way between Khabarovsk and Nikolaevsk, was begun. Four years have passed: on the site of the little fishing village of Permsk, hidden away in the taiga, a new large industrial centre has grown up. Its basic industries are a ship-building yard, already partly working, and a metallurgical plant, now in construction. To serve these giant enterprises an electric generating station and a number of branch enterprises have been built. Where the wretched hovels of the old Permsk once stood, a new town has grown up, with well laid out streets, beautiful cottages, and huge iron-concrete buildings, schools, hospitals, big department stores, and other public edifices. This town was built by Soviet youth—Komsomols—hence its name, Komsomolsk.

Almost contemporaneously with the building of Komsomolsk began the development of Kolyma—the new large gold-producing district in the territory. Rumours of the gold of Kolyma had long been current, but the remoteness and inaccessibility of the region had for a long time been an invincible obstacle. Gold mining began on a small scale in 1929; the route to the region was by sea to the mouth of the river Kolyma. Preparations for the development of Kolyma began on a large scale in 1932, and the work proceeded very fast.

The construction of a road from the Bay of Nagaevo to Kolyma was of decisive importance. Now the road is built as a result of heroic efforts, and the inaccessible mountain passes and age-old swamps have been conquered. Where there was formerly only a reindeer path, there now stretches a well-built highway, connecting Nagaevo with the newly developed gold mines. The journey from Nagaevo to the mines now takes only fifteen hours by car, while formerly this journey was made on reindeers and took fifteen days.

Near the Bay of Nagaevo was built the town of Magadan, now the chief town of the Kolyma gold mining region. Later on the chief administration will move across the Yablonovy range to the mining region. Magadan is a young town, but it is already large, and its population has passed 10,000; it has a secondary school, two technical high schools, a theatre, and a cinema.

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In conjunction with the development of construction, harbours have been equipped in Nagaevo and at the mouth of the Kolyma—the two chief starting points from which the inner mining regions are approached. Along the road leading from Nagaevo to the mines, a number of resting places and villages have been built. The biggest of these, with a population of nearly 3,000, is on the Atka pass.

At the present time work is going on in four gold-mining centres: Orutokonsk, Ubinsk, Loisansk, and Srednekansk. The mines are well mechanized. In 1934, Kolyma was already among the foremost gold-producing regions of the Union.

As well as gold, large coal deposits and a number of other useful minerals were discovered in Kolyma.

Agriculture is moving northward along with the population. Hundreds of hectares are being turned into vegetable gardens. Kolyma has its own vegetables and potatoes; hot-house production is being established. Great attention is being devoted to reindeer-rearing. Dairy cattle, pigs and goats have been introduced.

Work in Kolyma is being carried out by the state trust, Dalstroy. It builds roads, extracts gold, sets up cultural services, and helps the native population to reconstruct their economy. In 1932, there were only two hospitals and 25 medical stations and dispensaries in this extensive region; now there are 29 hospitals and 150 dispensaries. Ten well-constructed national centres have been built with boarding schools and medical clinics; 43 per cent of the settled population and 63 per cent of the nomadic population have joined together to form collective farms. The utilization of the natural wealth of the region is proceeding in close concordance with the economic and cultural development of the native population.

The Jewish Autonomous Province also is a new industrial region in the territory. On the site of Tikhonka station the town of Birobidzhan has been built, with a population of 12,000—the center of the province. The building of a number of state and cooperative industrial enterprises (meat factory, printshop, etc.) has made Birobidzhan the center of light industry.

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The agricultural development of the province is also going ahead. Seven machine-tractor stations have been established; the kolkhozes of the Jewish settlers are cultivating new lands. In the past two years the Jewish population of the province increased from 9,500 to 15,000. In 1936, the province expects an influx of 10,000 new settlers, 4,000 of them immigrants from Germany, Poland, and other European countries.

In connection with the development of the fishing industry a number of new villages have sprung up on the shores of the Sea of Okhotsk and the Sea of Japan, and in Kamchatka. Ports are being built in Soviet Harbour and in the Bay of Nakhodka. The population of this once tiny village is growing rapidly, and now the town of Tetiukhe is the center of the non-ferrous metallurgical industry of the territory.

A number of industrial villages have been built in the districts where coal seams are again being exploited: Raichikha in Priamurye, and others. On Sakhalin an oil district has developed around the town of Okha. The old industrial centers of the territory are growing and expanding.

4. Transportation.

Along with industrial construction, the decisive factor in the general economic development of the Far Eastern Territory is transportation.

The Tsarist government, engaged in adventures in Manchuria, paid little attention to the matter of transport in the Russian Far East. The Ussuri Railway (Vladivostok to Khabarovsk) was built at the end of the 19th century. At the same time was undertaken the building of the Transbaikalian Railway to Sretensk on the river Shilka, joining the Great Siberian Railway with the Amur. The chief capital was invested in the building of the Chinese Eastern Railway, which was joined to the Transbaikalian Railway by a branch, Karymskaya-Manchuria. The railway line to Vladivostok and Khabarovsk, therefore, went through Manchuria.

Only after the defeat of the Russians in the Russo-Japanese War was the question raised of joining the railways passing through Russian territory, that is, of building a railway from the termination of the Ussuri line (Khabarovsk) to that of the

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Transbaikalian line (Sretensk). In 1908, the building of the Amur Railway was begun. Building conditions were very difficult; the line passed through a thinly populated territory and a belt of land which was perpetually frozen. The World War made the speedy opening up of the Amur Railway imperative; traffic on it was opened in 1914-16, while building was still incomplete.

In the years of intervention railway transportation suffered great losses. For wide stretches the line was completely destroyed; the Amur line was rendered entirely unfit for use before it was finished. Sea and internal river transport suffered equally from the intervention. A large number of ships were seized and carried off by Japanese and White Guards. The local bourgeoisie succeeded in selling the steamers of the Amur and Ussuri river fleets and those of Manchuria. The Soviet Government was obliged to reorganize almost entirely the transportation system of the territory.

In the first years after the establishment of Soviet power, special attention was paid to the laying of railway lines, repairs, and restoring order on the lines. The Amur Railway which was in an exceptionally bad way could not work independently; its western section joined the then existing Chitinsk line, and the eastern part of the Ussuri Railway. Later, when the Transbaikal Railway replaced the Chitinsk line, the western section of the former Amur Railway also was joined to the Ussuri Railway. At present the railways of the Far Eastern Territory are divided for administrative purpose into two parts: the Amur Railway from Ksenievskaya to Arkhara, and the Far Eastern Railway from Arkhara to Vladivostok.

One railway line could not serve the economic connections of the Far East with the other territories of the Union and also internal transport. At the beginning of the Second Five-Year Plan two new railway tracks were begun between Karymsk and Khabarovsk, with a total length of 2,218 km. The work was done under difficult conditions and went on the whole year round without intermission and without holding back traffic on the existing main line. Now this huge work is nearly completed. In the construction of the second line over three thousand structures

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were erected, dozens of stations and new bridges built, and on the large stations a new water-supply system was installed. The one-track railway line was converted into a powerful main line, capable of serving the present needs of the Far East. The territory is now closely linked up with the rest of the Soviet Union.

In the Second Five-Year Plan the construction of the second main line railway to the Far East—the Baikal-Amur line—was begun. The Baikal-Amur main line will cut through new and as yet undeveloped regions, far to the north of the present line. It will go from Soviet Harbour to Komsomolsk, joining with the projected Lena Railway which will connect it with the Trans-Siberian Railway. The Baikal-Amur line, the construction of which will be completed after the end of the Second Five-Year Plan, will open up for economic development and settlement new territories of the Far East and Eastern Siberia with their enormous areas of as yet untouched natural resources. It will be connected with the existing railway by a number of branches.

The great length of sea coast and the presence of the navigable main stream of the Amur give water transportation an important role in the economic life of the territory. It is easy to understand why the Soviet Government gives great attention to this region.

The most noteworthy event in the history of water transportation in the Far East is the opening for navigation of the Northern Sea Route. The problem of the Northern Sea Route, which had for many years occupied men's minds, was solved by a number of daring expeditions of Soviet sailors and scientists. In 1932, the Soviet scientific explorer O. Schmidt, for the first time in the history of seafaring, completed the route from Archangel to Petropavlovsk in Kamchatka in one navigation season on the icebreaker "Sibiriakov". In the following year, 1933, O. Schmidt tried to complete the same voyage on the steamer "Chelyuskin". The steamer was caught in the ice, and sank in the beginning of 1934. The expedition of O. Schmidt and the campaign to save the crew of the steamer "Chelyuskin" are known over the entire world. In the same year, 1934, the icebreaker "Litke" under the leadership of Captain Duplitsky did the voyage from Vladivostok to Leningrad in one navigation season.

In 1935, traffic of trading vessels by the Northern Sea Route

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from east to west and from west to east, began. The steamers "Anadyr" and "Stalingrad" carried cargoes from Vladivostok to Archangel, and the steamers "Vanzetti" and "Iskra" from Archangel to Vladivostok.

The Soviet Union is creating a new sea route to the Far East; this route is one-third as long as the ordinary indirect route and passes along Soviet shores only.

Loading and unloading of the sea cargoes of the Far Eastern Territory is chiefly concentrated in the port of Vladivostok. Among other ports and harbours along the coast of the Japan Sea must be mentioned the Bay of Tetiukhe, through which the export of silver-lead ore is carried on, and the Bay of Nagaevo on the Sea of Okhotsk. Nagaevo carries on a small coasting trade, in connection with the large-scale construction work in Kolyma, second to Vladivostok. The old ports are being re-built and enlarged: Aleksandrovsk on Sakhalin, Nikolaevsk on the Amur, Petropavlovsk on Kamchatka, and Okhotsk. A number of fishing bays have been equipped.

The port of Vladivostok is the chief base of the Soviet Union for ocean navigation in the Pacific. It is connected with a number of important foreign ports. Compared with the pre-war period, the freight turnover of the port of Vladivostok has increased by 44 per cent. Large coastal trading has particularly increased, testifying to the strengthening of the links between the Far East and the Soviet Union.

The chief export of the Soviet Union in the Far East in 1934 was timber; now furs and industrial products are being exported. In recent years the tonnage of the Soviet mercantile fleet in the Pacific has greatly increased. This permitted of a considerable reduction in the chartering of foreign vessels. The growth in sea transportation was served chiefly by the Soviet mercantile fleet.

Much work has been done also to develop navigation on the Amur and the Ussuri. The Amur cuts through the territory for 25,600 km. and forms the link between the inhabited regions of the territory with the northern region.

The Soviet Government has been active in the reconstruction and extension of the Amur River fleet. A tank fleet has been established for carrying Sakhalin oil to Khabarovsk.

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Preparatory work is going on to deepen the Amur, so that sea-going vessels can come up to Khabarovsk, and investigations have been concluded for opening steamer communications with Bureya, Tunguska, and Kerbi.

Air transportation is very important for the Far East. It is an essential, and in some cases the chief, means of communication. In the course of the industrial development of the Soviet Union along with the large-scale tractor and automobile industry, an aviation industry has been created. The development of air transportation in the Far East rests on this powerful basis. The first air line, Khabarovsk-Sakhalin, was recently opened. The connection to Sakhalin was established along the route Khabarovsk-Nikolaevsk on Amur-Okha—1,130 km.; and Khabarovsk-Aleksandrovsk. Furthermore, a postal line was established: Mogocha-Khabarovsk-Vladivostok, and so were a number of other lines. The total length of air lines in the Far East in 1935 reached 7,500 kilometres.

The rapid development in the Far East of automobile transportation entails rebuilding the unsurfaced roads of the territory. Recently a surfaced road was built from Vladivostok to Khabarovsk, and a number of highways were improved. A good deal of work was done in improving roads connecting the regional and chief industrial centers of the territory.

5. Agriculture and Land Settlement.

At the time when the Far Eastern Region was joined to Russia it represented impassable jungles which contained more tigers than human beings. The sparse population consisted of native hunters who wandered over the unbounded forest spaces, while a small group of sedentary Manchurian settlements existed only in the southern littoral district and along the river Zeya. Tsarist Russia had started the economic development of the region with a compulsory settlement of Cossacks along the shores of the Amur and the Ussuri. With the formation of Amur and Ussuri Cossack troops, they were granted wide strips of land most suitable for cultivation purposes, located in the Khanka plain and Amur districts. The large-scale peasant immigration commenced during the first years of the twentieth century; because of it the num-

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ber of immigrants settled in the region during ten years previous to the outbreak of the World War exceeded the number of those who had settled in the course of forty preceding years.

The immigrants of 1905-14 who, by the time of the beginning of the Revolution, composed the basic mass of the population in the region, were compelled to cultivate hard forest-covered land, inasmuch as all easily cultivated land had already been taken by earlier immigrants or constituted a part of the Cossacks' allotments.

The Tsar's government confined its cares on behalf of the immigrants to allotment of land and to a small amount of road construction. The immigrants, with their primitive implements, wrested by hard labour one patch of land after the other from a severe and changeful nature. Thousands of them perished in the forests and swamps of the Far East from this strenuous labour and from exhaustion, unable often to survive until the first crop could be harvested.

As a result of large-scale peasant immigration, by the time of the beginning of the Revolution there were colonized and cultivated the Zeya-Bureinsk and Prikhankaisk plains, the river valleys of Iman, Bikin, and Khor, and a number of other districts. The colonization was advancing to the foothills of Sikhota-Alin and to forest parts of the Amur District. There existed a number of villages also along the coast of the Japanese Sea. The frontier strip along the Amur and the Ussuri was occupied by Cossacks.

The agriculture consisted of grain cultivation and was extensive. Basic crops were spring wheat and oats. Prevailing methods of land cultivation were the plantation system and clearing of forest land for farming purposes. After a number of years of continued cultivation, the land portions were left for natural recuperation of their fertility. In the Zeya-Bureinsk plain, which constituted a basic market-supplying district of the region, the upper classes of the peasantry were well equipped with agricultural machines and implements. In other districts, agriculture was only just leaving the stage of a self-supporting economy, which is characteristic of the first years of any new settlement conducted under the conditions of individual immigration. Cattle breeding was developed everywhere, but only in the districts of Zeya-Bure-

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insk and the Prikhankaisk plains did it assume the character of a market-supplying economy. In other districts it was, like agriculture, at the stage of slow early development.

The agriculture could not meet the internal requirements of the region. Deficit quantities of grain were imported from Manchuria and those of cattle from Mongolia.

During the period of intervention the agriculture of the Far East was badly injured. The interventionists and the "Atamans" (leaders of armed bands) plundered the populace. All men able to carry arms joined guerilla troops. By the time of the establishment of the Soviet Government the sowing area had diminished by 45 per cent. Animal breeding also had sustained large losses.

Restoration of agriculture began during the first years after the establishment of the Soviet Government. The introduction in the Far East of the Soviet agricultural legislation secured the necessary assistance to the poor and middle classes of the villages. The leasing of land by Koreans from Cossacks under conditions of financial bondage was abolished. Koreans who were citizens of the U.S.S.R. were granted land for farming. The shipment of agricultural machinery into the region had commenced. By means of development of agricultural cooperative societies the Soviet Government secured for poor and middle-class peasants the necessary implements and machines. The possibility of the poorer classes being exploited by rich peasants (kulaks), who constituted a considerable group in the Far Eastern villages, was reduced by means of taxation measures. An influx of immigrants from European parts of the Soviet Union had commenced. During the period of 1925 to 1930 the annual influx of immigrants into the region comprised 30,000 persons.

Thus agriculture rapidly recovered and began to advance in its development. By the time of the beginning of the First Five-Year Plan, the sowing area reached 952 thousand ha., while during 1923 it had amounted to only 612 thousand ha. The number of cattle increased by 40 per cent.

The collective farm movement commenced to develop in the Far East in 1930. The industrial development of the country had by that time already created the necessary technical foundation for the Socialist reconstruction of agriculture. At that time there

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was started in the Far East the construction of machine-tractor stations, which represent a necessary base for the reconstruction of agriculture. Machine-tractor stations made possible a new type of state enterprise in agriculture by furnishing it with tractors and other modern machinery.

These stations exercise some supervision over the collective labour of the population, united in collective farms, since the latter, in carrying out their agricultural work, use along with their own means of production (live animals and simple implements) the tractors and machines of the station, which belong to the state. The machine-tractor station has a small permanent staff of qualified workers. The use of tractors and machines is in the hands of the members of collective farms themselves, who for this purpose go through a special training course during the winter months. The relations between machine-tractor stations and collective farms are regulated by annually concluded agreements. The services are paid for in kind, according to fixed rates which vary depending upon the yield obtained by the collective farm.

During 1930, there were organized in the Far East the first three machine-tractor stations, while in 1935 their number had reached 79. In January, 1936, collective farms united 65,800 peasant households, or 88.2 per cent of the total number of peasant households in the region.

Simultaneously with the development of collectivization in the Far East was started the construction of Sovkhozi (Soviet farms) —large state agricultural enterprises, which produce and deliver directly to the State grain, meat, and other agricultural products.

Along with their direct production tasks, Soviet farms serve to show in practice to the peasantry the benefit of adopting the system of a socialized economy and assist collective farms in the organization of their economy. The Soviet farm construction in the Far East was effected by means of the cultivation of new land.

The growth of collectivization and of Soviet farm construction is closely connected with the rapid mechanization of agriculture. From year to year the capacity of tractor stock and the number of tractors used for trailing purposes in Soviet farms and machine-tractor stations increase.

The use of combines in the Far East is rapidly gaining ground. In 1930, the first 12 combines were shipped to the region. In

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1935, 1,052 combines were used in the harvesting. Taking into account the short period of harvesting, the wide application of combines has a large importance in avoiding losses arising from leaving over-ripened grain on the field. Along with tractors and combines, the agriculture of the Far East is also adopting the use of automobiles. Trucks are being acquired not only by Soviet farms and machine-tractor stations but also by the leading collective farms.

The Socialist reconstruction of agriculture secures further extension of sown area. A certain reduction of sown area, which took place during the first years of collectivization, was more than compensated for in the course of the following years. Improved agricultural methods attained not only an increase of sown area but also increased crops. The social structure of agricultural production also has radically changed.

TABLE 4. GROWTH OF SOWN AREA IN THE FAR EASTERN REGION
(in thousands of ha.)

Year	Total Sown Area in Thous. of Ha.	Per Cent
1913	702.3	100.0
1923	611.6	87.1
1928	951.7	135.5
1935	1068.2	152.1

TABLE 5. SHARE OF SOCIALIZED AGRICULTURE IN THE TOTAL SOWN AREA OF THE REGION
(per cent)

	1928	1932	1935
Soviet farms	....	20.1	22.0
Collective farms	2.8	64.5	73.0
Total for socialized economy	2.8	84.6	95.0

The basic work of the Socialist reconstruction of agriculture was carried out during the years of the First Five-Year Plan. At the present time growth continues, and both Soviet and collective farms are strengthened. Collective farms are drawing in those backward categories of peasantry who during the first years did

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not trust or doubted the successful development of a collective economy. Socialist forms of agriculture have achieved a full victory in the Soviet Far East. The difficult problem of equipping agriculture with modern technique has been solved. In 1935, of the total sown area, comprising 1,068,000 ha., there was sown and harvested by Soviet farms 235,000 ha. (22 per cent), by collective farms and their members 780,000 ha. (73 per cent), by individual farmers 36,000 ha. (3.3 per cent), the remaining area constituting fields belonging to workers and employees in cities and industrial villages. It should be pointed out that, in 1935, 555,000 ha. of sown area, belonging to the collective farms, or 85 per cent of the total sown area of collective farms, were tilled and harvested with the aid of machine-tractor stations.

The development of agriculture in the Far East is dependent on the further influx of agricultural population. But the change in the conditions of agriculture in the Soviet Union has also led to a change in the form of immigration. As the result of extended industrialization and of the Socialist reconstruction of agriculture, the Soviet Government has liquidated unemployment in the cities and agricultural overpopulation in the villages. In the Soviet country there are no mass migrations caused by hunger, such as were characteristic of Tsarist Russia. Migration is placed within the limits of the plan according to which the whole national economy of the Soviet Union is being developed. It is taking a collective form.

The Jewish kolkhoz migration is at present directed towards Birobidzhan. The colonization of other districts also is continuing. A settler-member of a collective farm is not left to his own fate, as he used to be at the time of the Tsarist regime. The preparation of land for colonists' collective farms is effected by machine-tractor stations. After his arrival the settler receives a finished house provided with auxiliary buildings for household uses. Collective labour liberates him from those privations which he had to suffer in the old days.

A considerable number of workers is attracted by the construction of Soviet farms and of machine-tractor stations. These have not only absorbed former hired labourers of kulak farms, and poor peasants formerly deprived of the means of production, but

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they have also attracted a considerable number of qualified workers from other parts of the Soviet Union.

At the time of the Tsarist colonization, an area of 235,000 ha. which is now being sown by the Soviet farms, could be cultivated by 50,000 colonist families in the third to fifth year after their settlement. Assuming that each peasant family had an average of 2.5 workers, this would have required 125,000 permanent labourers, while the highly mechanized Soviet farms of the Far East had in 1933 merely 20,400 permanently employed labourers. Socialist economy equipped with new technique, therefore, saves human labour.

Considerable qualitative changes have taken place in the internal structure of the farm. It preserves the cultivation of grain as its basic character, but the share of grain in the total production has fallen to 78.5 per cent as compared with 94.0 per cent during the pre-revolutionary period. This decrease is due to the rapid increase in the sowing of technical crops, of potatoes and vegetables. The principal grain crop is wheat, which occupies 47.3 per cent of the total area sown to grain; the second place is taken by oats. The area under rice in 1935 comprised 12,000 ha.

The area under technical crops in 1935 reached 65,000 ha., as compared with 28,000 ha. in 1923. The principal technical crop is soy, the area under which increased from 6,800 ha. in 1923 to 64,800 ha. in 1935. The second place is occupied by the sunflower, which is followed by sugar beet and flax. Sugar beet is a new crop in the Far East. Its cultivation is developing in the Ussuri District for the purpose of supplying a recently-built sugar factory in Voroshilov. There has also commenced the production of perilla, a new oil-bearing plant.

The areas under potatoes and vegetables are rapidly increasing, and in the near future these crops will be sufficient to supply the entire internal requirements of the region.

Collectivization and Soviet farm construction made possible the introduction of a great number of measures directed toward the improvement of agronomic technique. Proper crop rotation systems are being introduced in collective farms, and the preliminary tillage of fields before the sowing has been greatly improved. The use of selected seeds is growing from year to year. The strength-

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ening of collective farm economy has brought on the scene a new personage—the inspector for supervision of quality. Every collective farm has such inspectors. They are usually elected—members of collective farms, gray with age, who have large experience in the particular form of production under local conditions. They supervise the proper execution of the work at all its important stages. As the result of mass improvement of agronomic technique, the yields are steadily increasing. From 1932 to 1935, when the sowing of the area under grain increased by 16 per cent, the total yield showed a rise by 100 per cent.

Great attention is given to the development of animal breeding. The principal branches of this as part of agricultural production in the Far East are: horse, cattle, sheep, and hog breeding. Poultry breeding is widespread in all agricultural districts. In the national districts of Kamchatka, those of the Chukchees and the Koryaks, the principal branches of animal husbandry are the breeding of reindeer and of draught-dogs. Other important branches are hunting and trapping. There are nine fur-animal Soviet farms of which seven are located in the Primorsk District and two on the Commander and Shantraskie islands. In these districts agriculture is only a secondary occupation.

The sharpening of class struggle during the early stage of collectivization has unfavorably influenced the development of animal husbandry. The kulaks, who had concentrated in their hands a considerable number of cattle, were slaughtering their herds recklessly. This took place in the Far East as well as in other parts of the Soviet Union. The result of this was reduction in the total number of head and a considerable change in the age and breed composition of the stock.

However, from 1933 the strengthened collective farm economy has firmly taken in hand this backward branch of agriculture and secured the increase of stock and a general qualitative improvement of animal breeding in Soviet farms.

The restoration of animal breeding is moving ahead at a rapid pace. In 1935, the total number of productive cattle exceeded the pre-war level by 67 per cent. An extremely rapid growth during the last years is shown in hog breeding.

Socialized herds of collective farms are kept at the collective

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market farms, for which special cattle-sheds have been built. At the end of 1935, the region had 1646 collective market farms which included 771 dairy, 379 hog-breeding, 227 sheep-breeding and 37 horse-breeding farms.

Together with the development of socialized animal husbandry, great attention is being given to the increase of livestock privately owned by members of collective farms, by individual farmers, and by workers.

Collectivization made possible the introduction of far-reaching measures for the improvement of animal breeding. These measures are directed along the lines of improvement of the methods of keeping and feeding of livestock. Pedigreed producers are being shipped into the region. The breeds used for the improvement of local cattle are: Simmental and Siberian; and for the south-eastern coast of the Japanese Sea, Holstein; for hogs the best breed is White English.

The creation of new industrial regions effected during the last few years has considerably shifted to the north the center of agricultural production. Industrial enterprises springing up in the north are being surrounded by agricultural farms which serve as auxiliary means to supply the population with vegetables and dairy products. There are many Soviet grain and animal farms under construction. From 1928 to 1935 the sown area of Lower Amur, Kamchatka and Sakhalin Districts has been increased threefold and has reached 11,000 ha. The largest part of this area is under potato and vegetable crops.

Next comes the development of gardening. In the forests of the southern districts of the Far East grow wild pears, apricots, plums, grapes, and various berry bushes. The famous scientist, I. V. Michurin, recently deceased, was crowned with success in his experiments to create through selection and grafting new frost-hardened varieties now largely used to improve the wild-growing fruits of the Far Eastern Region. The experiments of the local amateur horticulturists Lukashev and Tamarin, as well as of the Seifunsk orchard and the nursery of the forest experimental station, have proved the possibility of developing for gardening local types of fruits bred in the Primorsk and Ussuri Districts, and in other districts as well. At present the nurseries are carry-

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ing on energetic work with the aim of propagating the best varieties.

The Soviet Government, in short, pays considerable attention to the development of agriculture in the Far Eastern Region. It invests large sums in the construction of Soviet farms, machine-tractor stations, and an extensive network of schools and hospitals. At the same time, the rural population of the Far East enjoys a number of tax privileges. Collective farms and their members are exempted from grain delivery for the period of ten years, and individual farmers for five years; the same privileges are enjoyed by the inhabitants of Sakhalin, Kamchatka and Lower Amur Districts. Several parts of Khabarovsk and Primorsk Districts are exempted from delivery of meat and other animal products; for the other districts of the region the crop percentages for delivery of these products are reduced by 50 per cent.

The industrial development of the Far East and the equipment of Socialist agriculture with new techniques form a strong foundation for the further growth of agriculture in the region. It will advance along two lines: increase of the productive capacity of already existing collective and Soviet farms, and extension by attracting from other parts of the U.S.S.R. new population to be organized in collective farms.

6. Municipal and Housing Economy of the Cities.

With the exception of Okhotsk (founded in 1647) and Petropavlovsk on Kamchatka (founded in 1740), all cities of the Far East are rather young; most of them were founded during the second half of the 19th century. They rose as administrative and trade centers. The development of industries in the cities was progressing very slowly. The municipalities were poor, because the representatives of the merchant class who held the official positions took care of their private interests but paid very little attention to the welfare of the city. City power plants were small. Water and sewage disposal works existed only in Vladivostok and Khabarovsk. The upkeep of the streets was in embryo; there were only two or three stone-paved main thoroughfares, and the other streets represented during spring and autumn impassable lakes of mud. Vladivostok alone had the appearance of a well-arranged European city.

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The first measure of the Soviet Government was radical reconstruction of the municipal economy. During the last few years, in connection with the industrialization of the region, the urban population has been rapidly increasing. Together with the growth of old cities there are being created new cities and industrial villages. Before the Revolution, the Far East had eight cities, while at present there are seventeen. The growth of city population has required a large program of housing and municipal construction. During the first years of speedy industrial development of the region, the basic material resources had to be applied to industrial construction. The development of housing and municipal works lagged behind the growth of urban population. From 1928 to 1935 the housing funds of the cities have increased by 63 per cent, which, considering an even larger increase in the number of inhabitants, appeared to be insufficient. At present, serious attention is being paid to this side of the economy. The building needs of the municipalities and housing cooperatives are largely the concern of the new industrial enterprises. These are building not only plants for production, but comfortable homes for their workers as well. Industrial enterprises are also participating in work carried out in connection with the welfare of the cities.

Of outstanding importance is the carrying out of city construction within the limits of plans which look beyond the immediate needs of development and of reconstruction to the future. For this purpose are planned not only the location and the arrangement of cities, but a general plan is made for their development in the next ten or fifteen years. At the present time, the planning of Khabarovsk, Vladivostok, and of a number of smaller cities is completed. Planning of Blagoveshchensk, Voroshilov, Svobodny, Artem, and Rukhlovo is going on.

Considerable attention is being given to city power-plant economy. A power plant of 6,000 kw. capacity has been built in Khabarovsk; the power plant of Vladivostok has been reconstructed and enlarged; industrial power plants of large capacity have been built in Voroshilov and Spassk. In 1936, construction of a power plant of 5,000 kw. is being commenced in Birobidzhan. The total capacity of city power plants in 1935 reached 19,500 kw., as compared with 4,600 in pre-war times.

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Improvement of water supply goes on. A new system of supply has been built in Vladivostok, while the reconstruction of the water supply system in Khabarovsk has been commenced.

The street railway in Vladivostok has been reconstructed under a plan whereby the total mileage of tracks in 1935 has reached 21 km., as compared with 5.8 km. in 1913. At present, the old narrow-gauge track is making room for a wide-gauge track, with complete substitution of new cars for the old ones. The Second Five-Year Plan provides for commencement of street railway construction in Khabarovsk. Khabarovsk, Vladivostok, and Blagoveshchensk also have regular city bus lines.

The external appearance of the cities is being radically changed. Municipal construction is developing extensively. A number of theaters, motion picture houses and workers' clubs have been erected. All cities are equipped with telephone conveniences and possess a well-developed radio network.

In the general course of Socialist construction old, neglected cities are gradually becoming leading cultural centers.

7. Public Education and Health Protection.

Much work has been carried on during the period of the Soviet regime in the domains of public education and of protection of health. The inheritance received from the past regimes was exceptionally modest. The pre-revolutionary Far East was in no way an exception to the general cultural backwardness of Tsarist Russia. Lack of culture and education reigned here just the same as in any other frontier country.

The scattered school system of the region was represented, chiefly, by parish schools (attached to churches) and primary schools. These were of very low quality. The annual expenditure for a parish school in pre-war years averaged about 500 rubles, and that for a primary school about 150 rubles. But even these schools were not accessible to the majority of the rural population. They accommodated chiefly the well-to-do upper classes and to some extent the middle classes of the villages. The poor who frequently possessed only one pair of shoes for the whole family, had no time to think about going to school. In the pre-war period, about 50,000 students were taking courses in primary schools.

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The few middle schools were concentrated exclusively in cities and accommodated the families of officials and of the trade and industrial bourgeoisie.

A book or a newspaper in the pre-revolutionary Far East village was a rare visitor. The knowledge obtained at the school was quickly forgotten. Under literacy was understood the capacity to read printed text and to scratch down in some way one's signature instead of a cross.

According to the census of 1923, the general literacy of the population in the Far East was equal to 37.4 per cent. In the cities the rate was 57.3 per cent and among the rural populace 30 per cent. An exceptionally low percentage of literacy was that among the female inhabitants of villages. The local native population was illiterate without exception.

Protection of public health in the Far East in pre-revolutionary days was in no better position. The few hospitals were concentrated almost exclusively in cities. The rural population was cared for principally by medical assistants. During the pre-war period one medical station served a territory of 117,000 square km. in the Amur District, and 26,000 square km. in the Primorsk District. So dispersed a network of medical stations could not even provide the growing population with the aid of medical assistants, not to mention that of qualified surgeons.

The northern districts were entirely without any cultural service. Here, primitive forms of economy and of family relations were still preserved. The doctor and the teacher of the native population was a "shaman", a wizard.

Extensive construction directed towards liquidation of cultural backwardness of the region commenced in the Far East with the first years of the Soviet regime and has continued at an increasing rate and in accordance with the general course of economic development of the region.

The system of education adopted in the Soviet Union is not confined to school education alone; it also embraces a network of institutions for pre-school education and school activities among the grown-ups. Owing to energetic measures taken in the development of the school system and in the teaching of the adult population in the schools for liquidation of illiteracy, the

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general literacy of the population in the Far East was by 1926 raised to 43.5 per cent; i.e. in cities to 64.5 per cent and in rural districts to 36.5 per cent. In 1930, general obligatory universal education was introduced in the region, which in rural districts provided for a four-year course, and in the cities and industrial villages of city type for a seven-year course. At present, the region is rapidly approaching the achievement of universal literacy, inasmuch as alongside the obligatory teaching of children of school age, the remaining illiterate adult population is registered and also taking the course. During the last few years a considerable amount of new school construction has been and is still being carried out which will make it possible to operate the schools on a one-shift basis.

The development of the school system is illustrated by the increase in the number of students.

TABLE 6. NUMBER OF STUDENTS IN PRIMARY AND MIDDLE SCHOOLS

	1929	1935
Primary schools	127,500	274,000
Incomplete middle schools (seven-year course)	21,700	104,500
Complete middle schools (ten-year course)	2,600	9,900
Total	151,800	388,400

The system of secondary education is conceived in such a way as to prepare a certain number of students for entrance to the higher educational institutions and to train a personnel of specialists possessing secondary school qualifications. The first function is being performed by the complete ten-year school and the second by the technical school (technicum). The region has 42 technical schools which prepare specialists for all principal branches of the national economy.

Considerable attention is being paid to the construction of national schools which teach the children of national minorities in their own tongue. The region has 338 Korean schools, including 287 primary schools, 40 incomplete high schools and two complete high schools. There are also 149 schools for the na-

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tionalities of the northern districts, including 183 primary schools, nine incomplete high schools, and two complete high schools, seven Chinese schools, and a number of schools for other nationalities. Moreover, a large number of representatives of national minorities take courses in the Russian high schools and technicums.

The Soviet Government pays much attention to the improvement of the financial position and to the cultural development of teachers. Special courses are organized for raising their qualifications; through them teachers extend their knowledge of the methods of teaching together with that of the subjects taught.

For the purpose of training teaching personnel, the region has pedagogical institutes in Blagoveshchensk and in Vladivostok. The Vladivostok Institute trains teachers for Korean high schools. Teaching personnel is trained also by the Far Eastern University in Vladivostok. Primary school teachers are also furnished by fifteen teachers' normal schools, which include two Korean and four Jewish schools, and three schools for nationalities of northern districts. Teachers' normal schools are also available in Nikolaevsk on the Amur, Aleksandrovsk on Sakhalin, in Petropavlovsk on Kamchatka, in the Koryak national district, and in Kolyma.

Pre-school institutions, such as kindergartens and playgrounds, are being opened up at industrial plants and at state and collective farms.

Cultural activities among the adult population are carried on through reading houses, houses of Socialist culture, and libraries. Along with the liquidation of illiteracy, the further instruction of half-illiterates is being pursued extensively. The Socialist reconstruction of agriculture and the mastering of techniques connected with it present a number of new demands on the knowledge of the members of collective farms. Not only general literacy, therefore, but also technical education is penetrating deeper and deeper into the collectivized villages. There are published in the region 156 newspapers with a total annual issue of 42.3 million copies.

The protection of public health is likewise given great attention by the Soviet Government. A number of new hospitals has been

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built in cities and in rural districts. Industrial enterprises are responsible for the construction of a new network of hospitals and dispensaries. This has resulted in a considerable improvement of medical services and in bringing medical assistance nearer to the people. Assistance of qualified doctors is guaranteed not only to the urban and rural population, but also to the workers of the fish industries and of the lumber camps.

In 1934 the region had 242 village medical stations, while before the Revolution there were only 31. The network of assistant surgeons' stations has also been extended considerably. In cities and industrial villages regular medical assistance at home is provided for. Considerable attention has been given to the organization of medical stations in the districts of northern nationalities.

The drawing of women into industry, which is characteristic of the economic development of the region during the last few years, was accompanied by a rapid growth in the number of public nurseries. In 1935 the region had 619 permanent public nurseries taking care of 18,000 children in cities and 5,000 in rural districts. There is also an extensive network of summer (seasonal) public nurseries for 3,000 children functioning in collective farms. The development of public health protection in the East has required a large increase in the number of doctors and qualified auxiliary staffs: assistant surgeons, midwives, dressers, medical nurses. Instead of 128 doctors engaged in hospitals before the Revolution, the region in 1935 employed 1,436 doctors, of whom 1,091 were in cities and 345 in rural districts.

For the training of medical personnel medical schools have been opened in Vladivostok and Blagoveshchensk. In Khabarovsk there is also a pharmaceutical school. In 1935 the first group of surgeons obtained their degrees at the Khabarovsk Medical Institute.

8. Higher Education and Scientific Research

Rapid economic development of the Far Eastern Region is accompanied by a greatly increased need of qualified personnel. Thousands of specialists of higher and secondary qualifications are attracted to the Far East from other parts of the Union. The majority of them are young specialists who have recently left

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higher educational institutions, but a considerable number are so-called "old men" with wide technical experience.

To train personnel of higher qualification from among the local population, a number of higher educational institutions have been created. Before the Revolution there was only one institute in the Far East (the Oriental Institute). At present there are six of them: a university, a medical institute, a polytechnical institute, a higher communist agricultural school, and two pedagogical institutes—of which one is Russian and the other Korean.

In accordance with the requirements of the national economy, secondary technical education is extensively developed. The region, as already cited, has 42 technical schools in which 10,000 students are trained. In pre-revolutionary Russia higher technical education constituted a privilege of the wealthy classes of the population. In the Soviet Union it is accessible to everybody. All the students are furnished with state subsidies which enable them to continue their studies without interruption.

Considerable progress has taken place during the Soviet period in scientific research work. Several scientific research institutes have been created in the region. The Academy of Sciences and the Academy of Agricultural Sciences of the Union have their branches in the Far East. The branch of the Academy of Sciences (Vladivostok) conducts chemical research work and carries out geological, geo-botanical and hydro-biological studies of the region, as well as studies of the special problems of areas with perpetual frost, and a number of others. The scope of its activities is expanding from year to year.

Agricultural science is represented in the Far East by the Institute of Land Cultivation and Animal Breeding (Khabarovsk) with its six complex experimental stations and an experimental apiary. The work of seed selection is also showing successful development: types of wheat and soy adapted to local conditions have been raised; a type of rice especially suitable for cultivation under the conditions of large-scale mechanized economy has been developed. Conditions of and methods for the use of fertilizers have also been studied. A large project has been conducted in the study of fodder cultivation to facilitate animal husbandry, not only in the southern parts of the region, but in the northern as well.

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One of the important scientific research establishments is the Pacific Fish Institute (Vladivostok). It studies the raw material resources of the far eastern seas, the techniques of fishing and fish-conservation, as well as other processes connected with the development of the fishing industry. Its work on sea-weeds made it possible to build in Vladivostok a plant for the production of agar-agar. The institute has a marine-biological station on the island of Petrov and branches in Kamchatka, Sakhalin, and on the lower part of the Amur.

Other scientific establishments especially worthy of mention are the Institute of Epidemiology and Microbiology, and the Experimental Forest Station.

Widely extended is the study of the geology and of the mineral resources of the region. This work is conducted by the Geological Trust and by the All-Union Trust for the Prospecting of Nickel and Tin Deposits. In 1928 there were eighteen prospecting parties in the field, while in 1934 their number increased to 168. A many-sided survey of the district adjoining the Baikal-Amur trunk line is being conducted. Considerable work is going on in the north connected with the development of gold production in the Kolyma district and the establishment of the Northern Sea Route.

Prospecting and scientific research activities serve the practical purposes of Socialist construction. Bureya coal deposits and the iron ore of Lesser Khingan have been prospected; all the elements necessary for the creation of ferrous metallurgy in the region have been discovered. In Kamchatka there were found occurrences of oil, rare metals, and tin. These all are links of a single chain, forged to secure a strong economic development of the region.

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IV

ECONOMIC AND CULTURAL CONSTRUCTION AMONG THE INDIGENOUS PEOPLE OF THE NORTH

The foundation of the Soviet nationality policy and of the constitution is the equality of rights of all citizens, irrespective of their nationality or race, in all fields of the economic, state, cultural, social, and political life. At the same time the economic backwardness of minor nationalities is done away with by a series of measures guaranteeing the growth of the productive forces and the cultural development of national regions.

After the Revolution great attention was paid to the improvement of the position of the population of the extreme north. A Committee for Assistance to the National Minorities of the North was formed in 1924 by the Presidium of the All-Russian Central Executive Committee. Its task was to study, work out and carry out measures for the economic and cultural development of the most backward northern nationalities. All the sparsely populated northern sections of forest and tundra in the Far Eastern Region came within the scope of activity of this Committee of the North. The native population of the region inhabiting this vast territory consists of sixteen ethnic groups; the size of the population of each of these groups is shown in table 17.

TABLE 7. POPULATION OF NATIONAL MINORITIES IN THE NORTH, BY ETHNIC GROUPS

Name of Group	Population
Evenki (Tungusy)	20,432
Lusravetlany (Chukchee)	12,331
Namilleny (Koryaki)	7,438
Nanai (Goldy)	5,850
Itelmeny (Kamchadaly)	4,217
Nivkhi (Golyaki)	4,976
Eveny (Lamuty)	2,044
Ude	1,357
Yunty (Eskimo)	1,292
Nani Amur (Ulgi)	723
Eteli (Chuvantsy)	704
Eklembeie (Nezhdaltsy)	683
Orochi	646
Oduly (Yukagiry)	443
Unyrchany (Aleuty)	353
Nanai Sakhalinskie (Oroki)	162
Total	63,651

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The zone of distribution of minor nationalities of the north in the forest region lies close to the railroad lines. In the Chukchee and Koryak national districts and in the northern mountain and forest districts, these nationalities form the basic part of the population.

At the time of the establishment of the Soviet power the level of the economic and cultural development of the national minorities of the Far East was extremely low. Rapacious hunting and big forest fires during the intervention greatly reduced the number of fur animals in the forest; hunting and fishing equipment was lacking. Chinese buyers who invaded the forests supplied only alcohol and opium. The chief branches of northern economy—fishing and hunting—were entirely ruined. The native population of the lower part of the Amur found itself in an especially hard position. In fishing, Japanese were using prohibited rapacious methods. At the Amur Estuary near the Tamlevo village they put up a gigantic fishing fence of the Tate-Ami type; a number of such fences were put up the river. (*Native Question in the Far East,* Issue I. Chita, 1923, pp. 25-26.) As a result, all the fish going up the Amur River was caught. The native and Russian population which was not able to lay in a fish supply for winter was starving. Lack of food resulted in a large loss of dogs, and no hunting was possible without them.

On the establishment of the Soviet regime a series of urgent measures were taken to assist the population of the north, and later on work was begun for a systematic re-establishment of the northern economy.

The economic development of this part of the country, which extends more and more to the north, plays an important role in the economic revival of the northern nationalities. Industry is being developed; coal mines have been opened at Anadyr in the Korfa Bay; work has begun on the exploitation of oil deposits at the Koryak national district. The fishing industry has been developed very rapidly. In 1935, about eighty fishing stations operated in the Koryak and Chukchee national districts, two canning factories, and one waste-treating plant. Coast sea-animal catching industries were organized together with the creation of a whale-fishing fleet. The native population is largely attracted to industrial enterprises. Out of 2,500 permanent workers at

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Chukotka and in the Ayansk Region, about 30 per cent are natives.

A decisive role in the economic development of the extreme northern part of the Far East has been the opening of regular navigation on the Northern Sea Route. The Chief Administration of Northern Sea Route organizes navigation, builds necessary coastal bases, and takes care of the revival of the economy of the native population. At the present moment the Committee of the North is liquidated, its functions and staff are transferred to the Chief Administration of Northern Sea Route.

A new big industrial region has been established with its center in the city of Magadan near the Nagaevo Bay at the northeastern corner of the Okhotsk Sea and in the far-off regions of the Kolyma River. Tungusy and Yukagiry, who constitute the native population of the district, are organized in fishing, hunting, and transport artels. The profitableness of their economy has increased enormously. The revenue obtained by Tungusy from this economy is now not less than the wages of qualified miners. For their benefit, hospitals, schools, and other cultural services have been established in the district.

Some distance to the south, in Okhotsk and Ayansk districts, the gold industry and sea-fishing are developed. The native population of Lower Amur District, together with fishing, the trapping of fur animals, and hunting, is beginning to work in the state fish industry and in gold mines. The Nanaisk native district of the Khabarovsk Region, which is located in the vicinity of the city of Komsomolsk, has now good opportunities for gradual adoption of agricultural activities with predominance of animal breeding. For this, it has favourable natural conditions and a secured market in Komsomolsk. In a number of other districts the native population is attracted to work in lumber camps.

During the last few years, there was effected, for the first time in the north, distribution and division of land, water, and industries between various groups of the native population. The lands of individual tribes and clans are surveyed and defined. A number of national parks have been created.

The collectivization in the northern districts is developing successfully. Artels are being created for reindeer breeding, hunt-

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ing, fishing, and mixed activities. Reindeer breeding in collective farms is growing. The breeding of draught-dogs is being restored. The nomadic population is settling down on the land and along with its primordial occupations of hunting and fishing, is taking up agricultural activities. The cow and the pig are being introduced successfully in native collective farms in a number of northern districts.

Along with the economic development, a rapid growth of the culture is also recorded. Written languages have been created for the majority of nationalities of the north. The construction of schools is progressing extensively. Instead of nine missionary schools in the Tsarist period, there are now 194 schools functioning in northern districts, of which two are high schools and nine incomplete high schools. The total number of native students reaches over six thousand. The teaching in primary schools is conducted in the mother tongue. In Nikolaevsk on the Amur and in the Koryak District normal schools have been opened to train native teachers. After the creation of a written language, activities directed towards liquidation of illiteracy among the adult population have commenced. Wide extension has been found possible for the practice of industrial apprenticeship. There are native radio-technicians, mechanics of boats, employees of cooperative societies, etc. There are already representatives of northern nationalities among the young students of the Far Eastern technical schools and of the higher educational establishments. There are published six newspapers and two magazines written in the languages of northern nationalities. The Nani and Nivkhi already have their own national theatres.

Much work has been done to create a network of medical stations in the native districts. As compared with ten stations manned by assistant surgeons which existed in northern districts before the Revolution, there are at present 62 medical stations, of which 42 are provided with hospitals, and 36 staffed with assistant surgeons. The above figures do not include medical stations at industrial plants in the north.

The attitude of the Soviet Government towards the native population of the north is one of painstaking attention and care. The Government regards it as the bearer of a valuable, centuries-old experience in the mastering of the north.

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