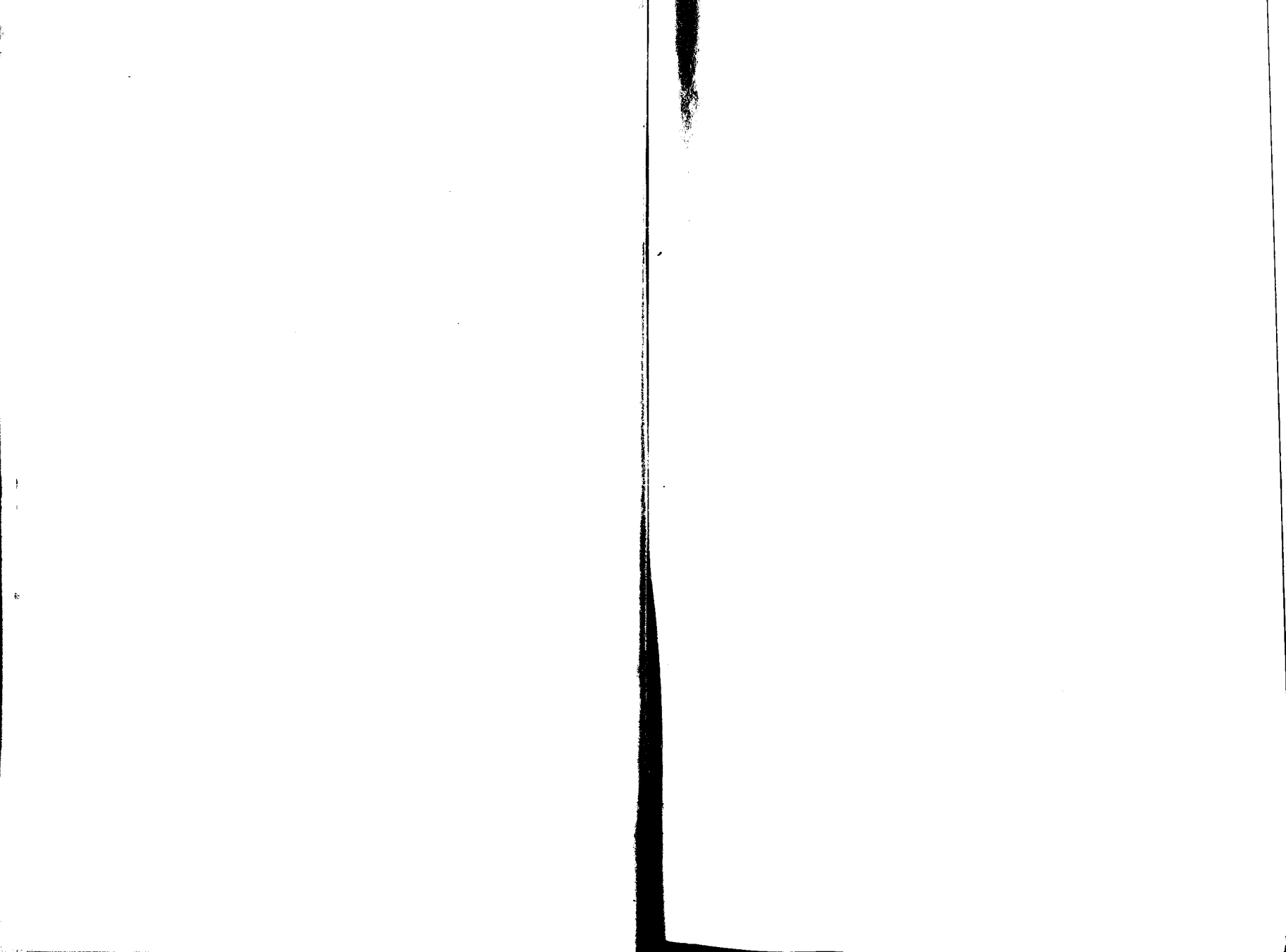


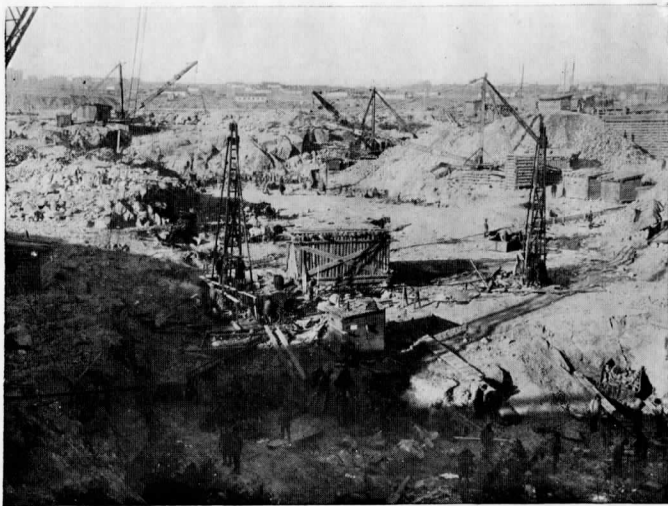
THE SOVIET FIVE-YEAR PLAN AND ITS EFFECT ON WORLD TRADE

H. R. KNICKERBOCKER

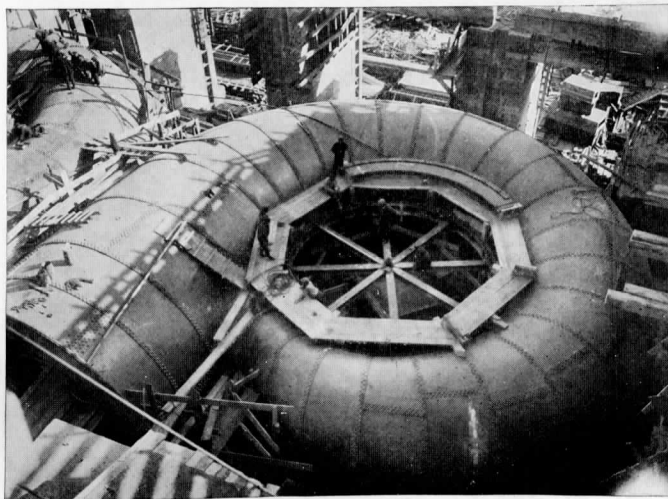
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THE SOVIET FIVE-YEAR PLAN





The Dnieper River Dam, the largest of its kind in the world, for the production of two billion five hundred million KWH annually



One of nine huge "Scroll cases" for hydro-turbines being installed at the Dnieper River Dam. These are the largest "Scroll cases," for the entry of water, in the world. American construction

THE SOVIET FIVE-YEAR PLAN AND ITS EFFECT ON WORLD TRADE BY H. R. KNICKERBOCKER WITH SIXTEEN ILLUSTRATIONS ♣ ♣

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PUBLISHERS' NOTE

THE author of this book, who is Foreign Correspondent of the *New York Evening Post*, was sent to Russia by his paper last year to report for them on industrial conditions there under the Five-Year Plan, and to survey the repercussions of the Plan, both actual and potential, on world trade. He spent two months travelling more than 10,000 miles all over Russia, and the present book contains the results of his investigations, which were undertaken in the spirit of impartial inquiry.

For the convenience of English readers, American money figures have been replaced in this edition by the equivalent figures in English money (calculated at \$4.86 to the £), wherever such figures do not refer to American conditions.

AUTHOR'S FOREWORD

THE most important thing to remember about "Communist" Russia to-day is that it is not Communist. This may be a truism to some, but the failure to comprehend it has been a source of some of the most profound misapprehensions about the Soviet Union. There the concepts and language of Communism have become the instruments of thought and standards of judgment for most Russians, even for many who consciously oppose Communism, just as in the Western world are the concepts and language of Christianity. A Bolshevik examining Western society might begin his remarks with: "The most important thing to remember about the 'Christian' world is that it is not Christian," and few churchmen would deny it. To about the same extent is the behaviour of the mass of human beings in the Soviet Union Communist. The fundamental law of Communism, "From each according to his abilities; to each according to his needs," is obeyed only by members of the Communist party, the most exclusive disciplined political organization on earth. They, the priesthood, deny themselves monetary gain and limit their incomes to a rigid minimum. In the rank and file of the Russian populace though,

private gain is still the chief driving force employed by the Soviet State to attain its ends. The Communist party after trial and error has found to its sorrow that the nearest thing to a Socialist economic system that will "work" is, after all, a form of Capitalism, the State Capitalism of Russia to-day.

Under this system the State owns all the instruments of production, distribution and exchange and is the sole employer of labour. The workers receive only as much of the profits as the State deems proper, their wages being disparate and adjusted to the point calculated by the State to achieve the greatest productivity. Substitute for the State private employers, and these characteristics and the Soviet economic system would coincide with Capitalism as we know it. Between the two systems, however, there are notable differences. The least important difference is the one usually given the most emphasis, namely, that under the Soviet system profits are not supposed to be the principal aim of industry. Under the State Capitalism of the Soviet Union, as a matter of fact, profits are desired, just as under private Capitalism, for expansion, improvement and production. Unlike private Capitalism, State Capitalism as now practised by the Soviet Union puts back into the plant also that comparatively insignificant amount of profits which under private ownership would have gone to satisfy the personal wants of the capitalists. The net share of

the workers in the profits, at least during the present period of the forced expansion of Russia, remains about the same. The similarity between the two systems here is greater than the difference, and from this similarity grow all other similarities such as piece-work, the payment of wage differences of four to one, premiums, vacation awards and other lures of private gain held out to the Soviet workers. From this it may be properly concluded that the success or failure of the present Soviet system will throw little light on the general question, "Can Socialism work?" much less on the question, "Can Communism work?" It might even be advanced that if the present system in Russia be successful it will be so because of its adoption of capitalist methods.

The really important difference between the Soviet State Capitalism and private Capitalism lies in the element of planning, one of the basic principles of Marxian economics. In the private capitalist world unregulated competition leads inevitably, according to Marx, to periodical over-production, unemployment and the sort of crisis now affecting the world. The prevention of over-production was the basic advantage claimed for planned economics. It is one of the many ironies of the Soviet system that the first country in the world ever to try to run its national economics according to plan has not yet been able to test the effectiveness of planning against

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over-production. For the Soviet Union's chief problem to date has been not to avoid too much but to get enough production.

The now famous Five-Year Plan is the most pretentious attempt ever made to put the planning principle into effect. It is an attempt to plot for five years in advance the whole course of life of an entire nation of 150,000,000. An exaggeration may help to explain the Plan. If it were possible to do so, the Government planning commission would doubtless have worked out the precise daily schedule of every living human and those yet to be born Russian with specific directions as to how each human being in the confines of the Soviet Union was to spend every minute of his life for the five years from October 1928 to October 1933. Of course, that is phantasy, but it is only slight exaggeration of the staggering comprehensiveness of the Five-Year Plan that seeks to regulate down to the finest detail not only the economic development of the country, but every phase of its cultural, educational, scientific, artistic, medical and social life. From chess-playing and art to tea-growing and iron-smelting the Five-Year Plan has the authoritative word to say.

Mechanically the Plan is worked out for the entire nation over five years much as a far-sighted business man would attempt to work out the schedule of his factory's production over a much shorter time. The

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Government Planning Commission of Moscow, assisted by the planning commissions of each subordinate political division of Russia, who in turn receive their statistical bases from each individual plant, laid down in 1928 the eventual goal for all industry, transportation, finance, etc., to be reached in 1933. The Plan has the force of law but is constantly being amended and almost invariably upward. At the beginning of each year a more detailed plan is issued called "control figures" containing the specific goal for that year. A yet more detailed plan is issued for each month, and in theory every factory department and every workman should know what the production should be for each day.

To increase the industrial and agricultural production at a rate that will enable the Soviet Union within a measurable time to "overtake and outstrip capitalist nations" is the principal avowed purpose of the Plan. Nobody conceives that this object will be achieved in five years, but responsible directors of the Government Planning Commission spoke to this writer of seven to twelve years as the time required to equal a country with sufficient factories, railroads, steamships, telegraph lines, houses, automobiles, tractors or live-stock and to provide the population of the Soviet Union with more and better food, clothes, homes and amusements than the populations of the capitalist countries. No sober observer of the present conditions in the

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Soviet Union can agree that this is possible, but the fact remains that the Five-Year planners really believe they can accomplish in the maximum of a few decades the level of industrialization reached by the capitalist countries after a century or more.

Much more significant for the outside world is it to know that the immediate purpose of the Plan is to get enough instruments of production within the country to enable the Soviet Union to continue its process of industrialization if at the end of five years the capitalist nations should lay down an hermetical economic blockade and refuse to send another machine to the "Communist State." This by no means implies that the Soviet planners think the country will be adequately industrialized by 1933. If trade relations continue with the outside world the Soviet foreign trade will presumably be much larger then, but by that time, if the Plan has succeeded, the Soviet Union will be in a position to carry on alone, if necessary, and will be virtually impregnable as well to economic as to military attack.

This is the consideration that is moving the business world of Europe, faced with large Communist parties within its borders, to view the progress of the Five-Year Plan with foreboding. If the Soviet Union had no world revolutionary ambitions its progress might be cheered even by the capitalists, glad of a growing market. Only sentimentalists, however, can close their eyes to the permanently aggressive

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character of Russian Communism. Whereas the bourgeois Press of Europe persists in announcing for the benefit of the local Communists that the Five-Year Plan is a failure, business men, particularly the greater industrialists and bankers, are privately convinced of its probable success. They already fear the competition of the huge supplies of Soviet raw products, particularly lumber, grain and oil. They fear the probable competition within some years of the industrial products that may be expected to issue from the gigantic economic machine now being built up under plans. Most of all they fear eventual conflict of arms with a powerful, modernized zealous State imbued with the irrevocable conviction that it is its duty to bring the whole world within the Soviet Union. These fears have become the permanent background of a good deal of European economic and political thinking.

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THE SOVIET FIVE-YEAR PLAN

CHAPTER I

SOVIET WARS FOR TRADE SUPREMACY

THE Soviet Union is a land at war.

This is a first and a last impression. It was my first impression upon returning to this country after an absence of three years and my last impression after a journey of seven weeks to the farthest outposts of the Five-Year Plan, a journey of more than 10,000 miles along the industrial front from the Ural Mountains to Caucasia.

Moscow, Nijny-Novgorod, Cheliabinsk, Ufa, Samara, Stalingrad, Gigant, Verblud, Rostof, Baku, Tiflis, Chiaturi, Barum, Yalta, Sebastopol, Dnieprostroy, Stalina and the Don Basin—all these are salients in the war for industrialization that to-day holds Russia in a feverish grip. In all these, to a varying but always an impressive degree, I found an atmosphere of militant struggle, a nation under arms living figuratively but effectively under martial law and subsisting on the short rations of a beleaguered state.

It is a war that, according to the Plan, will come in October 1933, not to an end but to a brief moment of stock-taking. That year will mark the

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formal close of the first period of the most gigantic economic project in history, which was begun in October 1928, an attempt over-night to industrialize the most backward land in Europe, to make of vast Russia a self-contained entity, an impregnable fortress for Communism.

The officers in the war are the 1,300,000 members of the Communist party. The soldiers are the entire population. The chief weapon is 64,000,000,000 roubles of capital investment.

The specific objectives are double-power oil, coal and steel production, triple metal production, quadruple machine production—in short, to multiply at least by two the total output of all industry and collectivize all farms.

No matter whether the result will be a success, partial success or failure, the world, intelligent of the consequences, will watch the results of this grandiose scheme with anxious interest. To-day two years have passed of the Five-Year War for industrialization, and the Soviet Union stands midpoint in its headlong course toward its lately adopted audacious goal of accomplishing the Plan in four years instead of five.

The whole department of the Government Planning Commission is already working upon a fifteen-year plan to succeed the present one. For the slogan is not merely, "Overtake," but "Outstrip the leading capitalist nations."



Rising above the Moscow River this huge office building, the largest in Europe, is the future home of the Soviet government

It is too early now to wonder or worry about the fifteen-year plan. But now, after two years of the Five-Year Plan, is perhaps the most advantageous time yet afforded for an estimate of the progress achieved, an estimate that should at the same time throw light on the whole complex of problem that has arisen in connection with the execution of the Plan, to puzzle or disturb the outside world.

This record of observation will carry its own answer to many questions. Is the Plan succeeding to such an extent that solvency is guaranteed for credits to the Soviet Union? Is it succeeding to such an extent that the Soviet Union is likely to become a dangerous competitor? Is the Soviet Government still master of the Plan, or has the Plan mastered the Soviet Government? To what extent has the Plan been able to determine the Soviet Union's foreign trade policy and is dumping an integral part of that policy? What part does forced labour play? What of costs? How is the population taking the privations and how severe are they?

On these and a score of other pertinent questions my reconnaissance just completed over the principal salients has provided a stock of eye-witness material that at least has the value of being fresh and immediate to the issues uppermost in the mind of the outside world. It has provided the first view of the series of largest industrial undertakings of the Plan

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never before visited by a foreign correspondent. It has provided a cross-section not alone of familiar Moscow, but the whole of European Russia and that portion of Asia that is most significant. Finally, it has provided data on the one point that of late has most agitated the "bourgeois" world—the problem of Soviet dumping.

Dumping, by the narrowest definition, is selling abroad large quantities of goods below the cost of production. To make a charge of dumping has always been easy. Every domestic manufacturer is inclined to raise the cry when his prices are undercut by a foreign competitor. But to establish the fact of dumping has always been difficult because reliable information on the cost of production is rarely included in Chamber of Commerce reports, annual corporation statements or—Soviet trade statistics.

Mileage, however, coverage of the ground, personal visits to points of production yielded information of interest on the costs of certain Soviet commodities.

Gathered on the spot, this information shows that in specific cases investigated, of wheat, rye, anthracite coal and oil, Soviet costs of production and delivery are by any ordinary standard of measurement, and taking the rouble at par, higher than the market price at which they are forced to sell.

In the capital, Moscow, the Soviet authorities deny this. In the field and on the front the Soviet managers of factories, mines and farms have given

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the New York *Evening Post* data that tend strongly to prove it. Not vague generalized data, but precise figures per ton of coal, per gallon of oil, per bushel of wheat and rye and in roubles of railroad supplies and sea charges. The same sort of information tends to exonerate the Soviet Union of dumping manganese, at least in its sales, to the United States.

This much for facts. What they may mean, how they came about, whither they may lead for the Soviet Union and for the outside world and to what degree conclusions to be drawn from them may be modified by the factor of the uncertainty of Soviet currency are questions for discussion in their place. First, to the survey of what the Plan has done for or to the population to date.

It must begin with Moscow. If it ends there it will be misleading. This city is inhabited by 2,200,000 persons and there are among them at least 2,000,000 different views of the Five-Year Plan. The 200,000 Moscow Communists present in the daytime astonishing agreement on all its phases. If they harbour any dissentient views it is at night under their bedcovers. On this, or any other Russian topic, feeling runs too high for objectivity to get a hearing and any observer may be assured that his observations will be scored in one camp or another as mistaken or mendacious. This is one of the risks one must take on the exploration of Russia under the Five-Year Plan.

My entry into Soviet Russia was hardly typical of a country where food or the lack of it is the chief topic of conversation. I was just congratulating myself on having got through the customs a sack containing 100 lbs. of German canned goods when there came an invitation to dinner. My first meal on Russian soil was something to be approached with trepidation.

On the menu were caviare of the highest quality, big grey malasol, several sorts of smoked river fish of a kind that used to attract international gourmets to Moscow in the old days, an extremely palatable cream soup with pirozhki, light pastry filled with chopped meat, three kinds of roast poultry and game, young pullets, pheasants, a rare bird called tsesarka resembling a pigeon, watermelon, pears, stuffed raspberries, baked wine sauce, cheese and a huge stand of luxurious fruit.

The cook was the former chef of the Grand Duke Nikolai Nikolaivitch, one time commander-in-chief of the Imperial Russian Army. The meal was in a special car. The hosts were Colonel and Mrs. Hugh Cooper of New York. As chief consulting engineer for the Soviet Government's £20,500,000 hydro-electric project below the Dnieper River rapids and as one of the very few foreigners whom Joseph Stalin really likes, Colonel Cooper enjoys certain privileges.

That was an interlude of diversion from Russia's

reality. That reality could be anticipated in the dining car at breakfast. Two eggs, a tiny pat of butter, zwieback and tea, luxuries all too little appreciated by one unaware that the rations to come were to cost three roubles, about 6s. 1½d. The waiter had no change. He passed around paper slips in place of kopecks. Four more hoarders of silver coin had just been shot in Moscow, but the sturdy Russian kopecks had refused to be scared out of hiding. They still reposed by millions in countless peasant socks.

Green apples, small and gnarled, were the sole offering of peasant women in the wayside stations. Gone were the roast chickens, sandwiches of great amber-grained caviare, pickled cucumbers, butter, milk, eggs, all these not of olden times but of just three years ago. The stations were as bare as a picked bone.

An hour and fifteen minutes late, we arrived at Moscow to jolt over its cobblestones down to the hotel. But no, cobblestones have disappeared. Moscow has presented a new contradiction and none could be more typical of the era of the Plan. The streets are paved, miles of them, and in the best asphalt. On the ride to the hotel alone there are more paved streets than were in all Moscow in 1927.

But to ride over them costs just five times as much. Droshky fares have quintupled in price.

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Along the streets are scores of new buildings, flat-façaded, glass-fronted office buildings, great complex workers' flats and the horizon that once was dominated by the blue and golden and starry domes and lacy crosses of Moscow's countless churches is punctured now by smokestacks. The picture is disfigured; the charm has begun to fade and the beauty of old Moscow to recede.

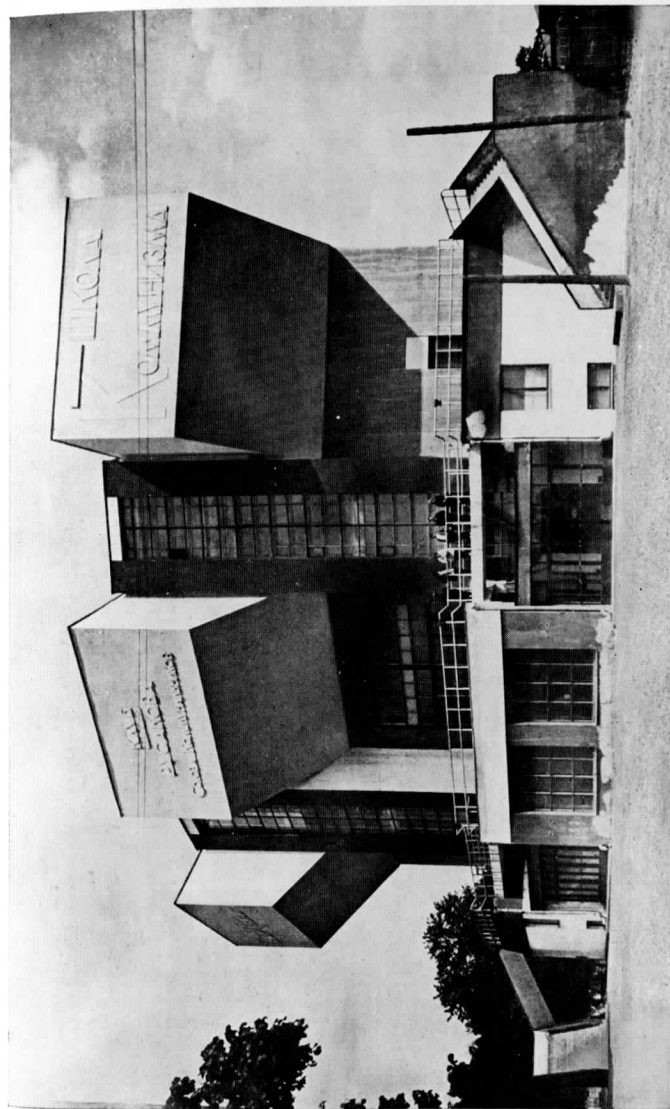
On the paved streets by the new buildings goes afoot a population that has given up a good deal more than the romance of Muscovy. They swarm along the sidewalks and overflow and scatter along the thoroughfares. Their monotone of grey, the uniformity of their unsmiling haste is the same as ever. They move, perhaps, a trifle faster. There seems to be a trace more of nervousness in them.

"Permit me, citizen," is chopped a shade shorter than before. And there are tens of thousands more of them.

The five-day week has done that. Freeing one-fifth of the population every day, it has made every day a holiday for nearly a half million in Moscow. They are forever on the go.

"We work harder on our day off," said one man, "than we do on our jobs. On our days off we have to look for something to buy. And it wears out our shoes."

Shoes! Euphemistic expression. Not since the days of famine, civil war and intervention have



Radicalism even in architecture. Communist club in Moscow built to look as unlike an old-fashioned "bourgeois" building as possible

there been such fantastic substitutes for footwear as are now common in this city. Here a man, his wife and their two children go by, all four shod with frayed canvas sneakers, the soles long ago worn out and stuffed for the day with thick cardboard.

There go two youths each wearing on their feet chopped-off ancient rubber boots. An ill-clad, bearded man has wrapped his feet in rags. A peasant is barefooted. Cast your eyes on the sidewalk and wait for a good pair of boots to go by. Lift your eyes. Nine cases out of ten it will be a Red army soldier or one of the uniformed troops of the G.P.U. state political police.

Of all the women passing one-third are wearing tattered but recognizable women's shoes and the other two-thirds some sort of makeshift. The most popular are house-slippers. The cobblers do a frantic trade and accept no repair work for delivery under three months.

For a moment the footgear looks worse than the clothing. But the frost has come and overcoats are slow to appear. The cold nips, men shiver. But war is war. They say every man is a soldier and troops must do their duty.

Promised from the co-operatives is one coat apiece for the workers, or cloth for a coat this winter some time. Mistrustful, some Muscovites, who have lost their old coats or worn them until they have fallen apart, are planning to cut up carpet.

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Some have no carpet.

Down the street comes the sound of music. A parade is in progress. The head of the column swings around the corner. Two companies of G.P.U. officers, fresh from military academy graduation. Their uniforms, immaculate, are made from the best cloth. Their overcoats fall to their ankles in warm, thick folds.

In this war there are troops and troops.

CHAPTER II

THE FOOD SITUATION

"HELLO, my friend, where are you going in such a hurry?" cried one citizen of Moscow to another citizen of Moscow.

"I'm going to jump into the river," cried the second citizen of Moscow. "There's no more bread; there's no more meat; there's no more milk and there's no more butter. I'm going to jump into the river."

"But, wait a bit," cried the first citizen of Moscow. "Wait until the Five-Year Plan is over and there'll be plenty of everything."

"If I wait a bit there'll be no more water," cried the second citizen of Moscow, making off resolutely for the river.

Both citizens were probably over-drawing it a bit. The truth may lie between them. It is plain that there is plenty of bread in Moscow and, for that matter, throughout the Soviet Union. Against all the blows of fortune that have shaken the Five-Year Plan, Nature bestowed a gift this year that counterbalanced most of the bad luck.

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It gave a good harvest. Grain there is in plenty. Wagons pass in the streets of Moscow laden high with bread. Children stagger home with the day's rations, bending under three or four huge loaves a cubic foot in size.

Bread means more to Europe than it does to America. It means more to Russia than to the most of Western Europe. It is the only indispensable article here. And it is now the only article of which there is a guaranteed supply.

Rice, bread and meat are the basic diets of the East, of Russia and of the West, respectively. Through the Five-Year Plan Russia aspires to climb into the meat class. It will be a steep climb, for through the Five-Year Plan Russia has slipped back on the dietary ladder many rungs from the position she occupied three years ago.

Of almost every other sort of food there is a shortage, severe in the case of meat, fats, milk, butter and eggs. For the moment sugar can be had regularly in Moscow. Potatoes are limited. Cabbage is plentiful. But there is no certainty about any food except bread.

The old, free markets have virtually disappeared. Not one-tenth remains of the lively sidewalk bazaars that three years ago offered meat, dairy products, fruit and vegetables in abundance. The Oxhotny Ryad, the sidewalk market in the centre of the town, where one could buy anything

THE FOOD SITUATION

from suckling pigs, game, and caviare to fancy fruit and vegetables has been wiped off the map. One huge, long, empty co-operative store has replaced it. Here, with ration cards, one is entitled to purchase one's daily dole of necessities.

One, however, is entitled only to purchase. There is no guarantee that there will be anything to purchase.

Ration cards are issued only to members of trade unions and their families. Only he who works may eat. On the card a manual worker is entitled to: Two pounds of bread a day; three-fifths of a pound of meat, three times in ten days; three-fifths of a pound of butter, one pound of macaroni, three pounds of sugar and ten eggs once monthly. Three times monthly one may take flour instead of bread, and besides that each worker is entitled to receive four pounds of cereals monthly.

Milk is granted only to children, who are entitled to one-half a litre daily and three-fifths of a pound of butter monthly. Vegetables are not rationed. Just now there are cabbages, tomatoes, cucumbers, string beans and onions.

If one is a brain worker, one belongs to an inferior class and must suffer the consequences. Instead of two pounds of bread daily the brain worker is entitled to but one; instead of four pounds of cereals a month, he can get two pounds;

instead of three-fifths of a pound of butter a month his allotment is two-fifths.

Even if all the food listed on the official ration card were always to be had, the average inhabitant would still be compelled to cover at least one-quarter of his needs from the open market. He would do so at co-operatives' prices kept at an artificially and relatively low, though absolutely high, level. Butter is 3 roubles (6s. 1½d.) a pound, meat averages from 3 to 4 roubles a pound, green vegetables from 30 to 70 kopecks a pound, eggs a rouble for ten.

Even for a Russian a bite of meat once every three days, a teaspoonful of butter a day and one egg every three days is too little. The workers, employees—indeed, everybody—spend a good part of their incomes in the open market. There prices are fantastic: 11 roubles (£1 2s. 6d.) a pound for butter, 3 roubles for ten eggs, 6 roubles for a pound of tough meat, 60 kopecks, or 1s. 3d., apiece for peaches. Oranges and lemons have long since passed into the realm of fairy tales.

This sort of prices has led to a chronic run on Moscow restaurants. All public eating places in Moscow are Government-owned or co-operative. If one has not enough to eat at home, one can eat at the restaurant. Perhaps!

If one is a foreigner the necessity of eating at a restaurant is no great hardship for the palate, but

a great one on the pocketbook. In the three hotels reserved for foreigners, the Grand, the Metropole and the Savoy, meals are served of varying quality, but on the whole not worse than those in a second-class restaurant in Berlin or New York. In the Grand one can have a lunch of good soup, mutton chops, bread and butter and salad for 7 or 8 roubles, or from 14s. 4d. to 16s. 7d. Breakfast of two eggs, bread and butter and coffee is priced at a standard of 3 roubles, or 6s. 1½d. A satisfying dinner costs from 15 to 20 roubles, a day's meals averaging from 25 to 30 roubles, or from £2 12s. 2d. to £3 1s. 8d.

Russians can neither stand these prices nor are they permitted any of these restaurants, save the Savoy, unless living in the hotel. Before the Savoy stands a line a half block long waiting to get in at lunch time. They had saved perhaps for days for the sake of one good meal away from their own restaurants, "stolovayas."

I visited five stolovayas in the centre of the town. One must buy checks from the cashier before eating. At all five restaurants there were lines of from twenty to fifty persons waiting to get to the cashier. Every table was full. I finally obtained one. I had bought checks for soup, salt fish, potatoes, cucumber, tea. There was no meat to be had. The soup was plain hot water with cabbage boiled in it minus any form of meat fat or flavouring. The salt fish was imported herring. The

potatoes were without a drop of butter or other fat.

With the meal came four slices of sour black bread. The other guests ate hungrily, completely oblivious to a swarm of flies, to the filthy condition of the paper tablecloth, dishes and floor, and to the unpalatable fragrance which pervaded the place. The cost of the meal was 85 kopecks, about 1s. 10d. Two such meals a day would consume two-thirds of the average worker's income.

The menu in the other four restaurants was virtually identical, the price the same, the crowds as large and as hungry.

I was assured that in the restaurants especially reserved for workers in the factory districts conditions would be much better. I tried one brand-new factory restaurant on the outskirts of the town. The floor was tiled but littered with filth. The meal this time was table d'hôte and consisted of the same cabbage soup, the same salt fish, the same potatoes and the same black bread as in the first restaurant. The only differences were that here there was a dessert of glucose jelly, the cost was only 1s. 3d. and the preparation of the food was considerably worse.

A barefooted gamin sat next to me drinking tea and eating black bread. I offered him my fish. He shook his head and went on with his bread and tea.

From across the table a worker explained: "You don't like the food?"

"Oh, it's so so."

"You don't have to be backward," he said laughingly. "We don't like it either. The same thing every day. How is it in your country? Not like this, eh?"

"Not exactly."

"What do you think of us?"

"I think you work very hard and live very poorly, but that it ought to be better."

"I don't."

"Why not?"

"Because our leaders are all mixed up. They promised us that in two years we'd have enough of everything. Now we've got nothing."

"How much do you earn?"

"One hundred and ten roubles a month. A lot of money, but nothing to buy. Two years ago we had no money and there were lots to buy. Now we've got money and there's nothing to buy."

"Are you a worker?"

"The devil, yes! Factory, Bolshevik, makes candy."

He finished his meal, sopping up with a hunk of black bread the last drop of glucose he didn't like.

I went out. A chorus sounded, a banner passed. It was something about the Five-Year Plan in

four years. Something about achieving the Plan as one takes a barricade.

To the casual pedestrian along Moscow's principal streets a presumption might appear justified that the city had gone in unanimously for music and sports. Musical instruments, French horns predominating, fish hooks, hockey sticks and skis are the chief commodities on display.

The presumption would be a mistaken one. The fact is that there is almost nothing else to buy.

No other feature of Moscow's streets is so impressive as the shop windows, these endless rows of empty, dusty windows harbouring at most a bust of Lenin, a picture of Stalin and a heap of price tags torn from wares that long ago disappeared. They are the shop windows of a deserted city. The milling crowds that surge along their sides make their vacancy bizarre.

Of all commodities in everyday use the vast majority are rationed. They are distributed or promised for distribution by a card system. The Commissariat trade's official list of goods of which there is a deficiency, aside from food, includes cotton goods, woollen goods and ready-made clothing, leather goods, metal goods and footwear. Textiles, leather and metal.

This means about everything that human beings use. And to these articles must be added fats, soap and tobacco.

The mere fact of rationing would not be much of a hardship if there were enough rations to go around. There are not. The consequence is that the most common phenomenon of Soviet daily life is the queue system giving the Russian contemporary scene its striking resemblance to wartime.

It has been calculated that the average time taken up by standing in line to obtain from State shops and co-operatives sufficient food and supplies for each family is at least two hours a day. There are 30,000,000 families in the Soviet Union. A minimum of 60,000,000 working hours a day are thus wasted and, taking Stalin's estimate of 8,500,000 adult manual workers in the country, this means the population of the Soviet Union spends as much time standing in line for supplies as its manual workers spend at their jobs during a six to eight-hour working day.

This conservative estimate does not take into consideration the further amount of time lost in standing in line for street cars, buses and for railroad tickets. This summer and autumn the crush of persons desiring to go south for vacations was such that in order to buy a ticket to the Caucasus it was necessary to stand in line from midnight until 10 o'clock the next morning a full week in advance of the departure of the train.

Even before the Five-Year Plan there were few

enough manufactured articles to be had in the Government shops and co-operatives, but at that time there still remained private shops where goods could be bought—if at extravagant prices. Now, according to data of the Government Planning Commission, the “socialized” sector of domestic trade embraces more than 99 per cent. of the wholesale trade and more than 89 per cent. of the retail trade. Practically speaking, there are no more private shops at all.

It is probable, however, that the Government Planning Commissioner is fixing the amount of private retail trade at less than 11 per cent., for there goes on a considerable deal of trading from hand to hand. After the drums beat a retreat on the collective farms front last spring the Government issued a decree directing tax and other authorities to cease interfering with peasant trade. Any peasant was to be allowed, without taxation, to sell when, where and at what price he pleased.

This meant a sudden free hand to various handicrafts workmen and to peasants with garden trucks or dairy produce to sell. There sprang up at once all over Moscow little nuclei of markets where a dozen or more peasants gathered, each with a bucket of eggs, a firkin of butter and good potatoes to sell.

Much more important than these are the big barter markets, Smolensky and Sukharevsky.

The history of the Sukharevsky market from the days of the revolution until now would record, perhaps, more faithfully than by any other means, the course of the Bolshevik effort to stamp out private trade. From its pristine position in pre-war Moscow as a place of exchange for wealthy peasants, through the days of military Communism, the market's lowest ebb, when shooting was the penalty for selling, back up to the comfortable incline of a new economic policy and down again to-day to the meagre barter of harried peasants and furtive peddlers, Sukharevsky market has suffered as much as any institution could have suffered during those thirteen turbulent years. It has weathered all storms and some seasoned peddlers say hopefully that to-day is nothing like as bad as military Communism. Others feel the difference in this bad weather and say it has come to stay and eventually sweep the last lorn private trader into the dust-bin.

Be that as it may Sukharevsky is still as crowded and agitated as ever. A huge open bazaar, it covers the area of two city blocks. Around its circumference are rows of booths formerly occupied by private co-operative merchants. All except a straggling few are closed down now. Nobody has goods enough to fill a shop shelf any longer and each trader carries his merchandise in his hands.

The fewer the goods the greater the activity of

purchasers. Within that space of muddy ground there are assembled no less than 10,000 men and women of all classes of this and the old society, uniform only in their dilapidation, harmonious only in their common desire to buy.

For this is the bull market pre-eminent. In every other market of its kind outside Russia the efforts of seller to attract customers, the calls of peddler proffering wares under one's nose are signs of the mart. But here is a man with a pair of second-hand, patched pants to sell, a woman with a whisp of cloth, an owner of a worn-out alarm clock—these lordly merchants are masters of the show.

A feeble old man in a mangy sheepskin stands with a pair of second-hand house-slippers in his hand. Around him mills a group of ten or more eager customers. I elbow my way in.

"How much?"

"Get your hands off of 'em!" exclaims the old man, tenderly rubbing the frayed slippers on his sheepskin.

"Thirty-eight roubles."

£3 18s. 3d. for a second-hand pair of house-slippers is a bit high, even for Sukharevsky. I stand and watch. The slippers are finally knocked down for twenty roubles—£2 1s. 2d.

A loud discussion is going on among a group that surrounds a man holding watches in his hand.

"But they're no good at all," exclaims a youth as he peers into the empty case of an old-fashioned nickelled Ingersoll. "There's no insides to them."

"They're worth a lot more than your paper roubles," retorts the owner contemptuously, as he snatches the vacant watch-case back.

"Here, citizen"—to me—"only four roubles for a handsome watch."

Further on is a big business. Second-hand bicycles lined up in a row. I ask the price. They range from 700 to 900 roubles apiece, £71 to £82 5s. for machines of inferior quality.

They would cost in Germany when new £4 2s. 4d. to £5 2s. 10d. apiece. The Government is manufacturing bicycles now for about 200 roubles apiece, but in order to get one it is necessary to put in an order eighteen months ahead and then delivery is not guaranteed.

Wandering back past prosperous traders standing watchfully by piles of old boot heels, bunion correctives, snaggle-toothed combs and false teeth, I reach a new shoe department. Here are peasants come in from the country with goods for sale that they have made themselves. The standard price for a new pair of high boots is 150 roubles. It is a price that can be haggled down very little. That is, £14 8s. to £15 8s. 7d. for footgear that every Russian needs. Felt boots cost fifty to sixty roubles.

Boots, or rather slippers, made of best fibre are what most peasants actually wear.

On out to the other side of the market. Here are small quantities of a few pounds each of coarse laundry soap for sale. One rouble fifty kopecks—3s. 1d.—for a quarter-pound cake.

Plastered on walls of a shuttered co-operative bordering the exit are a series of rainbow-coloured lithographs. Scene in a peasant house: A Wise Young Pioneer (Communist equivalent of Boy Scout) tears the ikon from the wall while grandma chatters indignantly and peasant neighbours, all good Marxists, laugh. War in Air—Soviet pursuit plane pours fiery death on a British bomber. Red Army Storms Perekop.

One lithograph is from the old days: A peasant is strung up by the hand and flogged while a paunchy landlord leers sadistically.

There is no shortage of these. Also, no purchasers.

CHAPTER III

AMERICAN ENGINEERS BUILD "MODEL CITY"

WE all woke up when dawn came and the mother on one of the top berths began to feed her baby milk from an old kerosene can. We were sixteen people in one-half of a Russian "hard" car, and waking up is the easiest thing one does riding hard. The berths were broad wooden shelves, in tiers of three. There were no bedclothes, no mattresses, no partitions and the sixteen sleepers took care of their baggage by putting it behind their heads.

A mountainous bundle of household goods fell off the top berth opposite the mother and choked the aisle. A peasant came down with a rickety thud of his heavy boots and, pulling a teakettle out of the bundle, looked out of the window to see where we were. Everybody got up. There was no dressing to be done. Everybody slept with his clothes on. Outside and inside the cars were painted grey, the passengers were all dressed in grey, and by the light of the candle that still outshone the dawn their faces were the same colour.

From fifteen canvas sacks came fifteen huge

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hunks of black bread. Breakfast began. A few passengers used knives. The rest tore off fragments or bored into the soft inside of the loaves with their fingers. Everybody looked curiously at my thermos bottle.

"Amerikanski?" queried a wornout-looking man sitting on his berth next the window. "I met an American on my vacation. I'm just coming back from vacation. I took a steamer down the Volga from Nijny-Novgorod to Astrakhan. It was wonderful. Wasn't it?" He turned to his wife. She nodded. "Yes, the food was so good and it was so comfortable sleeping. And the watermelons—you should have seen the watermelons!"

"Yes," repeated the man, rubbing his eyes with an exhausted droop of his head, "we're all rested up."

The train stopped, emptied immediately while the entire crew and all the passengers ran with their teakettles for boiling water from the station "kipyatok," filled up again as they returned with steaming vessels and started off. In another hour we were in Nijny-Novgorod.

Intended to accommodate 500 persons, the Nijegorodski station was crowded with at least 2,000. Before each ticket window stood long lines that wound around the waiting-rooms. Hundreds of men, women and children, dressed in grey and black felted coats tattered from years of wear, lay

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on the floor, their heads pillowed on piles of baggage, still asleep or munching black bread.

"Why so many travellers?" I asked my Russian companion.

"The Five-Year Plan," he answered. "It's waked Russia up."

A particularly active crowd of several hundred surged around the door marked "Buffet." The station restaurant had been closed for the morning cleaning. It opened and the mob poured in. There was no menu. The offering for the day, for breakfast, lunch and dinner required no itemizing. It consisted of black bread and tea.

Outside we sought a street car. At the corner in front of the station stretched a line three deep and a block and a half long. They were all waiting for the street car, on a single line, the only means of transportation to the city. We walked.

The way led beside the Oka River. Across the slate-grey stream, at its confluence with the Volga, rose Nijny-Novgorod, ancient stronghold of the Suzdal princes, fortress of Muscovy against the Tatar Khans, site for a century of the most famous fair in Europe, and to-day destined to become the Detroit of Russia. Down the road came a Ford, and then another, and before the day was done we had counted fourteen—an extraordinary automobile census for a Russian city.

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Halfway along the three-mile walk to town a street car passed with passengers dangling from the doors like clumps of grapes. Six more sped by but in five minutes they all stopped. The line had broken down again and we reached the city before the street car did.

Much more dilapidated than Moscow, the city looked very poor and down at the heel. Only the Kremlin kept its dignity. We passed a church being torn down. The endless rows of brick-red wooden booths of the Nijny fair were half collapsed. This year with the growth of the Five-Year Plan the fair was abandoned, its doors closed for good after 113 years of business.

But that is all old Nijny, and old Nijny does not count any more. The new city now being built by Americans, to produce American cars, at American tempo, is the only part of Nijny that counts to-day. The new Nijny lies fifteen miles away, on the banks of the Oka, where the river runs blue, and forests of pine trees make a fragrance in the air.

Here, where five months ago there were at most a few families of peasants, are to-day ten thousand men at work, erecting a plant that by the end of 1932 is intended to turn out 140,000 cars a year. They are building the dwellings for a model city of 50,000. One hundred and forty thousand automobiles a year is an insignificant figure for America



The first dwellings of the first Communist city in Russia now being erected for a population of fifty thousand near Nijny Novgorod. This model "Red" city is to accommodate the workers in the new Ford plant which is Russia's first bid toward "overtaking and outstripping" America in the matter of automobiles

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with its 26,500,000 cars. For Russia, with its 30,000, the Nijny plant is gigantic.

The project was conceived by the Supreme Economic Council in the winter of 1928. On May 1, 1930, Soviet representatives in Dearborn signed a contract with Henry Ford for patents, technical assistance, and parts, and a short while later the contract for erection of the plant and the city was given to the Austin Company, construction engineers of Ohio and New York.

According to the first contract, for the sum of £6,000,000, Ford agreed to furnish the Soviet Automobile Trust with full sets of plans and specifications for his automobiles, to furnish them with 74,000 complete sets of parts for assembly, to furnish engineers to start the plant in operation, and to permit the Soviets the privilege of sending to Dearborn a certain number of engineers to study in his plants. More than a hundred are already there.

During the first two years of operation the Nijny plant will produce no parts at all, but assemble cars from parts furnished by Ford. During the third year 50 per cent. of the parts used will be produced in the plant, in the fourth year 75 per cent., and from then on the plant will turn out complete cars from its own manufacture. This has been called the most intelligent contract yet made by the Soviets for creating a new industry.

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All the delays and trouble of breaking in the workmen to a totally strange job, so keenly felt in the Stalingrad tractor plant, should be obviated. The Soviets receive from Ford 74,000 cars, pay less for them than the market price, and get all his patents and technical assistance thrown in, with a trained force of workmen.

At the time of the signing of the Ford contract, the plant's capacity was fixed at 100,000. A few months later it was jumped to 140,000. At the time of the Ford contract the time required for building the plant was fixed at two years. A few months later when the contract for construction was let to the Austin Company, the time for building was shortened to fifteen months. This is typical of Five-Year Plan methods. The goal is constantly being pushed forward, always at a little beyond human capacity. The result is a terrific tension in every branch of national activity, and a rate of construction and production that, for Russia, is extremely fast. At the same time the setting of impossible tasks nearly always results in failure, sometimes by a good deal, sometimes by a few per cent., to reach the last revised goal. This is then seized upon by many unobservant critics as proof that the Plan has failed, whereas in nearly every case the original figures have been attained, if not surpassed.

This is the case here in Nijny. "The First

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Model Communist City" as they call it, is going up at a speed that would do credit to a much less backward country than Russia. It is, however, behind the revised Plan. Construction has been going on now for five months. During that time the foundations have been laid for the assembly plant, 2,000 feet long, a building that competes with the assembly plant in Cheliabinsk tractor factory for being the longest building in the world; the repair, tools and maintenance buildings are up; the personnel employment bureau is about done, and enough permanent dwellings have been erected in the new city to accommodate several thousand of the working force.

The rest of the ten thousand building trades workers are living in a city of barracks. They have their communal restaurants, where the food is considerably better than any to be had in Moscow, their movies and theatre, clubs and reading-rooms, typical of construction camps all over Russia.

Beyond the plant lies the site of the new city, ideally situated near the river, with parks stretching down to its banks, and designed to provide the maximum of comfort and convenience. The blocks of apartment houses are arranged in such a manner that to go from any part of the dwelling centre to any other part, or thence to the restaurant and schools, it will not be necessary to cross a street. This was done for the children.

Besides the dwellings there are being erected a "House of the Soviets," a "Palace of Culture," a museum, a polyclinic and hospital, hotel, shops, garbage disposal plant, bathing-beach, bakery, laundry, garage, railroad station, cold-storage plant, slaughter-house, sport stadium, police and fire-stations, a huge factory kitchen, schools and a crematorium. Within the housing group are communal clubs, nurseries and a kindergarten.

Of all this there have so far been completed two rows of apartment blocks. By December 1931 the city is supposed to be complete for 25,000 inhabitants, and by December 1932, it must be ready to accommodate 50,000.

The construction troubles of the Five-Year Plan are sharply exemplified in Nijny. Lack of labour is the first. This was first actual confirmation of the report in Moscow that there were no more unemployed in the country. It was hard to believe at first, in this country where ever since the revolution the cities have been crowded with jobless, begging or lounging in the streets. It is nevertheless true, and the need for more workmen has become so desperate that here the Government has set aside one of the achievements of the revolution, the eight-hour day, and has introduced a ten-hour day.

Lack of building materials is the second com-

plaint. Bricks, mortar, gravel, steel and almost everything that goes into a building are short. The construction programme of the country has so far exceeded the capacity of the building-material plants that almost nowhere has it been possible to keep fully up to schedule. Transportation delays are blamed to a large extent for the failure to deliver on time what building materials are available. Here, for example, gravel, a material of which Russia possesses billions of cubic metres, should have been supplied at the rate of 700 to 1,000 cubic metres daily, whereas the supply for months averaged from 70 to 100 cubic metres, or one-tenth the required amount.

Twenty-one American engineers of the Austin company, several of them with their wives, are settled here in a colony of bungalows that stands out from the Russian scene with an unmistakable air of "bourgeois" comfort. Their conveniences and food supply are not fully up to American standards, but for Russia their living conditions are luxurious, and for any country tolerable. When the Austin company men move out the Ford men will move in, and for a long time Nijny, or "Austingrad" as it has been nicknamed, will have one of the largest American colonies in Russia.

H. F. Mitre, construction chief, drove us around

the plant. Over the door of the construction office hung a broad sign, "Workers All World Unite," the mutilated Russo-English version of the Soviet Union's traditional challenge to capitalist society: "Workers of the World Unite, You Have Nothing to Lose but Your Chains."

That was for the benefit of a little group of American workmen who drifted into Nijny, some of them all the way from the States, job-hunting. Many of them were Communists.

Down on the river bank a row of barges was discharging stone. Here for the first time I saw genuine coolie labour in Russia. A gang of men, each with a wooden saddle on his back, was toiling up the steep footpath from the barges to the top of the bank, each carrying a load of a hundred pounds or more of stone. They were doing in a week what it would have taken a steam crane to do in a few hours.

The stone was going into a factory that will be a duplicate of the most highly mechanized plants in the world, where no hand lifts a pound of weight that can be lifted by machine, and the conveyor is the coolie for all. It seemed a recapitulation of the hopes that the Five-Year Plan has roused.

Ford has won a very important victory for capitalism in the stronghold of Karl Marx. For years the Soviet press was full of tales of horror about

the "slaves of the conveyor belt," and Ford was a particular object of unmeasured attack just because his working day and his pay made argument for Socialist superiority so difficult. To-day the capitulation to Ford methods is complete and the ambition of the Soviet Tractor and Automobile Trust is to run its plants as nearly like Ford's are run as possible.

Their ambition goes much further. "To overtake and surpass the leading capitalist countries" is the goal of the Plan. The Nijny plant, with all its delays, should be reaching capacity production in 1932. Together with the other two Soviet automobile factories now in existence—the Amo in Moscow that had a production of 2,585 cars this last year and the Jaroslavl plant that had a production of 711 this year—the total production in 1933 of automobiles in the Soviet Union should reach 200,000 according to the Plan. But the Soviet Tractor and Automobile Trust is already talking of the necessity of attaining a production by 1938 of 8,000,000 cars a year. Only thus, says V. V. Ossinsky, president of the trust, can America be overtaken.

We drove back to the railroad station. The crowd of ragged sleepers on the pavement had grown until the whole breadth of the square next the station was littered with dark bodies. Sud-

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denly the crowd inside the station surged violently and a man was propelled from out its midst like a watermelon seed squeezed between fingers. Drunk, he had raised a commotion at the black bread buffet. The police carried him off.

CHAPTER IV

ASBESTOS PIT TWO MILES WIDE WILL YIELD TWICE WORLD'S 1928 OUTPUT

ALONG the 1,100 miles from Moscow to Sverdlovsk there was for sale in five station restaurants nothing but black bread. In six there was nothing on the food counters but cockroaches.

At Viatka, the only wares on display in the stores were floor mats and Christmas candles. Viatka, with a population of 70,000, is called "an important trading centre" in the Soviet guide book.

Here in Azbest, a town so obscure that the Foreign Office in Moscow had never heard of it, so remote that never a Russian newspaper man had visited it, there is a population to-day of 55,000, where two years ago there were 10,000, and this population has more food than all the villages between Moscow and Sverdlovsk, more wares than the "important trading centre" of Viatka. Because, Azbest, obscure and remote as it is, is an industrial centre, and during the Five-Year Plan, Russia's food, clothing, footwear, all she has of

them, are going to the industrial centres, to the places where the important work on the Plan is being done.

There is no question about the black outlook in Moscow. To judge the Five-Year Plan by the capital, one would be inclined to conclude that the Plan's failure is not merely assured but already accomplished. Here, at the outposts, one begins to doubt that impression, and to be sceptical of the Moscow aspect.

About thirty-six miles east of Sverdlovsk and twenty miles north of the trans-Siberian line, Azbest, for all its obscurity and remoteness is a place worth visiting for an investigator of the Five-Year Plan, for within its forest-encircled precincts are contained in fine most of the local factors that are working in favour of and against the Plan, the factors that make Russia under the Plan so contradictory and so puzzling.

From Bajenowa, jerk-water stop on the main line, where the trans-Siberian express trains go leisurely by without slowing down from their thirty-mile-an-hour pace, the way to Azbest leads over a narrow-gauge railroad with a tiny locomotive no bigger than a fair-sized tractor. In the late evening deer bounded off the track and stood snorting in amazement at our absurd little train loaded with several hundred workmen, their wives and innumerable babies, as it puffed along between

dark walls of pine trees and sent showers of sparks hurtling into the night sky.

For two hours we rumbled forward. There was only one candle in the whole train of ten cars. The stars shone so brightly one could peer out and see the utter lack of human habitation along the way. The forest through which we travelled stretches a thousand miles north until its tall trees dwindle to scrub and the Arctic circle. It was easy to believe that the Russians can export timber at a price that incites indignant protests from competitors. Here were the sort of forest riches that were ours a century ago. With every puff of our engine we came deeper into woods that crept further down toward the track, towered taller, bent nearer.

Suddenly, without a warning glow, the train rolled into a blaze of light. The forest vanished to a far horizon, and the bright windows of a city dimmed the stars. In this city of 55,000 there was not a single automobile. There was one American home. A Mongolian pony took us there at a lope, hauling our springless droshky over the deep-rutted roads at shattering speed.

Azbest is unique among the industrial plants of the Five-Year Plan in that it has but one American engineer. The "Uralazbest" trust, however, chose a world authority when it selected the young American asbestos specialist, Walter A. Rukeyser

of New York. It is necessary in any attempt at judgment of the probabilities of success of the Five-Year Plan to regard the quality as well as the number of the American engineers now helping the Soviet Union.

There are now in the Soviet Union perhaps 1,000 American engineers, and at least another thousand Germans, Italians, Czecho-Slovakians, Swedes, Norwegians, British. The quality average of the American quota is unquestionably considerably higher than the general average of engineers at home and among them are many leaders of their profession. Not only have the foremost American firms participated in "technical assistance contracts," but the individuals on the job are usually men of first rank. To get these men the Soviet Union has not hesitated to pay salaries that constitute an attraction even to engineers earning more than a decent living at home.

If these engineers prove able to adapt themselves to the peculiarities of the Soviet system and master its requirements, an ability that does not always accompany engineering talent, they obtain from the Government a surprising amount of support for their work and facilities for their personal comfort. For foreigners at work in Russia the qualities of self-confidence and courage are even more important than technical knowledge. An admitted defect, one of the greatest, of Soviet

industry is the lack of initiative of Soviet engineers, their fear of taking responsibility.

It is a well-grounded fear, for while a mistake in a "bourgeois" country may cost an engineer his job, in Russia, committed by a Russian, it will cost him certainly his job, probably his freedom and perhaps his life. Grounded in the profound conviction that intellectuals must be hostile to the proletariat, the system of supervision, rigorous control and intimidation of the intellectual class, among whom are numbered all persons not manual labourers, has been developed to such a degree that very few Soviet engineers dare to make a decision of any consequence. Of all the more value is it to a Soviet industry to employ foreigners, who, fearless of personal consequences and confident of the correctness of their judgment, are willing to take responsibility, and inject initiative into the job. This has been not the least among the reasons for the tremendous increase in the number of technical assistance contracts let by the Soviet Government. The Government is buying not only brains but courage.

Rukeyser is an excellent illustration of the American engineer successful in Russia. Graduate of Princeton '16, Columbia '18, and with an engineering experience that has touched nearly every continent Rukeyser specialized in asbestos mining, invented a system of processing the mineral, was

quoted in engineering handbooks as an authority, and in 1928 at the beginning of the Five-Year Plan was invited by the Soviet Government to come to the Urals and see what could be done toward putting the insignificant Soviet production on a rational basis. "Rational" in this case, an instance typical of the dimensions of the Plan, meant multiplying the production by ten within five years.

To-day, two years after the first visit of the American engineer, "Uralazbest" is turning out more than twice the production of 1928, more than four times the production of 1913. By 1933 the total production of all the area controlled by the trust, a vast store of more than twelve million tons of high-grade asbestos ore in a single deposit thirty-six miles long, probably will reach 250,000 tons yearly, valued at £5,000,000, one and one-half times the tonnage and twice the value of the whole production of the seven largest mines in Canada, now the principal source of this indispensable industrial product for the world. The production of asbestos in the whole Soviet Union in 1913 was 13,762 tons; in 1927 it was 26,000 tons, and in the year just closed "Uralazbest" turned out 56,000 tons.

This production has still to be multiplied by five to reach the figure of the Plan, but the conditions are given for success. Previous to Rukeyser's arrival the mines had been worked separately, some of them open cut, some of them deep

mines. The American's scheme, appealing greatly to the Russian's love of the gigantic, was to turn the whole central part of the district into one huge open-cut mine, two miles in diameter, spiralling down. It will be far and away the largest asbestos open-cut mine in the world.

The Russians are enthusiastic, the project is under way and output is mounting at a pace that promises to put this forest city at the head of the world's asbestos producers. In 1923 Canada produced 273,865 tons, valued at £2,312,346; South Africa, 23,584 tons, valued at £404,321; Rhodesia, 39,000 tons, valued at £199,588, and Cyprus, 16,000 tons, valued at £72,016, a world total outside of Russia of 352,449 tons, valued at £2,988,278. If the Five-Year Plan for "Uralazbest" is realized it will mean that in 1933 these mines will have a production valued at nearly twice that of the entire world production in 1928.

Figures such as these sound fantastic. In Moscow it is easy to dismiss them as "Soviet statistics." Here in Azbest they are easy to believe. A day spent in a tour of the mines almost forced conviction. Thirteen thousand men working in seven-hour shifts the clock around are mining 10,000 tons of rock a day. Chasms like Western American canyons sink deep into the ground, and in their depths steam shovels dig mountainous mouthfuls. From cable conveyors fall incessant

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streams of ore on cars. The mills run night and day. Fourteen new electric shovels are on their way, and 200 new ten-ton cars.

Forty million roubles are being spent in the next twelve months on plant and equipment. Three new mills, each larger than any other in the world, are scheduled. An electric power plant of 36,000 KWH capacity is under construction. The railroad is being converted into broad gauge. A brick factory here is producing 5,000,000 bricks a year for the new buildings. With complete mechanization of the mines and mills, one-half of the number of workers will turn out five times the production.

Not everything is rosy. The struggle to raise the quality of production is hard. The workers cannot be persuaded to keep wood out of the mines and mills, and wood fibre mixed with asbestos reduces its value greatly.

The first new mill was burned down before it had begun to produce. They found gasoline in the fire buckets. Three Soviet engineers were shot. A new mill, built by a German firm inexperienced in the technique of handling asbestos, and against the advice of Rukeyser, has failed to meet specifications, is inefficient and costly and will have to be remodelled. The Soviet technical director who approved it and a group of his assistants are sitting in a G.P.U. jail.



One corner of the immense open cut of the asbestos mine at Azbest, in the Urals. This mine will produce as much asbestos as the seven largest mines in Canada, which are the chief source of this material for the American market

Here was one of a series of innumerable examples of the competition that has gone on between American and German engineers all over the Soviet Union ever since the Five-Year Plan began, and the outcome, like that of Colonel Cooper's victory over the "Bau-Union" for the building of the great Dnieprostroy project, is typical. The Soviet Government, at first inclined to favour German engineers, for one reason because so many Russians had studied in German universities, has gone over almost without reserve to preference for Americans.

Because of these difficulties "Uralazbest" is a fraction behind the Plan this year, minus 6,000 tons of the production scheduled. Because of Rukeyser, the losses incurred are rapidly being made good.

This example is cited as an instance of successful co-operation between the American "technical assistant" and the Russians, and as an important factor in judging the probabilities of success of the Five-Year Plan. How mounting production figures work out for the American who helped them mount is shown by Rukeyser's living conditions, considerably better than those of any American in Moscow. No American there has his own house. Rukeyser has a six-room villa, two high-grade saddle horses, a kitchen supplied with food in quantity and quality superior to that available for the Diplomatic Corps in the capital, all

furnished by the trust. Nine months of the year he is obligated to stay on the job; three months are free for America. The three months are needed. In the summer the charming Mrs. Charlotte Rukeyser is with him, but in the winter, when she is in America, the American engineer at Azbest is the only English-speaking person within a hundred miles. Helping the Soviets put over the Five-Year Plan is no job for an amusement seeker.

The population of Azbest is not amused, but it is a great deal nearer to being satisfied than is that of Moscow. When the "Azbesters" go home from their seven-hour shift they find decent lodging in the rows of brand-new apartment houses that stretch out fanwise from the lake in the centre of the town. An Azbest family has a minimum of one room. Muscovites consider themselves lucky if they have only two families to a room.

A hospital with 120 beds and a polyclinic with sixty beds, with a staff of physicians, have been installed for the people who once had to travel all the way to Sverdlovsk for a doctor. Their "House of Culture" has just been completed at a cost of 1,200,000 roubles. In Azbest they do not need to worry about fuel; there is enough for a century of winters at their backdoors, though Moscow freezes.

We visited the co-operatives. There were shoes for sale, boots and rubber galoshes, cloth, coats

and household utensils. There was meat for sale, beef, lamb, mutton and pork.

Comparison is the only means of judging standards. Compared with American conditions the Azbest workers are living miserably, are wretchedly paid. The men receive an average of 90 roubles, at par £9 7s. 3d. a month; the women 35 to 40 roubles a month. All work is piece work. The same type of labour is remunerated at £1 os. 6d. to £1 8s. 10d. a day in Canada.

Compared with Moscow, the food and living conditions in Azbest are so much better that the "desperation point," so frequently feared in the capital, is not even within sight. Compared with the industry's previous production its output has doubled. Compared with the "control figures" the speed of increase of production is a bare 9 per cent. behind. In Azbest the Five-Year Plan seems to have an excellent start.

CHAPTER V

THE RAILROADS

IMAGINE Times Square at 5 o'clock in the afternoon and every man of its tens of thousands with a grand piano and a teakettle strapped to his back, and you have some idea of what the railroad waiting-room is like in Sverdlovsk. It came near to costing the life of one American correspondent.

The danger lay in standing near the doorway that divides the great hall in two huge rooms. In each of them were perhaps 500 peasants, sprawled upon the cracked tile floor, heaped in family lumps, sleeping with their heads in each other's laps, their feet in each other's faces, their snores resounding in an atmosphere thick as goulash. The grey mass of them covered the two rooms from one end to the other, and a path just wide enough for one person unencumbered with baggage was left for passage through the station.

Suddenly a train came in. It is always sudden when a Russian train comes in, for not even the stationmaster knows when it is coming. The news aroused the sleeping masses to a frenzy. Five hundred men, women and children leaped to

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their feet and, gathering up their odds and ends of mattresses, chicken coops, bedsteads, buckets, rope and other paraphernalia that every Russian traveller carries, prepared to go and get on the train.

At the same moment 500 other persons, with an equal quantity of chests, quilts, crockery, accordions, chairs, carpets and livestock, got off the train and entered the station. The two armies met at the dividing door.

For a moment they mingled, then, as the current from behind pushed the leaders on, they locked, froze, crystallized in a human log jam. All forward movement stopped. The torrent in the rear spread out, overflowed the station and in a moment both waiting-rooms were two deep in peasants. The ones underneath were those who hadn't had to catch that train and were still lying on the floor.

A bellow went up. "Comrade!" yelled everybody at once. "Comrade! Get out of the way!" "Comrade!" screamed the erstwhile sleepers. "Comrade! Get off my face."

Blood might have flowed had any person in the crowd had his hands free. But of all the thousand every single one was struggling with his baggage.

The pressure increased. A huge peasant, towering a good six feet four inches and bearing on his back a bag so large and so queerly shaped that it might have contained a small horse, had stood the whole while near the front without moving. His

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gigantic shoulders bent under their burden. A woman cried, the huge peasant straightened up, and with a roar, "Comrades! Gangway!" plunged forward.

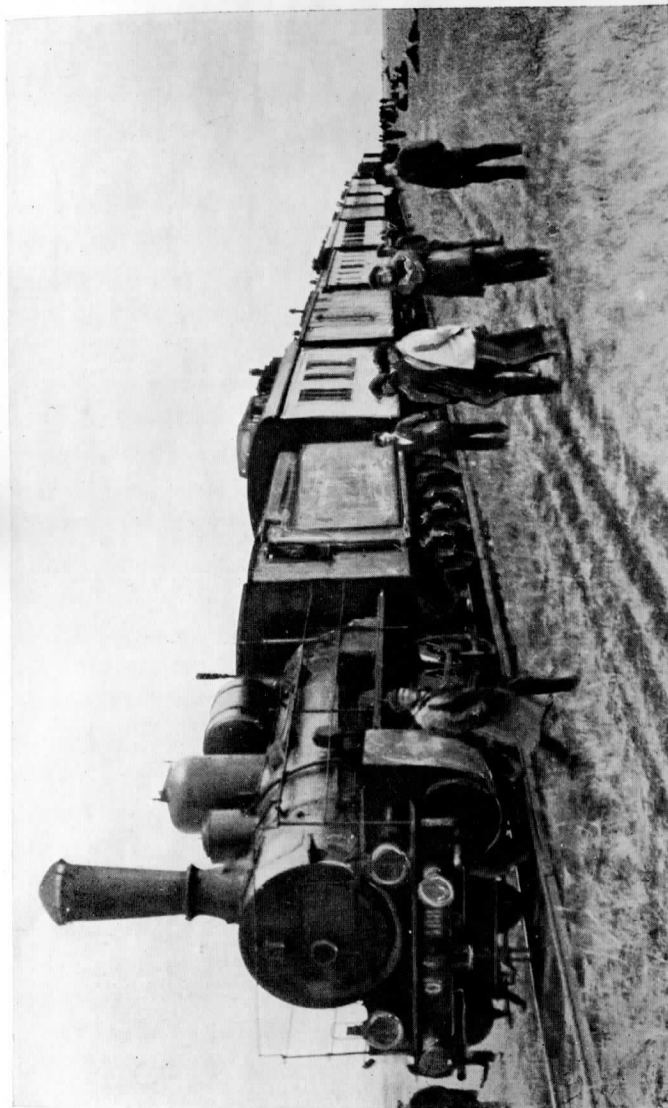
He was the keylog. It broke the jam, and in half an hour the station was again empty of all but its customary 1,000 sleepers, quiet enough for mothers to feed their babies with black bread from the family loaf.

No one who has not observed it can credit the density of the passenger traffic on the Russian railroads to-day. To board a train anywhere in Russia is a feat negotiable only by a strong and resolute person. To travel is not a task. It is an affliction. To obtain tickets is an occupation that may take a week.

This does not apply to the international beaten paths, to the routes with "wagon lits." With the assistance of the Soviet travel agency "Intourist," on these routes the traveller going first class may obtain sleeping-car accommodations as comfortable as anywhere in Europe. It does apply to all the rest of Russia, and that means nearly all of it.

The immense activity set going by the Five-Year Plan is the first cause of the abnormal traffic. The second cause is the deficiency of the railroads. And the railroads' deficiency, in turn, is blamed in good part on the abnormal traffic.

Here, on the worst railroad in the Soviet Union,



Breakdown on a Russian railway. Passengers are killing time by lying on the grass

admittedly, even proudly admittedly the worst, on a train that takes two days and three nights to travel 1,000 miles, that goes for hundreds of miles at a speed of five miles an hour and stops for hours in the midst of the steppe to rest the locomotive, seems a good opportunity to discuss the transportation plan of the Five-Year Plan.

This railroad is the only transport link between the outside world and Magnetogorsk, the gigantic steel plant now being built in the heart of the Urals, 1,000 miles south of Sverdlovsk, 180 miles inside the Ural Range. That plant has just been started; and this railroad, or the section of it from Troitzk to Magnetogorsk, has just been laid.

The successful completion and operation of the Magnetogorsk plant depends directly upon the efficiency of the railroad. The railroad from Kartali on has been laid flat upon the steppe without an ounce of ballast. A new road, it naturally is not comparable yet to the Pennsylvania. But the quality of the locomotive is appalling.

At one point in the middle of the steppe it broke down and for two hours the engineer and firemen worked at a repair that probably has seldom been performed *en route*. They unbolted the entire front of the fire-box, and while the passengers lay around on the fields, kicked tin cans about, or stood and chaffed the perspiring pair, they raked out ashes that must have been accumulating for months.

The locomotive, a Russian machine, was manufactured in 1908. That the Soviet railroad system should still be forced to use locomotives twenty-two years old gives a fair idea of what the condition of their rolling stock is like. It recalls the fact, also indicative of Soviet standards, that among a train crew of fifteen men on the famous trans-Siberian express from Moscow to Sverdlovsk there were but two watches, one belonging to the engineer, one to the head conductor. The cook in the dining car explained he could not boil eggs any way but hard because the conductor would not lend his watch and the engineer was too far away.

This train is made up of ten passenger cars and four freight cars, the freight cars also full of passengers, all of them engineers and workmen bound for Magnetogorsk. There is a total of thirty engineers and 200 workmen. By the loss of thirty hours above a normal travelling time from Sverdlovsk to Magnetogorsk, the Soviet economic system has lost 900 engineer hours and 6,000 worker hours, a good part of which might have been devoted to the work for which they have been employed. This is only an item. "Magneto-stroy" has promised them their wages from the moment of their employment, whenever that may have been in any part of Russia, and the time lost is not their time.

With the old samovar finally in order, off we

trundled again, at a speed so great that one would have had to dog-trot to keep up. At long intervals across the steppe we passed a Kirghiz village, its four or five dome-shaped "Jurts" built of ancient patch-work canvas. A lone cowboy gazed with his herd of horses at our limping progress, speedy in his eyes. We, too, appreciated better our velocity when we passed a droshky drawn by oxen, the only slower means of transportation than ours.

We stopped for two hours at Anninsk, a tiny village distinguished as Russian by its church. The passengers leisurely climbed down and dispersed, some to the "kipyatok" for tea, others to watch a brown bear chained to a log, others to search the local restaurant for food. Anninsk proved totally barren of any nourishment save two bottles of fermented mare's milk offered by a tattered Kirghiz woman.

At dusk we reached the railroad construction camp, "Jabik," consisting of a dozen box cars jacked up off their wheels and fitted out as lodgings for the workers. On a siding stood a handsome coach, clean windowed, remarkable in its spruce tidiness. It was marked "Club Car, hours from 11 A.M. to 7 P.M." This, it transpired, was a travelling theatre and club for railroad hands, financed by the railroad trade union, and sent around from camp to camp, in one-night stands,

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to make the lives of men at isolated posts more tolerable.

Each camp receives a visit from a "club car" an average of once a month. Each car carries fifteen actors and actresses, singers, reciters and vaudeville artists, who do an average of 200 performances a year. They have their quarters in one-third of the car; the other two-thirds in the day time is a club-room with chess, checkers, phonograph and radio, and at night serves as the theatrical stage and auditorium.

The club car is intended to raise the morale of the railroad workers. How badly they need moral support may be gathered from some of the comments on the transport system contained in current issues of the Soviet press. Statistics for the year just ended are now available, and they show that during the last twelve months on the 52,000 miles of railroad in the Soviet Union there were nearly 30,000 accidents so serious that 1,000 lives were lost and 2,000 persons maimed for life.

The number of wrecks increased by 50 per cent. over last year, the number of killed by 300 per cent. and the number of locomotives and cars wrecked by 100 per cent. In the month of August alone there were 2,249 serious wrecks in which 133 persons were killed, 254 seriously injured, 384 locomotives and 1,638 cars wrecked beyond repair. One-fourth of all the locomotives in the Soviet

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Union were out of repair this year as against 11 per cent. last year. During all of last year 1,920 locomotives broke down in transit, while in one month, February, of this year 1,220 broke down in transit.

Most important are car loadings. They should average not less than 63,000 daily according to the plan; actually they are around 47,000. All these are official Soviet statements.

Worst of all is the effect of this weakness of the railroads upon the country's distribution of the necessities of life, and the necessities of the Five-Year Plan. On one day of September the Commissariat of Transport checked up and reported that 1,120 freight cars loaded with goods and 1,803 cars loaded with grain were standing in the yards of Leningrad Port waiting to be unloaded, and had been there for weeks.

The congested condition of the Leningrad yards had made it necessary to sidetrack cars bound from Moscow to Leningrad and keep them standing sometimes for days in way-stations hundreds of miles from their destination.

Because of this the cities lack food that is available in the country. Because of this Soviet industry cannot distribute its production nor obtain on time the raw materials, the fuel and equipment that it needs.

Notwithstanding these gloomy facts, it is true

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that during the year just closed the Soviet railroad system loaded an average of 9,500 cars more per day than it did in 1928-29, or about 3,500,000 more cars in the year. The railroad system has not yet actually receded in accomplishment; despite all its failure, it has kept ahead of its own past records, but it has not been able to keep up with the Five-Year Plan.

Once before the Soviet Union had a disorganized railroad system, much worse than it is now. During the great famine of 1920-21 there was food enough in the country, but it could not be distributed. Lenin wrote: "Unconditional subordination to a single will is essential for the success of railroads." Too late to avoid the famine. Felix Djerjinsky was made dictator of the railways. He created order out of chaos, made a system out of Russia's rusting tracks. To-day the Five-Year Plan is threatening to submerge the system. Not famine, but industry, imperatively demands improvement. Djerjinsky is dead. Have the Soviets his successor?

CHAPTER VI

A STEEL PLANT TO SURPASS GARY OUTPUT

SUPERLATIVES are characteristic of the Soviet Union to-day.

Therefore it was only natural that the "worst railroad in the world" should lead to the largest construction camp in the world, at the base of the most highly concentrated deposit of iron ore in the world, which American engineers, operating under the biggest contract ever closed in engineering history, are helping to turn into what is planned to become the greatest steel centre on earth.

Here, in the remotest depths of Russia, 180 miles inside of Asia, at the steel heart of the Five-Year Plan, is being forged industrial destiny for the Soviet Union.

The investment by the Soviet Government of 800,000,000 roubles in the construction of the plant makes it beyond comparison the most formidable single industrial undertaking in the Plan, four times larger, in fact, than the largest, the hydro-electric development, "Dnieprostroy."

Magnetogorsk is the Gary of Russia, now in embryo. It is an impressive embryo, most impres-

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sive of all the industrial enterprises visited on this trip, most productive of reflection on the meaning of the Five-Year Plan to the "bourgeois" world.

Our old "samovar" pulled in to Magnetogorsk at 3 o'clock in the morning, eleven hours late. In the East rose a mass of rounded rock, black against the sky. From behind the dark outline of Magnet Mountain, dawn threw blue shadows across a wide plain. Along its western extremity a range of purple hills framed the valley steppe. Beyond them lay Europe.

A little more than a year ago there was of human activity in Magnetogorsk exactly nothing. It is useless to look for Magnetogorsk on an ordinary map, for none but the very largest and latest Soviet maps show the location of the city that is intended in three short years to become the largest steel centre in the world outside of America. Very old chronicles record that the vicinity here was mistrusted by travellers because it set their compasses to twirling. Well it might, with 275,000,000 tons of 62 per cent. pure magnetic iron ore. No watch will run accurately in Magnetogorsk. The mountain is three miles long, two miles broad and 1,000 feet high, and from top to bottom it is one solid mass of magnetic iron, the pure metal cropping out at innumerable places on the surface. It has no known rival for size and richness of deposits.

No correspondent from abroad had ever seen it.

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In Moscow the wisecracks of the Plan said there was no use visiting Magnetogorsk; the project only existed on paper.

We drove through a settlement of 35,000. Jolting over roads that tested to capacity the springs of the company agent's Ford, we passed blocks of tents and barracks. Lights showed. Men stood yawning before their flimsy households. The early shift was waking.

Day broke, and as we mounted higher up the mountain-side the panorama of Magnetogorsk spread out before us. Six miles long and three wide lay a belt of structures, tents and excavations, brick-red, white and steel-black against the bleak grey surface of the hard steppe. It might have been headquarters for a convention of circuses or the bivouac of an army. Tents by the thousands, each large enough to accommodate a squad of men, alternated with flat barracks of double-walled pine lumber stuffed with clay. Gaping foundation sites, forests of scaffolds, stacks of railroad ties, an occasional set of brick walls showed where were to rise the blast furnaces, steel mills, power station, chemical factory and railroads to make of Magnetogorsk the steel capital of the Red World.

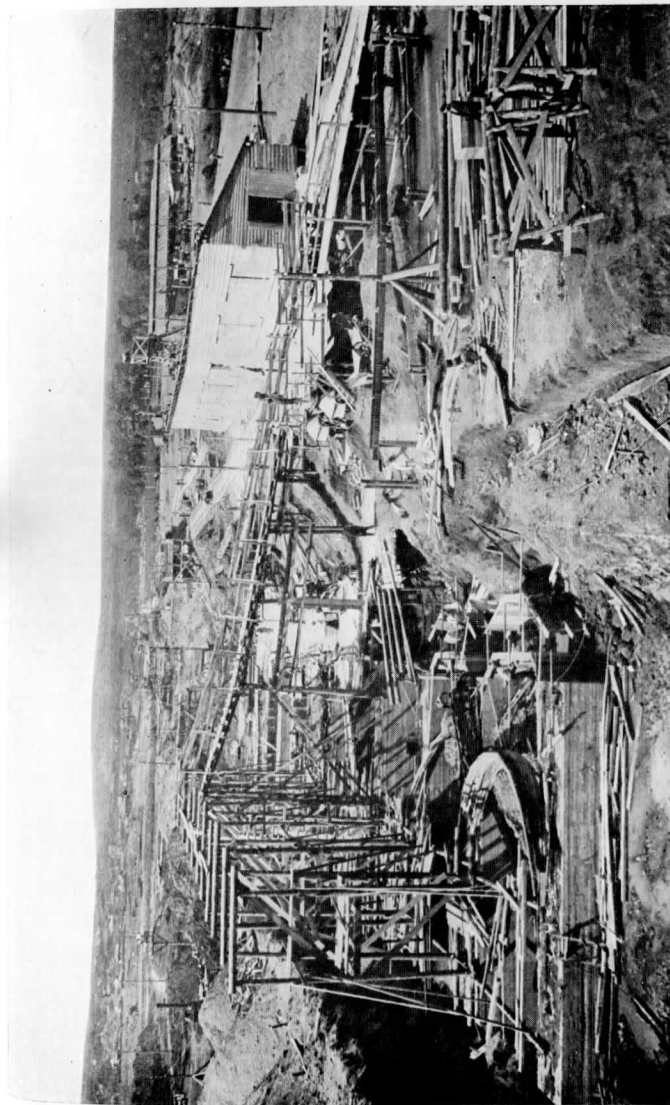
It is literally the biggest construction camp on earth, say the engineers of the Arthur G. McKee Company of Cleveland. Nineteen of them, with Max MacMurray of Cleveland at their head, are

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here, living in a colony of cottages at the foot of the mountain in a quarter of the town called "American City." They enjoy all the advantages Magnetogorsk has to offer. Food, lodgings, heating are adequate, but with it all Magnetogorsk, to put it mildly, is no pleasure resort. In this Northern Asian climate on the bare Ural steppe it is one of the most desolate, forlorn spots on the face of Russia. In winter it could vie with the famous penitentiary settlement, Solovetzky Island, in the White Sea. Mrs. MacMurray is the only American woman to stick it out after the first snowfall. She and her two children are going to see what it is like this winter.

To make up as much as possible for the unavoidable hardships of living here, the company management has done everything in its power to keep the cuisine of the American restaurant good, their lodgings comfortable. Breakfast of roast beef, quantities of butter, wheat bread and coffee proved that the food shortage would not be allowed to touch the foreigners.

The McKee contract is not only interesting because of the dimensions of the task, but significant for the history of the evolution of the Plan as a whole. Certainly, no American engineering firm dreamed that it would get the biggest contract it had ever handled because the Mukden Government had arrested a group of Soviet administrators of



For the industrial water supply of Magnetogorsk, this dam has just been completed under the direction of American engineers. Magnetogorsk, when completed, will be, according to the Five-Year Plan, the second largest steel plant in the world

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the Chinese Eastern Railway. Yet it was this threat of war that changed the plans of the Kremlin, led to the slogan, "The Five-Year Plan in Four Years," and inspired the birth of a far greater Magneto-gorsk than had been thought of. The original project for Magnetogorsk called for a plant to produce 650,000 tons of iron and steel a year. Mukden caused the plan to be quadrupled.

Instead of doing it on their own, or with merely auxiliary help, the Soviet Government signed a contract with the McKee company obligating it to take over the responsibility for construction of a plant that within two and one-half years would have a capacity of 2,500,000 tons, in three years a capacity of 3,000,000 tons, and would be capable of expansion to a capacity of 4,000,000 tons. Gary, Ind., the world's largest steel-producing centre, with an annual production of about 3,400,000 tons, as the Soviets insist on pointing out, was built in twelve years.

The Magnetogorsk project is a decisive one for the Plan. On the production of iron and steel rests the whole further development of Soviet industry. Not only for its intrinsic importance, but because it has become the symbol of the magnitude and high ambitions of the Plan, its success is of critical importance to the Government. For this reason it is receiving favoured treatment in financing and in the distribution of materials. Even for

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the Five-Year Plan, 800,000,000 roubles is an enormous sum, equal to more than 1 per cent. of the total capital investment in the Plan over a period of five years. And for these reasons also foreign observers, conscious of the significance of Magnetogorsk as an index to the success of the Plan, are anxious to obtain reports upon the progress of the work. Few such reports have been issued by the Soviet authorities, and foreign scepticism of the possibilities of success is great—everywhere except on the part of the foreign engineers actually present in Magnetogorsk, the only outsiders until our visit to have an opportunity for personal observation.

The record of this observation shows an astonishing amount of construction during the few months that have elapsed since work began in July of this year. The first completed job has set a record for speed. In approximately four months the Ural River has been spanned with a dam three-quarters of a mile long, containing 40,000 cubic metres of ferro-concrete. Fifteen hundred men, working in three shifts of eight hours each, twenty-four hours a day, spurred on by piecework pay, premiums, and all the arts of propaganda, have built this dam, according to Jack Clark, the American engineer in charge, as speedily and as well as it could have been built anywhere in the world.

Its construction was essential as a first step in

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order to supply industrial water for the plant. Its completion means that next spring the thin rivulet of the Ural will be replaced by a lake eight miles long and a mile and a half wide.

Methods of so-called "Socialist Competition" employed in stimulating the workmen at Magneto-gorsk are recommended to students of applied, not theoretical, socialism. Least effective is the propaganda, such as that contained in the two huge banners stretched across either side of the dam, one reading, "The Right Bank Must Be Through First," the other, "The Left Bank Must Be Through First." More effective are the premiums. In the *Magnetogorsk Workers Gazette*, on the day of our arrival, appeared a front page announcement that the entire crew of dam workers were to receive two weeks' extra pay and fifty selected workers free trips to the Caucasus for completing the dam on schedule.

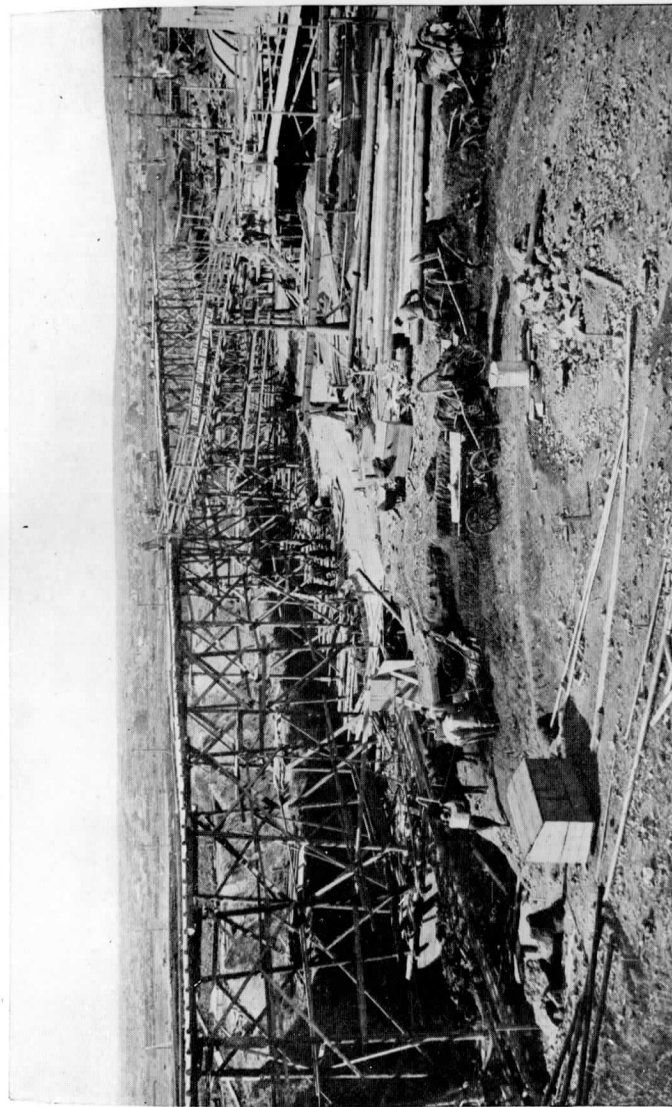
Finally, piece-work payment originally condemned by Karl Marx as one of the more devilish inventions of capitalists, and still cursed by Communists of Germany and America as one of the instruments for bleeding the working man, is the most effective speed-up method and has become the backbone of the labour policy of the Soviet Government in its attempt to put over the Five-Year Plan. It is universally and exclusively used in all construction work throughout the country. The average pay

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of workers on the Magnetogorsk dam, according to the Soviet engineer in charge, is five roubles a day. But, he said, the exceptional industry of some workers has raised their income to twelve roubles a day.

Besides these well-tried devices for obtaining labour efficiency the Magnetogorsk project enjoys a high degree of mechanization. American machines were plentifully in evidence at the dam. A nine-ton steam pile-driver, batteries of steam shovels, concrete mixers, pneumatic drills, and towering scaffolds bearing powerful searchlights were all the best that money could buy.

In a Soviet automobile, strange, high-wheeled product of the factory "Amo," we rocketed over the road from the dam to the plant site, topped a hill, and there was Asia incarnate. Bashkir, Kirghiz, Cossack and Russian peasants, a thousand at least, were gathered to trade with the invaders of their prairie home. Their low-slung carts and Mongol ponies covered an area of six city blocks. The bazaar did a thriving business in meat, milk, eggs, butter, in all the commodities that are rationed. The prices were indicative of the constantly observed fact that on the important industrial salients food is much more plentiful and cheaper than in Moscow or any of the larger cities. Meat was 80 kopecks a pound; butter, that cost 10 roubles a pound in Moscow, was 4 here; eggs, at 2 roubles for ten.



Scores of American excavators, engines, pile drivers and a staff of American engineers helped to build this dam containing 40,000 cubic meters of ferro concrete at Magnetogorsk. Completion of this dam within five months after it was begun constitutes a record for speed

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Koumiss, the fermented milk of mares, a Kirghiz specialty, was a delicacy available in large quantities by the flask, the glass or the saucer.

Cries of Oriental bargaining died away as we careened across the hills and neared a large excavation in the midst of which rose a tower. "That," declared the engineer on duty as guide, "that is the tallest thing made by human hands in Asia." It was an American tubular tower of a type familiar in concrete construction work in the United States. Pointing a seventy-metre finger at the sky, it might well have been what the engineer called it. Its erection marked the site of the electric power station, a plant of 236,000 KWH capacity, a block long, half a block wide, 180 feet high, with turbines to be run by coal from the Kuznetz basin and gas from the Magnetogorsk coking ovens.

The ferro-concrete foundations of the power plant were completed in three weeks, and by winter the entire framework and roof are to be done. Four hundred and fifty men are working on the building of the electric station in two shifts. This, too, was at "American tempo," although with the construction of the power plant the Americans have nothing to do.

They have everything to do, however, with the huge blast-furnace plant. For half a block we walked down a plank causeway into the centre of what is to be the largest single unit of blast furnaces

in the world. Foundations were already dug and a river of concrete, 500 cubic metres daily, was pouring into them from the pipe lines of a modern American automatic mixing plant and distributor. Four hundred men on three shifts, twenty-four hours a day, are now on the job, and their number will be doubled or tripled at the beginning of the next building season with the end in view of having two blast furnaces working by October 1, 1931.

There are to be in all eight blast furnaces, each 100 feet high, each with an interior capacity of 1,180 cubic metres and a daily production of 1,000 tons of iron apiece. In America there are but eight blast furnaces as large.

With the Soviet system of a 365-day working year these eight furnaces should turn out close to 3,000,000 tons annually.

The same picture of intense activity, of indubitable progress in construction was evident at the sites for the coke and gas furnaces, and the Bessemer and open-hearth converters. Three Bessemer are projected, with places for four more, and the Plan calls for fourteen open-hearth furnaces.

Even with the wretched railroad that momentarily so illy serves Magnetogorsk, the supply of building materials, though not up to all the needs, is more ample here than at nearly any other large construction site. The principal shortage is of

labour. It became increasingly evident that the Soviet assertion that there is no real unemployment in the country has a solid basis of fact. So keen is the demand for labour of all sorts, skilled and unskilled, that the various large trusts throughout the country have fallen into cut-throat competition with one another. Magnetostroy, for example, sends recruiting agents all over Russia, pays the wages of recruits from the moment of their employment, plus their railroad fare to Magnetogorsk and a sum for living expenses *en route*. With all this, the labour force, now numbering around 20,000, is 10,000 less than requirements.

Principally because of this fact, construction to date is somewhat behind schedule. The Soviet authorities, represented by Jakob Pavlovitch Schmid, chief executive of Magnetostroy, blame the delay, however, largely upon the failure to receive plans on time.

One of the great drawbacks to Magnetogorsk as a steel centre is its distance from adequate sources of fuel. The plan is to take coal from the Kuznetzk basin, 1,500 miles further east in mid-Siberia. To this end a direct railroad line, Kuznetzk-Magnetogorsk, is being built, and to reduce somewhat the expenses of the long haul, other steel plants are being built in Kuznetzk, so that the cars carrying coal to Magnetogorsk will return to Kuznetzk laden with ore. This railroad is scheduled to be

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completed in October 1931. Fuel costs will nevertheless be high.

Schmid reckons that the cost of construction of the plant will be 20 per cent. higher than it would have been in America, reckoning the rouble at par. He declared, however, that production costs of iron and steel at Magnetogorsk would be much cheaper than production costs in the old Soviet plants, and that they expected to have an average cost here of thirty roubles a ton of cast iron against forty-eight roubles a ton for iron from existing Soviet plants. Rails, he said, would cost to produce about 56 roubles a ton against 110 roubles now, and high-grade structural steel 78 roubles against 110 to 115 roubles now.

The problem of skilled labour is one of the most difficult here, as elsewhere throughout the various industries, of the Plan. Schmid answered it by declaring that from next January on there are to be opened in Magnetogorsk a series of technical high schools that will prepare several thousand workmen, while other thousands will be taken from existing steel plants, and a group of the highest class workmen will be sent to American mills for training. The McKee Company is obligated to remain on the job long enough to set the plant in full operation.

There is no doubt in the minds of the American engineers at work here that the Magnetogorsk

A STEEL PLANT TO SURPASS GARY OUTPUT

plant will be finished very nearly on time, and that by October of next year the first two blast furnaces will go into operation, and at short intervals thereafter more furnaces will be installed until all eight are working by the end of the Plan. This view, qualified only by the condition that unforeseen contingencies be barred, could hardly be avoided by any observer of the progress already accomplished. What the results will be after the plant is done, how profitable and how productive it will be under Russian operation, are other questions that only experience can answer.

Darkness had settled over the steppe long before our tour of places and personalities in Magnetogorsk had ended. Only the hills of the Ural Range still showed a light-blue fringe from the vanished sun. The mountain, with its burden of magnetic ore, had set our watches all awry, but it was near 8 o'clock. The sides of Magnetogorsk suddenly sparkled with a brocade of lights. The sixty testing stations had lit up for the night to burrow deeper with their diamond drills for more secrets of the mountain's heart. The flood-lights on the dam and buildings flared in brilliant blotches on the city's site. The night shift was on.

CHAPTER VII

CHEMICALS AND STEEL AVAILABLE FOR ARMY OF MILLIONS

TAKE a globe and seek the most impregnable area on the earth's surface. You will find that on all the continents there exists no one spot so securely protected as the Ural valley-steppe. It is 2,000 miles from the nearest European frontier, is bounded on the north by a thousand miles of forest and the polar regions, and on the south by the deserts of Central Asia, the mighty ranges of the Hindu Kush. Encircled by its own mountains, divided by great distances from the outside world, the Ural valley-steppe represents a natural fortress without a peer.

When White armies were knocking at the gates of Red Moscow, Lenin said, "If they take the city the Soviet Government will retire to the Urals." At that time retirement to the Urals meant mere refuge behind the miles. To-day it would mean retirement to the scene of vast industrial development. To-morrow it would mean retirement to the stronghold of a military industrial complex capable of supplying an army of millions with all the munitions of war from the raw ore to the

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finished steel, the tanks and guns and chemicals of the future conflict.

Standing here in Cheliabinsk in the midst of the fast-growing walls of the largest tractor plant in the world, one is irresistibly reminded of the remark of *Izvestia*, official organ of the Soviet Government, that "the manufacturing of a tank and a tractor have a great many points in common. Even artillery, machine guns and rifles could be manufactured successfully in the commercial factories."

National defence has played a very large rôle in the Five-Year Plan, not only in its inception, but in its geographical arrangement. It must have struck any observer of the Plan that some of the largest projects were laid out at spots where no industry had previously existed, where no population lived to absorb the products of industry. Partly this aimed at a more rational distribution of the population, partly it depended upon the presence of natural resources, and partly it was brought about by considerations of a military nature.

The Ural-Siberian complex of industries has probably been more affected by the last set of considerations than any other geographical section of the Plan. Magnetogorsk, Cheliabinsk, Kuznetzk, Kizil, Nijny-Tagil, Bereznikov, Bakal, Chasavaya, Karagadar, these strange names may one day have a more familiar ring to foreign ears. To-day they

THE SOVIET FIVE-YEAR PLAN

spell coal, iron, copper, steel, electric power, tractors and chemicals.

The Urals have their own Plan within the Five-Year Plan. This year they produced 800,000 tons of iron and steel, and next year will produce 1,100,000 tons.

In 1933 six to seven million tons of steel and eight million of cast iron is the goal of the Plan, revised several times upward. Magnetogorsk will lead them all, but Nijni-Tagil and Bakal plants will help to bring the Urals' share of Soviet iron and steel production to 50 per cent. of the output of the entire country. Coal from the Kuznetzk basin, from Kizel, Chasavaya, Karagadar; copper from the Bogomolov smelters; aluminium from Alapaevsk; nitrates, sulphuric acid, potash, phosphates, from Bereznikov, Saldinsk, Solikamsk, and tractors from Cheliabinsk are all elements in the Ural Plan. All fall under *Izvestia's* remark that "we must pan all the metal industries in such a manner as to guarantee the production of the necessary amounts of arms and munitions."

Most immediately convertible into military purposes against that attack by the capitalistic world so implicitly believed in by the Bolshevik prophets of evil would be the tractor factory now under construction here in Cheliabinsk. Its products, 50,000 10-ton 60-horse-power caterpillar tractors a year, are so similar to tanks that they are in fact called

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"tank-type." Despite its size and its significance, the Cheliabinsk plant had never been visited by a foreign correspondent.

Dimensions of the plant are impressive. The assembly building is the largest building in point of area in the world. Six hundred and forty-four yards long and 196 yards wide, covering an area of twenty-six acres, the assembly hall could contain twenty-one American football fields with enough room left over to provide dressing rooms for the players. The foundry, 336 yards long by 276 yards wide, would accommodate fourteen football fields, while the forge, 295 yards by 184 yards, would harbour nine.

Even more impressive than figures is it to stand at one end of the assembly plant and look down toward the other end, along an uninterrupted line of concrete foundations a third of a mile long. "There," pointed John K. Calder of Detroit, chief of construction at Cheliabinsk, "you see that horse and wagon crossing the road? That's the end of the building." The horse and wagon were mere specks against the brown earth of the excavation.

It is difficult to get a panorama of the Cheliabinsk plant, for its size is too great to be embraced by a single view, and there are no elevations from which it can properly be seen. To take it all in it is necessary to walk for an hour around the site, as I did, with Calder, talking of the work in

progress, its prospects and his experiences in the Soviet Union.

Tall, moustached, tight-lipped, handsome, Calder is the sort of figure of an American that springs to mind when one thinks of picturesque feats of engineering in far corners of the earth. One of the first American engineers to come to the Soviet Union to work under the Five-Year Plan, he brought with him a rich experience in industrial construction in America. His first job was the Stalingrad tractor plant. He completed it in six and a half months, far ahead of schedule. This accomplishment, his candour and fearlessness were factors that have won him the distinction, shared among Americans only by Colonel H. L. Cooper, of being one of the very few foreigners who are called to personal conferences with the inaccessible Joseph Stalin. His personality is worth dwelling upon as an example of the type of American engineer helping to put over the Plan.

With Calder at Cheliabinsk are Henry Hendrickson of Cleveland, J. K. McElroy and R. D. Spencer of Detroit. These three with the Calder family make up the entire American colony here.

The first spadeful of earth was turned on the Cheliabinsk plant July 20, 1930, at a ceremony where Calder was called upon to speak, from a platform red with slogans of the revolution, between members of the Young Communists International

bearing drawn sabres symbolic of the war for industrialization.

In a few months since ground-breaking they have excavated 600,000 cubic yards of earth, poured 12,000 cubic metres of concrete, completed the foundation and could have erected the steel work if the material had been on hand. Shortage of steel, of which 32,000 tons are needed to complete the factory complex, is the chief complaint at Cheliabinsk. The Magnetogorsk plant will be depended upon to produce the steel for the manufacture of the tractors, but Magnetogorsk is not scheduled for completion in time to contribute to the structural steel needs of Cheliabinsk.

Lack of labour has also played a rôle in obstructing progress. There are now at work on the whole project, including the construction of the workers' city, 12,000 workers, of whom 2,000 are working on the factory buildings. At least 7,000 more are needed. The same methods of recruiting are used by the Cheliabinsk tractor construction company as are used at Magnetogorsk to get men. They send out agents to recruit hands from all over Russia, but the supply has not yet caught up with the demand.

Worker efficiency also is said to be not as high in Cheliabinsk as in Magnetogorsk, because Magnetogorsk is dry and Cheliabinsk very wet. It was possible for the authorities to impose prohibition on

Magnetogorsk because the place is so isolated. In Cheliabinsk, a city that had a population of 90,000 before the tractor plant was started, prohibition was technically impossible. To-day forty workers on one sector of the plant failed to appear, having enjoyed their rest day with vodka yesterday.

Pay of the workers here averages 3 to 4 roubles a day, according to V. V. Borisoff, vice-president of the Cheliabinsk Traktorstroy, but many workers earn up to 12 roubles a day. The consequence has been, remarked Borisoff, that "all the champagne in Cheliabinsk was long ago drunk up."

The meaning of that remark may be open to doubt, but the fact is that here in Cheliabinsk it was possible to observe again that the food and material conditions of the workers on the industrial front are measurably superior to that of their comrades and of the general population in Moscow.

Ural frost had made it necessary for me to buy a blanket. Obtaining an order on the company stores, I visited the warehouses. Each was about 150 feet long by 75 feet wide, and 30 feet from floor to roof. It was almost worth the trip to Cheliabinsk to see the inside of one of those warehouses. Full from top to bottom with goods, it contained thousands of blankets, of boots, shoes, galoshes, heavy sheepskin shubas, clothing, supplies enough in plenty for at least 2,000 persons. There were seven such warehouses. They must have

held among them a quantity of supplies larger than is contained in all the retail shops in Moscow. The visit threw a new light on the question as to whether there are any goods in Russia, and confirmed the view that the Government is concentrating its resources at the places where important work is being done.

Farther behind than the factory construction is the construction of dwellings and other buildings in the workers' city. There are to be a total of 256 apartment houses to accommodate a population of 60,000, but until now only four have been built, and the entire programme for city building has accomplished this year only 30 per cent.

No equipment has yet been bought for the main factory, which is not due to open operations until May 1, 1932, but equipment has already been ordered for an experimental plant to turn out 100 trial tractors a year. When the equipment for the main plant is ordered, most of it will come from America, and American machine manufacturing companies may expect from this source orders amounting to £2,400,000 to £3,000,000. In the whole plant are to be invested 170,000,000 roubles.

The experimental plant constitutes an interesting feature of Soviet industrial practice. There is no uniformity of rule in the Soviet Union as to paying for foreign patents. In the case of the Ford factory at Nijny-Novgorod, the Soviet Govern-

ment paid for the patents. Here in Cheliabinsk, although the tractors to be produced will follow very closely the lines of the machine produced by the Caterpillar Company of America, there have been no arrangements made for payment for the use of the patents, according to Borisoff.

In the experimental factory tractors of every known make, from all over the world, will be taken down, studied, and the useful features incorporated in the Soviet machines. Freedom from "bourgeois" inhibitions as to private patent property places Soviet industry in a singularly advantageous position.

The problem of skilled labour for the tractor plant when it opens for operation is one that the Soviet authorities intend to solve with the help of America, just as was the case in Stalingrad. First the experimental factory, that is supposed to turn out its first tractor in January 1931, will qualify 4,000 workers as factory hands during the year and will turn over this number to the main tractor plant when it is ready for them. More important, however, will be the importation of 350 to 400 highly skilled American workmen, on terms similar to those under which the Stalingrad colony of Americans came to Russia. They will be recruited, according to Borisoff, in Detroit next year.

It was interesting to hear from Borisoff that despite the occasionally unfortunate incidents in the Stalingrad plant, the Soviet Government is still con-

vinced that the best way to start a Russian factory going is to man it with American foremen. It seemed also pertinent to put the question, if the plant is erected under American supervision, equipped with American machines, and launched with the help of a large crew of American foremen for a whole year, why should not the plant turn out a quantity and quality of production at least within striking distance of a similar plant in America? Many American engineers on the job in the Soviet Union, asked the same question, have replied, "There is no reason why the production should not be as scheduled. We believe it will be." This consideration is one that applies not only to Cheliabinsk but to a whole series of important undertakings under the Five-Year Plan.

CHAPTER VIII

TRACTOR FACTORY AT STALINGRAD

BEFORE leaving Cheliabinsk, I went to the telegraph office and beheld upon its rusty sides a huge papier mâché turtle with the inscription "From the 171st Cheliabinsk Regiment, to the District Department of Posts and Telegraph, in commemoration of a slavish attitude and turtle-like speed." Three hundred soldiers had marched up with a brass band, attached the turtle, and nobody had dared to remove it since.

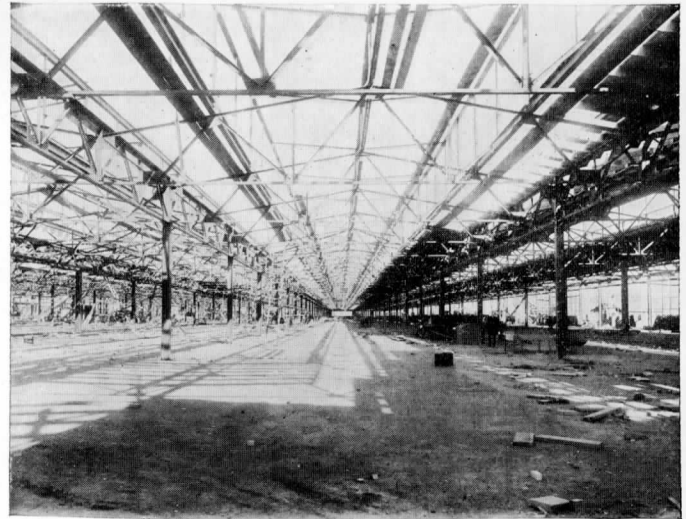
It was a just award. Nothing has suffered worse from the Five-Year Plan than the telegraph system. I sent a telegram from Moscow to Sverdlovsk, spent two days on the train and arrived several hours ahead of the telegram.

At Lukhowskaya, a tiny way station in the Bashkir Republic, Five-Year Plan egg exports indirectly nearly cost a life. With a bucket of 100 eggs, a seventy-year-old peasant got on the train and offered them all for 11 roubles. It was a bargain too good for a resident under the Plan to miss, with eggs at 30 roubles a hundred in Moscow.

Grabbing her suitcase, a young woman dumped



Stalingrad Tractor Plant under construction



Interior of Assembly Building of Stalingrad Tractor Plant before installation of machines

its contents on the floor and with the peasant's help began transferring the eggs from the bucket to the suitcase. The train began to move. The egg dealer grew restless. They worked faster. The train moved faster. The old peasant lost his nerve, emptied the last handful of eggs with a shattering splash on top of the others and scuttled for the door.

He tried to get off backward. A dozen passengers yelled warnings. He paused, looked fearfully out at the ground moving ever more rapidly. Sitting down on the top step he hesitated, then moved to the second step, then slid to the last step, and finally shutting his eyes tightly shoved himself off the train. The last we saw of him he was sitting up with the bucket clamped over his head.

In Samara, city of dreadful memories, where parents ate their children in the famine of 1920, we arrived at 4 o'clock in the morning, five hours late. The unnaturally bright stars of a frosty night lit our way over new asphalted streets to the city's only hotel, where ten billiard tables were available but no rooms. It was forbidden to sleep on billiard tables. There was no furniture in the lobby but a man-high Chinese vase. We repaired to the docks and spent four shivering hours waiting for the city to awake.

Early at the market, a blind accordion player sang old songs of by-gone Russia. A hundred men and women, none under fifty years of age, gathered,

and on a hundred faces tears went down like rain. The accordion player reaped a cupful of kopecks. An officer of the G.P.U. watched, snorted and went away.

At the Public Square, before a statue of Lenin, a peasant with the beard of a Hebrew prophet sat gazing at the lineaments of the maker of the revolution. "How old are you, I asked?" "Eighty," he replied, not turning his head. "You must have been born a serf." "I was not born a serf. It was under Nicholas I, but I was free," still not moving his head. "And how do you like it now? Is it better? Is it worse?"

The old man turned with the deliberation of extreme age, fixed his undimmed gaze from under snow-white shaggy brows upon me with an expression of mild astonishment and exclaimed, "How's it possible not to have been better in the old days? You could buy sackfuls for a rouble then. Now you get nothing!" He closed his eyes and went to sleep.

The steamer from Samara to Stalingrad was comfortable, the food wretched, the scenery picturesque. On board they served a tiny portion of chopped meat and mashed potatoes for lunch and dinner the first day, for lunch and dinner the second day. On shore one could buy enormous honey-dew melons, excellent watermelons, from stacks heaped high, yellow and green on the red banks of the river.

Seven hours late, we arrived in Stalingrad, once called Tsaritsin, once the headquarters of the Golden Horde whose Khans for two centuries held Russia prisoner of their Mongol might. On the way from the dock to the hotel we passed two old women sleeping in a ditch. The city's public square was occupied by a church. They said it had never been dedicated. From its topmost tower fluttered a pale pink flag, once red. In and out of its double doors churned automobiles. It was now a garage. Next door to the church was a panorama stereopticon show. "The Horrors of the Spanish Inquisition; Tortures Inhuman; How the Fathers of the Church Burned Men Alive."

Near the church a group of bootblacks plied their trade. A tall man dressed in white knit underwear, wearing a faded Hussar's cap and carrying an umbrella festooned with coloured ribbons, a flour sack on his back and a long wooden lath under his arm, pranced up and demanded a shine. I asked one of the boys who he was. "That," whispered the bootblack, "is old Captain Szopa, a former Czarist officer. He's crazy now and thinks he's all dressed up in uniform."

Dromedaries hauling water wagons crossed our way to the tractor plant. There were no water wagons in demand at the American restaurant.

There are 380 Americans at work in the Stalingrad tractor factory. This is the largest American colony

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in the Soviet Union. A few are engineers. Most are highly-skilled workmen. American workmen, here under a one-year contract, receive from £41 to £64 a month paid into an American bank in dollars, plus 300 to 400 roubles a month paid in roubles in Stalingrad. Their breakfast, lunch and dinner in the American restaurant costs them 3 roubles 50 kopecks a day, their rent from 22 to 32 roubles a month. Cognac, wine and beer are plentiful and very cheap in the special co-operative store reserved for their use. The food in the restaurant at the two meals I tried was quite the equal of any good middle-class boarding house at home.

The Soviet Union is banking heavily on the help of American engineers and qualified workmen to make the Five-Year Plan a success. It is investing to that end an amount of money very considerable for Russia. It has already been mentioned that the total number of Americans at work on the Plan is probably around 1,000. The engineers receive £1,000 to £2,000 a year apiece; most of them not under £2,000. The total American pay roll of the Soviet Union would probably equal £2,000,000 a year. And the Plan calls for doubling or tripling the number of Americans now at work.

Obviously it is a matter of importance for the relationships between the Americans and the Russians to be good. They are not notably so at Stalingrad Traktorstroy. On the "wall news-



Interior of the foundry at the Stalingrad Tractor Plant

paper" in the American restaurant stood a notice to the effect that "The scoundrels who spread the rumour that the body of the dead American was taken from its grave and robbed of its clothing are nothing else than counter-revolutionaries." This surprising item, it developed, had reference to one of the two Americans who died in Stalingrad of typhoid fever. The rumour got about that Russians had looted the grave. The reply was written by one of the more radical in the American group.

Echoes were still resounding also of the trouble over a Negro American workman, whose fisticuffs with two white colleagues cost them their jobs, a prison sentence, at once suspended, and expulsion from Russia. This incident perhaps more than anything else has tended to worsen the relations between the Russians and the Americans, who felt that it had been given exaggerated prominence by the Soviet authorities.

Responsibility for the bad feeling, however, is divided. One American, giving the devil his due, classified the Americans among: The majority who came to work and save money, the minority who came to drink and raise Cain, and the fraction who came to go Communist and raise the red flag. Soviet authorities themselves admit that the lonesomeness, strangeness, and lack of entertainment in Stalingrad contributed heavily to augment the ranks of the second class, and in any case they

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consider the value of the first class to outweigh by far defections from its ranks.

Elwood F. Riesing, conveyor engineer, took me over the plant. As the most famous new factory of the Five-Year Plan, the most debated example of what Soviet production will be under the Plan, its outward appearance deserves description. To a layman, it was impressively big, modern, well equipped. Riesing assured me it could not have been better laid out, set up and outfitted had it been erected in America.

The assembly building, bristling with an endless forest of lathes, drills, gear-cutters, and a hundred machines that only a specialist could name, all of them bearing American trade-marks, stretched 446 yards long and 105 wide, enclosed by glass walls that let in light like a studio. Not all the machines were working. There still were lacking several, ordered but not yet delivered, and without which production could go forward only limpingly.

Riesing's own specialty, the conveyor, that one-time rock of dissension between capitalist and socialist, now band of union, is in this plant two city blocks long, with half a mile of chain. The motor conveyor, with a normal speed of two feet per minute, was working at six inches a minute, and at that had frequently to stop. Tractor number forty-one was on the belt at the moment we were there. The plant is geared to a capacity production

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of one tractor every five and a fraction minutes, eleven an hour, fifty thousand a year. The International Harvester plant in Milwaukee has a capacity production of 128 tractors in eight hours, the Stalingrad plant a programme capacity of eighty-eight in eight hours.

The tractor being produced here is a two-ton, 15-30 horse-power wheel tractor corresponding to the 15-30 International Harvester machine. From raw metal to finished machine it is made of all-Soviet parts, with the exception for the time being of radiator, carburettor, magneto and Timken bearings. These parts are now American; factories for their production in the Soviet Union are promised under the Plan.

The number of women at work in the shop was high. Nearly half the machine operators were girls in their twenties. The average age of the men operators appeared also very low. This is a fixed policy of the Soviet industry—to train young workers in the new factories under American supervision. Among every group of twenty to thirty operators there was an American workman whose task it was to supervise and instruct, the system planned for a series of new Soviet plants. The Americans stay on the job until the Russians are capable of handling their machines efficiently.

Evidences of slow progress were obvious. I asked Riesing what he thought of them. His reply

was worth books of talk about the impossibility of getting production out of a Five-Year Plan factory. "This factory," he said, "was opened prematurely July 15. It should not have been opened until a couple of months later. The Ford plant in Cork, Ireland, for the production of tractors, was shipped to Cork from America, knocked down, like an automobile, with every part numbered and ready to be set up. It was set up by Ford engineers, with English-speaking workmen, skilled workmen. Yet it took the Cork plant nine months from its opening to reach capacity production."

Vassily Ivanovitch Ivanoff, hard-bitten, rough-and-ready Communist, president of the plant, a man who wears a week's growth of beard because he works sixteen to eighteen hours a day and never has time to shave, but wouldn't take time if he had it, has scheduled the Stalingrad factory to turn out capacity production within twelve months from its opening.

Ivanoff is a driver. He had a little trouble recently because he struck a workman in a row over the speed of labour. This was a grave offence and Ivanoff had to go to Moscow to explain. It only illustrates the tension at which he keeps his own nerves and those of the crew.

"We are three months behind the Plan," said Ivanoff, sitting in his great bare office in the administration building, an office utterly lacking in the

ordinary comforts of a director's room. "We are late because we failed to receive essential machines on time. We are now forced to make twenty-four tractor parts by hand. Only when the machines arrive can we get under way. In October, November and December we should have a production of 5,000; in January, February and March, 1931, 8,000; in April, May and June, 10,000, and in July, August, September, full capacity, 12,500. This is according to the Plan. We may miss out on the first few months, but will catch up."

The construction of the Stalingrad plant set a world record for speed. Under John K. Calder, the huge assembly plant was built in three months, the forge in three weeks, the foundry, built in the winter with heated concrete, in three months. The assembly plant was ready to receive machines in December 1929, but only began to receive them in March. This is perhaps characteristic of the Five-Year Plan: extraordinary speed in spots, rendered futile by mismanagements or accidents. Most important, however, is that the plant eventually was completed and put in operation.

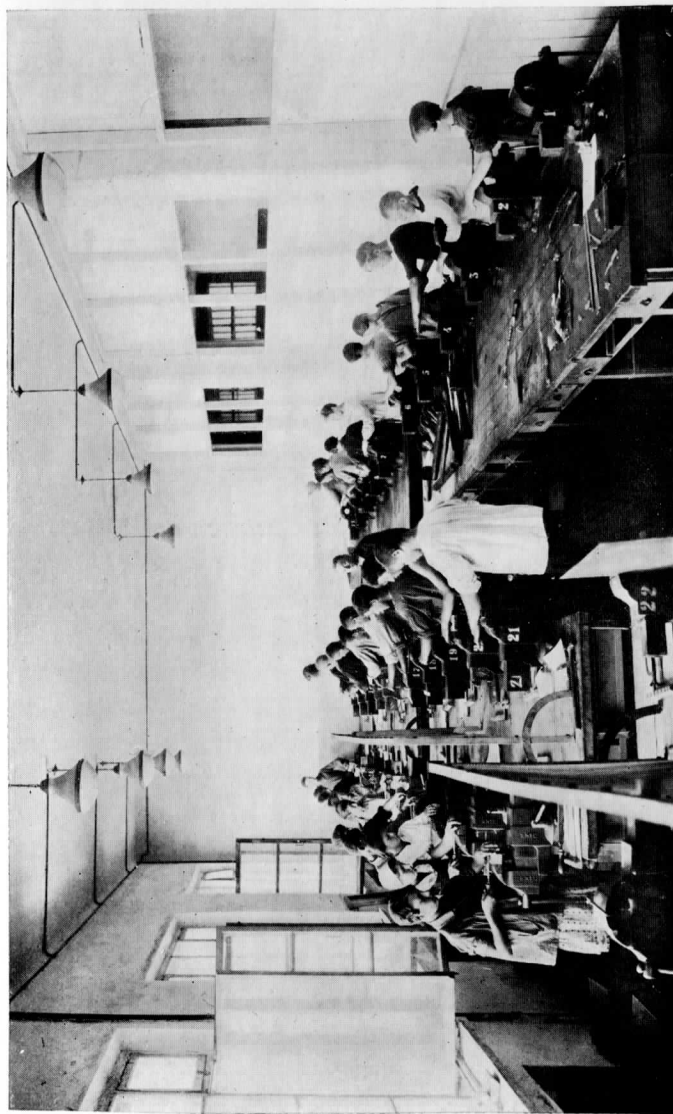
Wages of Russian workmen and workwomen at the Stalingrad plant run from 2 to 5 roubles a day, according to Ivanoff, and fine mechanics earn up to 10 roubles a day. Payment is all on piece work, as almost everywhere throughout the Soviet Union.

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There are 22,000 workers in the factory and on construction, 7,000 of them on production. Their living conditions would be considered luxurious in Moscow. Seven thousand are housed in brand-new apartment buildings, of which there are 100 in the plant complex, each containing forty apartments of three rooms each. The rest, chiefly construction workers, are living in barracks.

Their food is better than that in any Russian restaurant for Russians in Moscow. I visited one of the "stolovayas." Its menu, decently cooked, served with a fair degree of cleanliness, consisted of soup with macaroni, 25 kopecks; beef strogan-off, 50; fish and tomatoes, 75; coffee, 15; macaroni in milk, 25; brains, 50; meat balls in cabbage, 50; cake, 45; tea, 5 kopecks.

The Americans have one principal criticism to make of the plant workmen, that the majority of them come to work with no mechanical experience whatsoever. Most American youths, whether they have had any other mechanical training or not, have tinkered with an automobile. Most of the Russians have never touched a machine before they go to work in the factory. The handicap is apparent in the longer period it takes them to learn their machines. Nevertheless the testimony of the American foremen is to the effect that slowly but surely the factory is evolving a crew of efficient workers capable of bringing production eventually



Young Communists, boys and girls, at work in Stalingrad Tractor Plant

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up to capacity. The chief American engineer, Glickman, declared that by January he was confident production would be not less than 2,000 a month. Nothing will be left undone that might stimulate speed, for the Soviet Union and the outside world have chosen the Stalingrad plant as an index to the probable success of the industrial production programme of the Five-Year Plan.

(In Moscow, V. V. Ossinsky, president of the All-Union Automobile and Tractor Trust, gave me the following actual production figures achieved up to October 5. In the months of August, twenty tractors; September, sixty; but in the five days September 21 to 25 there were twelve produced, in the five days September 26 to 30 there were twenty produced, in the five days October 1 to 5, there were thirty-two produced, and in these last five days, eighty were prepared for assembly. "In October," said Ossinsky, "I think we shall produce 200 to 400, against the Plan of 1,000 and in November we shall do 1,000. After that progress should be very rapid.")

CHAPTER IX

CONVICT LABOUR

WOOD is in many languages a symbol for dullness, but the sight of 100 long rafts, each a quarter of a mile long, lying here in an estuary of the Volga River, was the most dramatic and instructive lesson in international economics of a tour that has so far covered over 6,000 miles of the Soviet Union.

Dramatic it was to stand at the top of the sun-bathed river bank, look away up the estuary and count those huge rafts, wallowing like monstrous amphibians on the burnished surface of the water, and to reckon what their presence here meant for the Soviet Union and for the world that waits outside to hear the meaning for itself of that vast experiment in hot-house industrial development, the Five-Year Plan.

Every one of these rafts contained 10,000 cubic metres of timber, 4,230,000 board feet, and the hundred of them together contained 423,000,000 board feet of timber. All were bound for the gang saws of one set of mills, the Volga-Caspian Timber Combine. Forty per cent. was destined for export.

This meant that here at one glance could be

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seen as much timber as the entire Soviet Union exported in 1922, a quantity equal to more than 1 per cent. of all the timber cut in the United States this year. It was a unique opportunity to check the statistics which are so abundant in the Soviet Union and which one is so inclined to weigh with scepticism. Here, with one of the most important products of the Soviet Union, important for itself and for many other countries, one could in a few minutes tally the production figures of one of the biggest units of that industry in the country, a process that no one human being could perform for any ordinary factory in a year's time.

To put it briefly, the sight of those rafts, placed in their proper perspective in the world frame of timber production, was a tangible reminder of the little known and astounding fact that this year the Soviet Union at one leap has become the greatest exporter of timber on earth with a total export in board feet that by the end of the year probably will exceed America's by at least twice. Nor is it widely realized that the Soviet Union has an annual gross cut of timber double that of the United States. Nor that under the Five-Year Plan, rapidly being fulfilled in the timber industry ahead of time, the Soviet Union by 1932 will have a total annual timber production more than three times that of the United States.

This Volga-Caspian Timber Combine was in

many respects interesting. We spent two hours walking through sections of its eighteen mills and only touched the fringes of a few. For miles down the river the banks were crowded with stacked logs, piles of sawn lumber, and the buildings of the mills. Few persons know that Stalingrad, lately famous for its new tractor factory, is the seat of the largest single complex of saw-mills in the Soviet Union, that its annual production of lumber is greater than that of any single set of mills in the better known Archangel district. Archangel has a larger export, but here, too, the export is not inconsiderable, the products of the mills being sent over the short rail haul to Novorossisk on the Black Sea and thence to the ports of the world.

The logs all come down the Volga from the network of waterways that penetrate the Urals and northern Russia, the Byelaya, the Kama, the Vyatka Rivers, tapping the richest forest reserves accessible to exploitation. Coming down by rail from Cheliabinsk to Samara by way of Ufa we saw a dozen such rafts on the Byelaya river, and again on the Volga steamer from Samara to Stalingrad we passed a score of them, drifting lazily along, their crew of twenty men living as comfortably in their wooden shacks as though they were ashore.

When all these rafts reach Stalingrad the hundred in the estuary will be reinforced by at least half again more, and the total of timber on hand at the

Volga-Caspian Timber Combine's mills must be reckoned at around 600,000,000 board feet. With the chief engineer of the plant we toured the mills and watched the gang-saws eating logs.

Equipment is ample to handle the immense supply of material in a manner that to a layman looked efficient. Eleven sets of gangsaws were working in this mill alone, and thirteen more were going into operation by next year, when the reconstruction now in progress is completed. Six electric conveyers haul the logs up from the water and deliver them mechanically to augment the mountains that fill a square mile of the river bank. Around the yards, to handle the sawn timber, American automobile "Ross carriers" are used, machines that pick up and carry away several tons of lumber at one swoop.

More instructive than the tour, however, was a personal talk with Ivan Jakovlevitch Bergis, president of the combine. Ivan Jakovlevitch was what they call in Soviet Russia a "staraya Bolshevik," a member of the party since 1905. He wore an order of the Red Banner in his buttonhole, an order that he won as colonel of a famous regiment of fighting Letts in the Civil War and intervention. With his shaven head, deeply furrowed face and hard grey eyes Ivan Jakovlevitch made the impression of a man that might very well lead successfully a regiment or a sawmill.

A big picture of Stalin looked down upon us. Before Ivan Jakovlevitch began to talk he called an engineer and ordered him to get out his slide rule. "Before the Five-Year Plan," began the president crisply, "we had a production from this combine of 601,000 cubic metres of lumber, in 1927-28. In the first year of the Plan, 1928-29, we had a production of 877,000 cubic metres. What percentage of increase is that?" he said, turning to the engineer.

"Forty per cent.," replied the slide-rule manipulator.

"In the second year of the plan, 1929-30, ending now, we had a production of 1,140,000 cubic metres."

"Ninety per cent. increase," exclaimed the engineer.

"In 1931-32 we shall have a production of 2,172,000 cubic metres," continued the Bolshevik chieftain.

"Two hundred and sixty-two per cent. increase," triumphantly finished the engineer.

Translated into board feet these figures meant a production in 1927-28 of 254,000,000 board feet; 1928-29, 360,000,000; 1929-30, 482,000,000; 1931-32, 918,000,000.

"By 1932 we shall have a total of 104 gang saws working and be the biggest mill in the world." Ivan Jakovlevitch paused.

"As to the workers," he went on, "they receive an average pay of two roubles sixty-four kopecks a day, a maximum of five to six roubles a day, and we have no kulaks. Kulaks," he spoke with emphasis, "can do no work around a sawmill, not around this one. We wouldn't have them. The danger of sabotage would be too great."

By "kulaks" he meant the so-called well-to-do peasants who, having been deprived of their farms by the process of collectivization, have to a large extent been deported to other parts of Russia.

"In the timber industry," emphasized Ivan Jakovlevitch, "kulaks are only employed in felling and transporting trees. It is true they are used for that up there around Sverdlovsk, in the Ural region. But don't make any mistake about it. They are not convict labour. These fellows are only sent up there to learn to adapt themselves to the Soviet system. The only difference between them and any other labour is that they have got to stay there. The rule still goes that he who won't work can't eat. And the kulkas would not work. So now we are teaching them to work."

The speaker grew more vehement and exclaimed: "I want you to tell your readers that that's what we're doing for the kulaks. We are teaching them to work—for the first time in their lives. They've sucked enough blood."

"The class war is not over!" He rapped out

the words. "And you mustn't forget we are creating a new state. Nearly everything written about the Soviet Union has been lies. You may tell your readers, though, that this is no lie—that if the Soviet Union is attacked, the workers of the world will turn their bayonets the other way."

That ended the interview. I told him I would be glad to quote his remarks.

As to convict labour, the topic dwelt upon by the sawmill president, there assuredly is little of it to be seen by a traveller in the parts of the Soviet Union open to visit. On this whole trip I observed but one group of convict labourers, a road gang of the sort one frequently meets in Texas or any of the Southern States still using convicts on highway construction. This gang was in Cheliabinsk and was returning from a building site for apartment houses where the prisoners had been employed at digging.

The question of the character of labour employed in the far north, particularly in the timber industry, is much less easy satisfactorily to answer. That the territory in question has a large population of political and other prisoners and of ex-kulaks is a fact not denied by Soviet authorities. Attorney-General Krylenko stated at one time and was quoted in the Soviet Press to the effect that there were 500,000 well-to-do-farmers, or kulaks, who had been "de-kulakized" during the process of collectivization. "De-kulakization," one of the many new

words recently added to the Bolshevik language, means the process of forcible dispossession, usually accompanied by punitive measures for opposition to collectivization.

Other sources tend to show that Krylenko meant not 500,000 individual kulaks but 500,000 families. The total number of peasant families in the territory that before March, 1930, had been 100 per cent. collectivized was 14,000,000, and of these families 4 to 5 per cent. were officially described as kulak families to be "dekulakized." This would mean around 3,000,000 individuals. An indeterminable number of these were sent away, some to the south, to work on the Turk-Sib. Railway and the irrigation projects of Turkestan; others, probably the majority of those exiled, to the northern lumber camps.

Soviet authorities assert that these kulaks are paid like ordinary labour but are not permitted to leave the district to which they have been assigned. The element of compulsion as to their place of residence is not denied. All these are notorious facts requiring no special investigation. Nothing but such an investigation, however, could establish the actual number of kulaks and of political and other prisoners at work in the lumber camps or their location.

This sawmill illustrates the extreme difficulty that would accompany any attempt to determine the exact source of any sawn timber exported from the Soviet Union. I asked one of the superintendents

if he knew where the timber came from. He replied that he did so long as the logs were in rafts, but that as soon as the rafts were broken up the logs were floated from several rafts at a time into the mill pond, thence drawn up to the mills and, being sawn, lost their identity.

It has been repeatedly asserted by Soviet authorities that none of the timber exported to America came from camps employing forced labour. On the other hand, the American law prohibiting the importation of the products of forced labour has been interpreted by the American Treasury Department in a manner that lays the burden of proof upon the Americans to show that this or that particular shipload of timber was produced in this or that locality where forced labour is employed. If the confusion of lumber obtaining at this mill may be taken as typical, the practical possibility of proving the case one way or another would appear to be remote.

On the broader subject of the status of labour in general in the Soviet Union, it may be said that the evidence tends to the conclusion that, leaving the timber regions out of account, out-and-out convict labour is employed to no perceptible degree in the accessible industries of the Soviet Union. The assumption that all labour in the Soviet Union is forced labour is not borne out by the records of a labour turnover in all industry so extreme that it has caused severe financial losses, and become one

of the chief internal obstructions to successful accomplishments of the Five-Year Plan.

Shortage of labour and excessive labour turnover were the two causes given me by V. N. Ksandroff, chairman of the industrial section of the Government Planning Commission, for the failure to reduce costs of production according to the Plan, the most fateful failure of the whole Plan. In the Don Basin, this labour turnover for the first half year of 1929-30 was 178,000 out of a total of 225,000 miners employed. Extended throughout the year this would mean a turnover of about 150 per cent. According to State Statistician Gubelman, labour turnover for all industry amounted to 40 per cent. this year. Obviously if compulsion could have been applied to labour in general it would have been applied to keep down this terrifically wasteful turnover.

As a direct consequence of this condition there has just been issued a decree of the Central Committee of the Communist Party, representing a new attempt to introduce a stricter form of labour discipline. The Commissariat of Labour is to have the right, together with the trade unions, to transfer qualified workers from less to more important industries, as coal mines, metal industry, railroads, and the building trades. Persons who refuse to accept such transfers or who quit their jobs are to be stricken from the lists of the labour exchanges and denied further employment through the regular

channels. The various trusts are forbidden to continue the competition for labour that has currently been practised, or to pay more than union wages. Rewards and privileges are offered workers who remain as long as two years on the same job.

The difficulty with enforcement of this decree lies in the fact that the shortage of labour is so great that despite the prohibitions it probably will continue to be possible for workmen who have been stricken from the labour exchanges to obtain attractive work through irregular channels. The decree is merely another of a long series of attempts, extending from the era of military communism to date, to extend to the entire working class the sort of discipline obtaining within the party itself, whose members obligate themselves to take orders exactly like soldiers. So far the only class of workers who have proved amenable to such discipline has been the comparatively small and easily superintended group of Soviet engineers and specialists who are bound by contract to remain on their jobs, their contracts differing from the customary engineers' contracts in bourgeois lands in the important particular that should a Soviet engineer break his contract he makes himself subject to imprisonment.

Just how fast Soviet exports of timber have climbed may be judged from the fact that they will reach this year approximately eight billion board feet, compared to 3,337,000,000 in 1929,

2,320,000,000 in 1928; 1,779,000,000 in 1927 and 3,269,790,000 in 1913 from the territory now comprising the Soviet Union. These figures are official from a publication of the "Soviet Monopoly for Foreign Trade."

The estimate for 1930 is based on the Soviet official statement that the timber export for the period October 1, 1929, to July 1, 1930, was 159 per cent. greater in value than the export during the corresponding nine months of 1928-29. This over a period of declining prices would mean more than that percentage of increase in volume, but the figure 150 per cent. applied to the whole annual production of 1929 would give approximately eight billion board feet.

What these figures mean for the United States and other competitors of the Soviet Union may best be judged from the following table giving in millions of board feet the timber exports for 1928 and 1929 of the five principal timber exporting countries. The figures for the Soviet Union, Finland, Sweden and Poland are from the Soviet Monopoly of Foreign Trade:

	1928
Finland	4,183
Poland	3,443
United States of America . .	3,119
Soviet Union	2,320
Sweden	2,723

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	1929
Finland	4,272
United States of America	3,458
Soviet Union	3,337
Poland	2,961
Sweden	2,876

In 1928 the Soviet Union was a poor fourth; in 1929, a close third. But in 1930 the Soviet Union, according to her own official statistics, will have 8,000,000,000 board feet of exports—twice that of Finland, more than twice that of America. The Soviet Union has quintupled its timber exports during the first two years of the Plan, has leaped ahead of its pre-war export, and far ahead of any competition. Timber has gone ahead of petroleum as the chief Soviet export.

The entire timber production of the Soviet Union in the year before the Plan, 1927-28, was about 60,000,000,000 board feet, according to the Soviet Government Planning Commission. It is scheduled to reach 109,000,000,000 in 1932-33, and to judge by the appearance of the Volga-Caspian Timber Combine, this figure is not an impossible one to attain.

With all this tremendous output of timber the Soviet authorities insist that they are exploiting but 17 per cent. of the forest area of the country, which they give as 2,000,000,000 acres, and declare that their total annual cut does not equal one-fourth

CONVICT LABOUR

of the annual growth. The entire production of the United States was estimated at 32,000,000,000 board feet this year, or not more than one-half that of the Soviet Union. By 1932-33, fulfilling the Plan, the Soviet Union will be producing more than three times the entire production of the United States.

Most of the Soviet exports have gone to England, Germany, Holland and Belgium. Of late she has begun to invade the domestic market of her chief competitors, America and Finland. By September 1, 1929, the United States had imported 3,000,000 board feet of timber from the Soviet Union; by September 1930, 30,000,000 board feet. The latter is only one-tenth of 1 per cent. of the American production. American lumbermen, however, are looking at Great Britain's trade with the Soviet Union as indicative of what may happen in the United States. Great Britain imported in 1925 570,000,000 board feet from the Soviet Union, and in 1930 she imported 1,200,000,000 board feet, a quantity significant in any nation's lumber trade. Looking at the 100 log rafts here in Stalingrad, these figures become forceful.

CHAPTER X

THE WORLD'S LARGEST WHEAT FARM

MANAGER of the largest farm in the world, Jacob F. Bogomolkin sat in his office at Gigant, in the north Caucasus, and told me that the acres over which he presided numbered 642,000, a round 1,000 square miles.

His permanent labourers numbered 2,800, he said, their wages averaging 100 roubles a month; his farm implements and machines totalled 8,000 pieces, and the Government's investment in the farm had been 27,000,000 roubles. Three hundred thousand acres had been sown this year and there had been 4,000,000 bushels of wheat and rye produced, he said, at a cost of 54 cents a bushel, and this enabled such a profit, he emphasized, that Gigant had already paid back the Government 20,000,000 roubles from this and last year's winnings. Profits next year would be 10,000,000 roubles. Gigant, he admitted, was an enormous success.

Mr. Bogomolkin, a nervous and irritable individual despite his reputation as a valorous Red Army commander, was the first Soviet official met on this trip who gave me flagrantly inconsistent

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information. It is true that his farm is nearly as large as the State of Rhode Island; that it takes six hours to ride across Gigant in a railroad train going eighteen miles an hour. It is true that it is the largest farm in the world, but economically successful it certainly is not. If all the undertakings of the Five-Year Plan were operated the way Gigant is operated, the thesis would be justified that the Five-Year Plan, far from increasing the basic capital of the country, was dissipating it, and that in a few years the last bit of the nation's wealth would be spent.

According to Mr. Bogomolkin's statement, Gigant made a large enough profit in two years to pay the Government back 10,000,000 roubles. The simplest calculation on the basis of his own figures, interpreted in the light of information gathered on the farm, shows a palpable loss this year of £172,840, of which at least £150,000 was a loss, not in paper roubles but in real dollars.

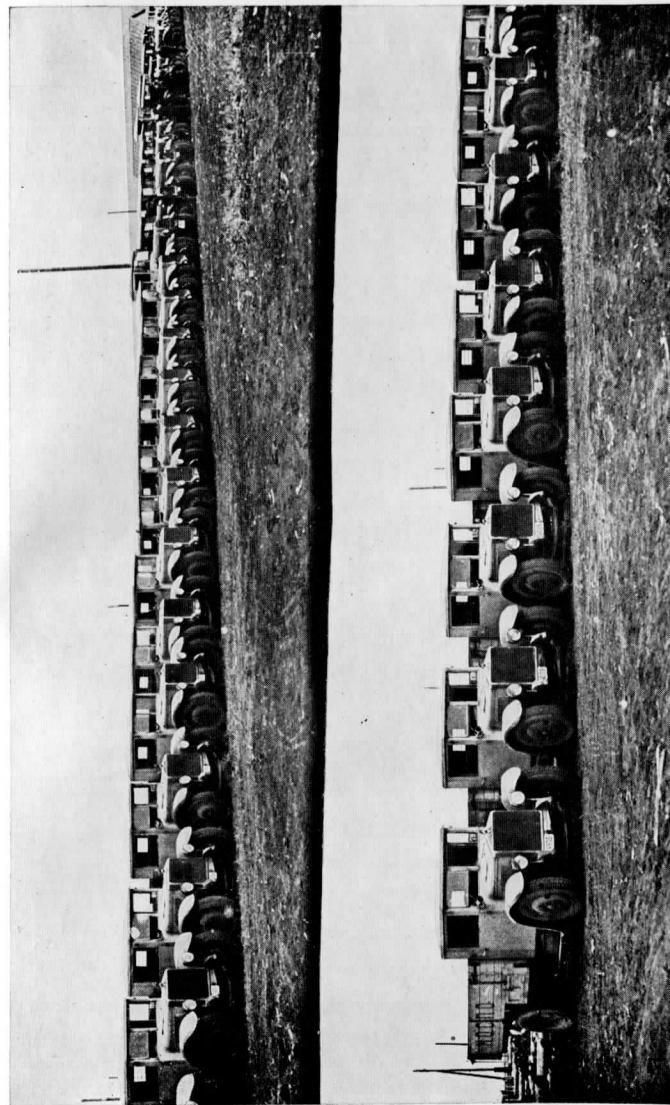
The calculation is interesting enough as an example of how a farm should not be run to be given in brief. Leaving aside last year's results, which must have been worse, inasmuch as the sown area was much less and the harvest nothing like so good, and leaving out of consideration the alleged payment of 10,000,000 roubles to the Government, Gigant's expenses this year must have amounted to 7,000,000 roubles, or, roughly, £700,000.

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This is arrived at as follows: According to Mr. Bogomolkin, the farm employs 2,800 labourers permanently at an average of 100 roubles monthly. This gives an annual payroll of 3,360,000 roubles. State farms, like all other Soviet economic institutions, must pay interest on the money advanced from the Government at a minimum of 6 per cent. Interest on 27,000,000 roubles at 6 per cent. is 1,620,000 roubles. Costs of materials, fuel, feed, oil, etc., amount to 500,000 roubles a year. Depreciation on buildings is reckoned at 20,000 roubles a year—very little for three large villages. And depreciation on equipment, the most significant item, amounts to 1,500,000 roubles a year.

The farm, according to Bogomolkin, produced the equivalent of 3,000,000 bushels of wheat and 1,000,000 of rye. The wheat, of middling quality, should bring an average of 2s. 10½d. a bushel at Liverpool prices, £431,250, if it is all sold abroad, and the rye at the Hamburg price of ninety roubles a ton actually paid for Russian rye this year, about £115,226, making a total income of £546,476. Subtracted from £700,000 total expenses this leaves a net loss of £153,524.

About other Soviet institutions it might be said that the loss in paper roubles was more than compensated by the gain in foreign exchange. But this is a case in which £150,000 have been lost in foreign exchange. For the depreciation on equip-



On "Gigant," the largest farm in the world, with 625,000 acres of land, 240 caterpillar tractors, 220 wheel tractors, 330 combines, 500 seed drills, 1,200 plows, 300 cultivators, 6,000 harrows, etc.

ment amounts to that. Here is the kernel of Gigant's difficulties. The expensive equipment, bought abroad with dollars, is being used up at such a pace that a depreciation charge of 50 per cent. on combines is considered reasonable by those who have been close enough to the job to know the condition of every machine on the farm.

In the harvest season just completed there were employed 220 new American combine harvesters, costing with their auxiliary equipment £679 apiece. According to an expert who watched them work, the inexperienced and reckless Gigant operators, driven by orders to make speed at any price, took five seasons of life out of the combines in two weeks' harvesting. The normal life of a combine in America should be ten years. Here it must be reckoned at two. Besides the 220 combines there are on Gigant 230 tractors, most of them the largest size caterpillars, and 240 drill seeders, 800 ploughs, 200 cultivators, 115 disk and about 5,000 tooth harrows and rakes. Altogether the implement and machine equipment cost around £400,000. Depreciation on the simpler implements is, of course, not so high, but on tractors it is nearly as high as on combines, and the depreciation charge on all equipment should not be set lower than 37 per cent., according to persons on the farm whose judgment should be authoritative.

They boasted at Gigant that in twenty working

days they had harvested 4,000,000 bushels. That was a substantial record in speed. What the record cost may be judged by the figures given.

If the calculation herein given should be criticized, it can only be on the assumption that the data provided by Mr. Bogomolkin on the amount of his equipment, size of investment, number and wages of labourers was incorrect. Gigant, however, may actually show a book profit in spite of this calculation, for the extraordinary propaganda value of the "world's largest farm" has enabled its manager to use up his machines at this breakneck pace and yet show no depreciation loss. As soon as Gigant has used a park of combines and tractors one year it sends all the combines and some of the tractors up north to the Urals, where the half-worn-out equipment is foisted on other less prominent state farms or collectives. Gigant in return receives new machines from the Government, and the final loss will only turn up in the books of the Ural farms.

It was a relief to go directly from the biggest and worst managed farm to one that makes no claims on superlatives but deserves the title of the most scientifically administered farm in the Soviet Union. Verblud, its title meaning "camel," lies next door to Gigant. No pigmy itself, Verblud has a total area of 300,000 acres, about 470 square miles, of which 55,000 acres were under crops this year.

Verblud's yield was about nineteen bushels an acre, about the average of America's better wheat farms, against Gigant's fourteen bushels an acre. Verblud employs one man to every forty-five acres, while Gigant has one man for every forty acres. Verblud's comparatively modest park of equipment, consisting of forty tractors, fifty combines, sixty drill seeders, 100 ploughs, forty cultivators and several hundred disk and tooth harrows, has been so carefully treated that, according to Professor E. J. Stirniman of the University of California, adviser to the farm, the machines will last as long as they would with good care in America.

In other words Verblud has produced a crop this year of 1,000,000 bushels of wheat and rye, a fourth of Gigant's crop, on a fifth of the acreage Gigant used and at a much lower cost.

Gigant's actual costs figured up to around 87 cents (3s. 7d.) a bushel. Verblud's costs to about 67 cents (2s. 9d.) a bushel. At the present world price of wheat neither farm could make a profit, but Verblud's losses would be almost exclusively paper rouble losses, while Gigant's were losses in that precious machinery that is supposed under the Five-Year Plan to make up for all paper rouble losses.

The difference lies in the management. Verblud's manager, L. S. Margolin, is a Soviet executive of the highest type, educated, an expert on his job,

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commanding the unlimited confidence of his staff. Mr. Bogomolkin's relations with his staff may be estimated by the fact that occasionally when receiving the American members of the supervising crew he draws a revolver from his desk, and plays with it meaningfully the while he reminds them of their duties.

There are 130 state farms under the Grain Trust that owns Verblud and Gigant. If all were run as Gigant has been run, the Grain Trust would be compelled to cease operations. If all were run as Verblud has been run, the grain farmers of other nations would find it difficult to compete. For in one very important respect Soviet state farms have an insuperable advantage over the farmers of the outside world, in that the land costs nothing. In America interest on capital investment in the land itself has been estimated to equal 35 per cent. of the whole cost of production. Other things being equal, this gives the Soviet state farms a 35 per cent. lead over their competitors abroad.

They were sowing when I left Verblud. It was late in the evening. We drove out in a spanking new American touring car ten miles, turned in to the field that stretched in every direction as far as the horizon, level as a calm ocean, and watched a crew at work. It was still as space, and the black sea of earth was limitless. A ten-ton tractor drove with five drill seeders into the west, drove until the huge

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machine became a speck, disappeared, turned and showed again in profile against a crimson band at the rim of the twilight sky. The immensity of Russia was there, and the riddle of her future being unravelled by the tractor and the drills.

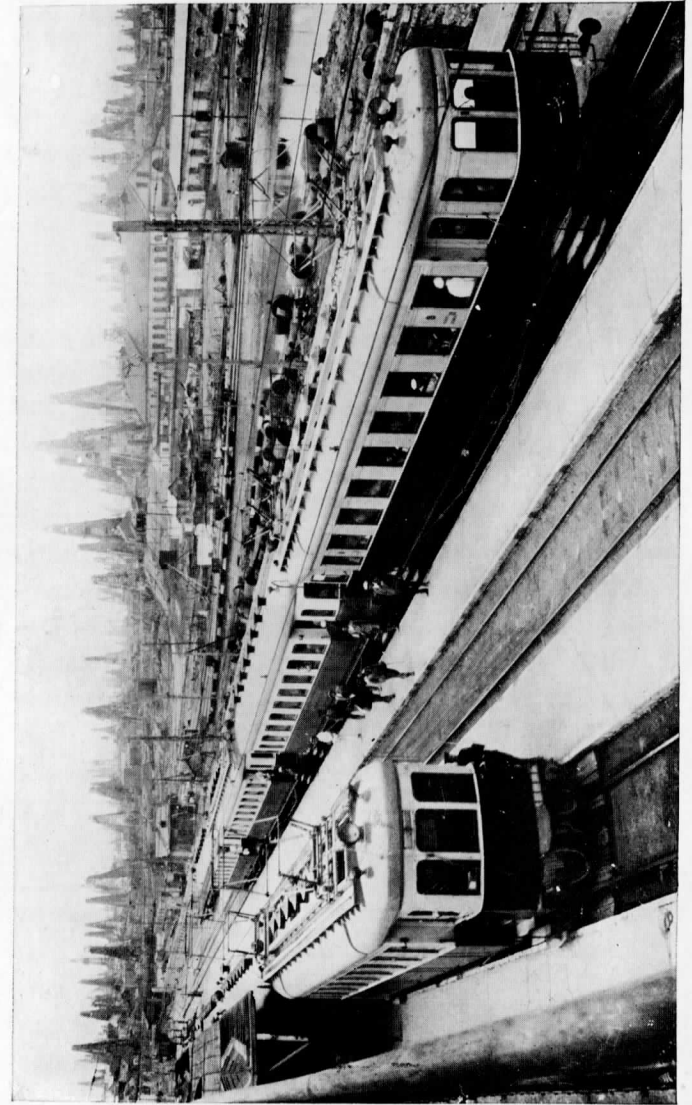
CHAPTER XI

BAKU, LEADING WORLD IN OIL RESERVES

LIKE moving away from a fire, the traveller proceeding away from Moscow in a southerly direction may detect gradual diminution in the superficial ardour of Communism, and here at the extremity of the Soviet Union he may find, of all things in hungry Russia, a free-lunch counter.

Marinated fish, sliced onions, cucumbers and tomatoes with pomegranate seeds are the comestibles on the counter of the New Europe dining-room buffet. Every purchaser of vodka, at 1 rouble a small glass, is entitled to eat all he wants of the delicacies named, as long as he can stand up at the buffet. In Moscow it is not possible to buy vodka in any restaurant save those for foreigners, and the very suggestion of giving food away would incite riots.

The Caucasus is different. Its only bad feature is the fact that to reach the Caucasus one must go through Rostoff, city of thieves, goats, Caucasian beer, stench and Selmashstroy, the great new agricultural implement factory, only all-Soviet plant in the Five-Year Plan erected without foreign help.



The new suburban electric railway in Baku

BAKU, LEADING WORLD IN OIL RESERVES

Opened at the first of the year, Selmashtroy up to September 1 had produced 46,000 peasant horse wagons, 4,000 horse rakes and 86 drill seeders. Its programme next year is 100,000 wagons, 100,000 rakes, 15,000 seeders, 13,000 binders, 10,000 universal attachments, 2,000 harrows, 10,000 hay mowers, 10,000 tractor ploughs and 2,000 disk harrows. The factory has bought nearly all of its machine equipment from America. Except for the wagons, all its production represents farm implements that formerly were bought in America.

Not all of Russia's farm implements were bought in the United States, but a very large share of the orders went to America. The total value of Selmashtroy's production for 1930-31 is scheduled to be 60,000,000 roubles. This will mean at least several million dollars less of orders for farm machinery in America, just as the erection of the great tractor plants of Cheliabinsk, Stalingrad and Kkarkoff mean that when they attain full production there will be no more American tractors imported into Russia.

The Cheliabinsk factory's 50,000, Stalingrad's 50,000, and the 50,000 to be produced in the Kkarkoff plant, an exact duplicate of the Stalingrad plant, will bring the Soviet Union's total tractor production up to 150,000 a year. This in turn would appear to mean one of two things, either that the Soviet Union begins to export tractors, a

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very unlikely possibility for the next several years at any rate, or that her grain production will attain a volume that will make it unpleasant for her competitors, the United States included. Soviet tractor and grain specialists, as a matter of fact, look forward to obtaining such a monopoly on the European grain market that wheat farmers in America will be forced to reduce their acreage to not more than enough for home consumption.

Selmashstroy, even more than the embryonic Cheliabinsk tractor plant and the fresh-baked factory in Stalingrad, gave an impressive picture of the growth of Soviet industry in the midst of the squalor and poverty of the population under the Five-Year Plan. Nothing could better illustrate this contrast than Selmashstroy new, neat, crowded with busy workmen and with girls tending hosts of machines, turning out under one's eyes, not statistics, that can be illusory, but implements that are hard facts; and the Rostoff public food market, filthy, surrounded by old junk stalls, crowded with bare-footed women fighting to get a bit of fly-blown meat.

Beginning one night out of Rostoff, down in central Caucasia, the improvement in general food conditions became apparent. Save for parts of the Bashkir Republic, there had been nowhere so much food offered at the stations. Here were eggs at 2 roubles for ten, grey bread, small roast chickens



Interior of workingman's dwelling, Baku

for 2 roubles 50 kopecks, Bologna type sausage, fat bacon, apples, pears, watermelons.

Dark hawk-faced men and boys wearing Astrakhan tarbooshes, or floppy white sombreros of coarse felt, drove flocks of goats along the roads. A veiled woman in white, riding sideways on a donkey, trotted by. The Orient was near.

Derricks showed against the skyline. A village of low mud hovels, immemorial architecture of the East, squatted at the base of a section of modern apartment houses. An electric interurban car sped along, paralleling a long stretch of asphalt. We saw the Caspian. We were in Baku.

This is the capital of the republic that is doing the Five-Year Plan, not in four years, as the rest of Russia, but in two and one-half years. Posters all over the town announce it. The city is proud of it, is proud that the richest trust in the Soviet Union has its headquarters here, and that this trust, "Azneft," the Adjerbaidjan Naphtha Syndicate, is actually about to accomplish the production programme that had been set for five years, within half the time.

Oceans of toil, not figuratively but literally, are the first cause of Azneft's success, and the second cause, a savage determination to get out every barrel with the utmost speed and convert it as quickly as possible into the dollars so desperately needed by the Five-Year Plan. For oil, until this year when timber passed it, was the greatest source of foreign

exchange for the Soviet Government, the commodity most readily turned into hard "bourgeois" cash.

Few but professional oil men realize that the Soviet Union is possessed of oil reserves that are declared by non-Soviet as well as Soviet expert sources to be larger than those of any other country. The Soviet authorities are never backward about estimating their country's natural wealth, and they place the total oil reserves at 32,000,000,000 barrels, with 10,000,000,000 in the territory of Azneft alone. The United States Geological Survey estimates Soviet oil reserves at 6,775,000,000 barrels. The Federal Oil Conservation Board gives the United States no more than 5,500,000,000 barrels. An estimate of Venezuela's reserves is lacking, but they are not believed to be as large as America's. Since the United States Geological Survey estimate of Soviet oil resources was made there have been opened up rich new fields, as Maikop, with a huge gusher last year, that has led Azneft to fix a yearly production for that field alone of 14,000,000 barrels by the end of the Five-Year Plan.

None but professional oil men follow closely the results of Soviet oil production, but the figures should be of interest to every layman conscious of their meaning: In 1913, pre-war Russia had a total production of 62,834,000 barrels. By 1926 Soviet production had passed pre-war. In 1927 it was 79,682,000 barrels; 1928, 83,992,000 barrels; 1929,

98,851,000 barrels, and in the year just closed, 119,700,000 barrels. The Five-Year Plan had only called for a production of 113,400,000 barrels this year. It had originally proposed that by 1933 production should be 151,900,000 barrels, but the probability that the industry would reach this figure by next year, in half the time proposed, led to the fixing of a new Plan figure for 1933 of 280,000,000 barrels, or 341 per cent. of the pre-Plan output. Soviet production is now twice pre-war production, and the Soviet Union has forged to third place among world petroleum leaders, ranking not far from Venezuela's 137,000,000 barrels, though with a production hardly more than one-tenth of America's 1,005,603,000 barrels.

The unique characteristic of Soviet petroleum is the fact that the Soviet oil industry will not "play" with the rest of the world. When others set about to restrict over-production and keep prices up to a profitable level the Soviet oil industry redoubles its very effective efforts to open new wells, increase the output of old ones, add to the ocean of oil already pouring out of Black Sea ports to the markets of the world and take advantage of the price level established by the restraint of their competitors. One official of the Foreign Trade Monopoly remarked to me: "We admit we are disagreeable people. All competitors are."

Baku, though having small claim to beauty, shows

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the prosperity of Azneft. No city in the Soviet Union has such extensive complexes of modern apartment houses, all for oil workers and employees of Azneft. I drove over twenty miles of perfect asphalt pavement through mile after mile of new settlements, snowy white, the architecture neo-Oriental. The street-car system that replaced horse cars four years ago is the best in Russia. The new electric interurban line connecting with the "black city" of oil, where wells are thickest, has the most artistic station and almost the only new big city railroad station in the country.

I walked through the city. It was flagged. The day was the anniversary of the shooting of the twenty-six Baku commissars. From a crooked street an open doorway showed, around a great tin pan of frying onions, a circle of grave-faced old men, forking the savoury vegetable from fire to mouth. Out of the curtained entrance of a tea-shop came the wheeze of a native fife. At café tables sat men smoking hookahs. A shot rang out.

It was a shooting gallery. A row of fantastic targets: Hit a capitalist and up rises a Social-Democrat; hit a hog and his head changes to that of a fat-jowled banker. Reminiscent of historical grievances was a sign "Our Answer to Chamberlain." Hit it and up pops a Red soldier. Another bullet in the church and up comes an atheists' club. Baku, rich, is still red.



Workers' dwellings built by the Soviet in Baku. One of the most impressive examples of wholesale building construction under the Five-Year Plan

CHAPTER XII

STALIN'S CAREER A RECORD OF WILL INCARNATE

A GEORGIAN schoolboy was asked to name the foremost rulers in his country's history.

"Vachtang the Brave," he answered, "David the Restorer, Queen Tamara and Soso the Great."

"Why 'Soso the Great'?" asked his teacher.

"Because Soso was the first to annex Russia to Georgia."

The anecdote tells volumes, but not of course until one knows who Soso is. He is the ruler of 150,000,000, though his party calls him merely, "the most trustworthy interpreter of Lenin's doctrines," and his title is only Secretary-General of the Central Committee. His picture hangs in every shop, factory and office in the Soviet Union. It peers out from newspaper front pages at regular intervals all over the world. He is probably the most powerful political leader in any nation. In Russia his name is a cult, a promise and a threat.

It is none of these things to his mother. To Ekaterina Djugashvili. Joseph Djugashvili, known as Koba to the Czar's police, as Stalin to the world, is simply Soso, the son whose career, astounding,

improbable, has not even yet fully reconciled her to the disappointment she suffered when he failed to become a priest.

No member of Stalin's family, except himself, had been interviewed until to-day. His friends will not speak of his private life. There is no man of equal prominence in the world about whose person is woven so impenetrable a veil of secrecy as that which surrounds the chieftain of the All Union Communist Party. Power allures. Power from a source mysterious terrifies. Mystery about his person is one of the effective reasons why Stalin in Russia is synonymous with power unlimited.

Stalin's mother was the first of his family to break the spell of silence about him.

It was in the palace of the former Viceroy of Georgia that we met. Not in the drawing-room that might have served as *salon* for a queen-mother at another age, but in one of her two commodious but simple living-rooms.

The palace, luxuriously situated in the midst of a great sub-tropical garden, sprawls at the foot of one of the highest chain of hills that overlook Tiflis. The Viceroys of the Czar had good living here, but few enjoyed it long. Assassinations and attempted assassinations on the part of the fiercely independent Georgians kept a succession of incumbents moving in and out of the viceregal apartments.

At their doors to-day stand uniformed sentries of

the G.P.U. In the reception hall the walls are plastered with announcements pertaining to the business of the Council of People's Commissars of the Trans-Caucasian Republic, whose headquarters are here. Revolutionary posters and the eternal appeal for harder work on the Five-Year Plan remind one that all the way from Siberia to the edge of Persia the Soviet Union is dominated to-day by a single purpose and a single will.

It was the maternal source of that will, which to-day is incorporated fully in the person of Joseph Stalin, that I was seeking. Ten minutes of wandering through leafy courts, winding corridors, up and down stairs, brought me to her rooms, on the first floor.

A middle-aged woman answered our knock, asked what we wanted. She looked mistrustfully at the foreigner but consented to ask Mrs. Djugashvili if she would exchange a few words about her son. Fortunately there are few occupations so entirely agreeable to Ekaterina Djugashvili as that of talking about Joseph Djugashvili.

The mother of Russia's man of steel looked very small when she came through the big double doors leading from her bedroom. Grey-haired, slender, dressed in grey woollen Georgian peasant costume, she peered at us pleasantly through silver-rimmed spectacles. She listened a moment as I explained my desires, her firm smile expanding at the mention of Stalin.

To my Georgian interpreter she said: "I'm sorry I speak so little Russian."

Stalin, master of the territories that once were called all the Russias, grew up in a family whose distaste for Russia was too great to admit the Russian language. The son learned it as a necessary instrument for the revolution. To-day he uses it in pronouncements that determine the course of the nation, and seventy-two million Russians listen. To his mother it is still a foreign tongue.

With simple courtesy she asked us to be seated. We drew up chairs to a big table covered with a worn red cloth. She apologized for having no coffee or tea to offer us.

Characteristically, she began, "Soso was always a good boy."

"Excuse me—who is Soso?"

"Soso? Why, that's my son Joseph. Soso is our Georgian pet name for Joseph. Yes, he was always a good boy. I never had to punish him. He studied hard, was always reading or talking and trying to find out about everything. He started to school when he was eight years, in Gori."

At the mention of the name Gori, a village about three hours from Tiflis, her tone became insistent and with vehemence she declared:

"I want you to correct one thing. They talk a lot about Soso's being born in Lilo, but that's entirely wrong. Lilo was only the place where his grand-



Mother of Joseph Stalin, in the garden of the palace of the former viceroy of Georgia, Tiflis, where she now lives

father was born. Soso was born in Gori. I could show you the place. I know he was born there. I'm his mother, and I ought to know."

She became quite excited about this:

"It was fifty years ago. Soso will be fifty-one eight days after Christmas old style. I don't know what date it would be by this new way of reckoning. I never could learn it. I only know I was twenty years old then and Soso was my fourth son.

"But all the others died before he was born. And Soso was my only son. Of course, I treasured him. Above everything in the world."

"And now," we interceded, "you are very proud of him. But did you ever dream he would become what he is to-day?"

She smiled a bit nervously, turned and smiled again at the middle-aged woman, a neighbour friend, and said:

"Well, no! You must know that we had planned quite other things for Soso. His father, Vissarion—well, if his father had lived he might have made a cobbler of Soso. You see, my husband was a cobbler, and his father and his father's father, and as far back as we could remember all his folks had been cobblers. Peasant cobblers. And his father said he would make a good cobbler out of Soso. But his father died when Soso was eleven years old.

"And then"—she paused and cast another smile at her friend, who smiled back—"and then, you

see, I didn't want him to be a cobbler. I didn't want him to be anything but"—she paused again—"a priest."

"Yes," she declared, more firmly. "I did dream that one day Soso would finish his studies and become a priest. That's what I dreamed."

Visions of the anti-religious institute in the Strastnoi Monastery in Moscow, the flamboyant posters of the League of the Godless, numerous church buildings in various stages of dismantlement and of the whole significance of the Communist Party's attitude toward the church came to mind.

"But," we asked, "are you still religious?"

"Well," she hesitated, "I'm afraid—I'm afraid I'm not as religious as I used to be. My son has told me so much." She peered a little harder through her spectacles.

"See!" she exclaimed in a more animated tone, pointing to a picture on the wall. "That's how he looked when he was in the theological seminary."

It was Joseph, an adolescent, in the coarse, straight-collared jacket of a seminarist. Already in the youth, the eyes, mouth and facial expression bore promise of that strength of will that one day was to win him a new and meaningful name.

Another picture, quite recent, showed Stalin in a white roubashka, seated. It was inscribed, "To my mother." A much larger portrait of Lenin hung on the opposite wall, and facing the windows was a

reproduction of the scene, famous in Soviet history, of the shooting by White troops of the twenty-six Baku commissars. It, too, was inscribed, by the artist, "To comrade Ekaterina Djugashvili."

"But there's so much to correct," she resumed. "It is not true that Soso was expelled from the Theological Seminary in Tiflis. I took him out on account of his health."

This was news indeed. All the official biographical sketches of Stalin declare that he was a student at the Theological Seminary in Tiflis, that the religious instruction there "did not correspond to the needs of the young Djugashvili," that he became interested in revolutionary ideas and was expelled for being "unreliable."

It is a point that will be recognized as important by any one acquainted with the psychology of the Communist Party. I probed deeper.

"No, I tell you," she insisted, "he was not expelled. I took him out on account of his health. When he went up to Tiflis from Gori and entered the seminary he was fifteen years old and he was one of the strongest boys you ever saw. But then he studied too hard in the seminary and by the time he was nineteen he was so run down that the doctors said he might get tuberculosis. So I took him out of school. He did not want to go. I took him out. He was my only son."

She finished firmly. There was no very

effective answer to that. But I risked a last attempt.

"But everybody says, and all the books say, that he was expelled."

"Nonsense," she exclaimed; "I took him out."

Possible that this time the official records are correct. Not only possible, but certain, that Stalin's mother believes she is rendering a correct account of what must have been one of the most painful episodes of her life. To his mother, a devout woman, expulsion was something that simply had to be explained away. One couldn't admit that one's son, so soon to become a priest, had been cast out for "unreliability." To the neighbours, to the family, to everybody who asked, one had to say it was his health.

All that was thirty-two years ago, twenty years before the revolution that put such a new light on expulsion from a theological seminary. Twenty years of repeating the same story imbeds it irretrievably in one's mind. After twenty years it is too late to make amendments. Stalin's mother is positive of her facts—so are the official records.

For Ekaterina Djughashvili those twenty years were too full of worry to be lightly touched upon.

"I am seventy-one," she said, "but I'd be a much younger woman if it hadn't been for those years. The worst of it was when I never knew

where he was. Always, in jail, in exile, in Siberia, even at the last in the Arctic."

One could appreciate her feelings. The record of those years is an extraordinary one. It explains a good many things—why they called young Djughashvili hard, why Lenin said of him that he would be a cook who'd brew hot broth, why they say in Moscow now that he is brewing it, and why his mother worried. It is a far more interesting and instructive record than that of most heads of a great state.

The mere table of dates tells the story:

1898—Aged eighteen, joined Social-Democratic organization, Tiflis.

1901—Put under police surveillance, fled to Baku, helped found first illegal Marxist group.

1902—Arrested.

1902-3—Imprisoned, Kutalsk and Batum.

1903—Exiled to Eastern Siberia for three years.

1903—Escaped.

1908—Arrested, exiled to Vologodsky Gubernia for three years.

1909—Escaped.

1909—Arrested, exiled to Solvichevodsk for six years.

1910—Escaped.

1910—Arrested, jailed, exiled to Vologodsky Gubernia for three years.

December 1911—Escaped.

April 1912—Arrested, exiled to Narimsky Krai, Northern Siberia.

September 1912—Escaped.

March 1913—Arrested, exiled to Turukhansky Krai, village of Kureyka, within the Arctic Circle.

February 1917—Released by the Kerensky revolution.

Nothing could hold him but the Arctic Circle. In the nineteen years from 1898 to 1917 he was arrested, jailed and exiled six times, escaped five times, spent a total of about eight years behind bars or in confinement camps. They say of Stalin that he of all the exiles was least affected by their hardships. Robust, he thrived under conditions that killed his comrades.

The mere mention of those times sent a shudder of painful memories over his mother. It has been most difficult for her to realize the full significance of the change that has taken place in the status of her son.

"I visited the Kremlin once," she said. "Just once I've been in Moscow. I lived with my son there. I didn't like it. The trip is too far, and it's not like Georgia. Oh, yes, he comes often to Georgia. But he seldom gets further than Sochi, over there on the coast. I think he is there now.

"Soso came to see me once in 1921 and once three years ago."

There was a touch of wistfulness in her voice.

To his own mother, too, Stalin had elements that were mysterious. She looked around the room and there was a long pause. The room seemed to grow bigger and Mrs. Djugashvili smaller. It was a big room, and it contained a great deal of furniture, seven chairs, all different, two plain wardrobes, three sofas, a small table in one corner and the big one where we were sitting. All this furniture seemed scanty. Outside a breeze stirred the fig-tree in the court. The breeze moved a wisp of Mrs. Djugashvili's grey hair.

"Moscow is very far."

"See," she exclaimed, and hurried over to the corner table, piled high with newspapers and periodicals. She pointed at the pile of publications every one of them containing an article, speech or picture of Stalin. "See how he works. All this he has done. He works too hard."

"And, too, he has a family of his own, but he's much too busy for any family. There's my grandson, Yasha, Soso's boy by his first wife. Yasha is twenty-four. His mother, Katherine, died of pneumonia before the revolution."

"And now I've two more grandchildren, Soso's boy Vassily. He's eight. And the little girl, Svetlana. She's five. Both of them are by Soso's second wife, Nadezhda Alleluja. Alleluja was a great Communist, a friend of Lenin's. Nadezhda is his daughter."

The mention of Lenin reminded her of something. "You know," she said, "it was Lenin that gave Soso the name of Stalin. Lenin said he was like steel. It was a good name."

It was past noon. I asked if we could take her picture. She demurred. She had a headache. It would be impossible.

"Perhaps later in the day?"

"Well, perhaps. Come about 5 o'clock and I'll see."

At 5 we were there. Ekaterina Djugashvili had been ready for us an hour. This time her costume was not the plain house dress of the Georgian peasant woman. It was the ceremonial black and white, the tasteful and effective native dress for state occasions.

We walked in the garden. Around us the magnolias and cape jessamines, the dark foliage of subtropical plants, the flaming red of late autumn flowers made Russia fade to a remote memory. Ekaterina Djugashvili said good-bye. In the cordial Georgian manner she took my hand in both of hers and said: "I want to ask one thing. Will you send one of those pictures to Soso?"

I promised I would.

CHAPTER XIII

A CORNER IN MANGANESE

A VICIOUS dip of the narrow-gauge railway train took us down the side of a gulch at such a speed that the brakes screamed when the engineer whistled for a stop. It was Chiaturi, a Georgian village in the mountains of the Caucasus, remote by 6,000 miles from America, but important for every citizen in the United States.

There is hardly an American who at some time during the day does not utilize a product that has been made with the help of Chiaturi manganese, the indispensable metal for strengthening steel. The two largest American steel organizations draw upon the Chiaturi production for a major part of their requirements, and it is likely that one out of every two automobiles in the United States has Chiaturi manganese in the steel of its essential parts.

From the polished product in the transmission of an American automobile to the rugged source in Chiaturi is a long jump. It is almost equally long from any point in Western Europe to this mountain settlement. But it is one worth making for the sake

of the light it throws on the purposes, means and methods of the Five-Year Plan, in the case of a product that has immediate bearing on the interests of the United States.

It was early, but the company staff was on the job, and Kalistrat Kamazadashvili, vice-president, received me. He said I was the first American to visit Chiaturi since the departure of the engineers of the W. A. Harriman concession in 1928. Kamazadashvili was a broad-shouldered man of medium height, dark-skinned, with coal black hair that rose in a ferocious halo around his head, an equally black moustache that extended far out on either side and drooped to cavalier points, and eyebrows of a density, length, stiffness and ebon hue that lent his face an odd expression of implacability. He turned out to be the most agreeable of hosts.

Kamazadashvili was a "stary Bolshevik," a member of the party since the memory of man runneth not to the contrary, and an old personal friend of Soso, otherwise Joseph Stalin. He first insisted on serving breakfast, a savoury Georgian meal of highly-spiced goulash, tomatoes and cucumbers peppered with chopped onions, and fried Georgian cheese, very palatable.

Riding horses having been ordered, we mounted and rode off to see the mines. It was the only way to get about. The mines lie in a radius of twenty miles from Chiaturi, up three valleys. Each mine,

several hundred feet high from the valley floor, runs straight into the side of the mountain.

At Perevisi, shaft No. 7, largest mine in the district, we dismounted and visited the miners' club-room before going into the mine. There were fifty to sixty men sitting in the room when we entered, listening to a girl who was reading aloud a newspaper. The miners were illiterate and this was their chief means of learning the events of the day. On the wall was a chart showing the production norm for every part of the mine, and next to it a list of the names of those who had distinguished themselves by attaining their quota. Those who had maintained the standard for a year would receive at the end of the year a premium ranging from 25 to 150 roubles out of a special appropriation of 18,000 roubles in the company's budget for this purpose.

We went into the mine. The entrance gallery was lit at intervals by electric lights, but they were few and far between and the way was for the most part dark. A quarter of a mile of stumbling over the tracks of horse-drawn ore cars brought us to a branch gallery, and another quarter of a mile of walking to the face. It was just the moment when the shift was going off.

Kamazadashvili, vice-president of the Georgian Manganese Company, seized a pick and with a heave of his broad shoulders began to hew. Man-

ganese ore is tough, one of the toughest of all ores. It takes ten to twelve heavy blows of a pick to dislodge a small fragment. While the shift of twenty men stood about in an admiring circle Kamazadashvili belaboured the side of the gallery until he had a heap of ore at his feet.

It was labour to test the muscles of an athlete.

"Da, da!" the men cried. "That's speed. But just try to keep that up all day."

"Am I a white worker?" asked Kamazadashvili, dropping his pick.

"No, no, a good black one," shouted the workers.

In Russia the term "chorny rabotchi"—"black worker"—is applied to those who do very hard and rough labour, and the "chorny rabotchi" are proud of their hardness.

"All day!" exclaimed the vice-president of the Georgian Manganese Company, addressing the men. "Why, what do you mean all day? You fellows only have to do this seven hours at a time. We used to do it sixteen hours, with half an hour out for lunch."

On the way out he explained that for fourteen years he had worked in the Chiaturi mines. "We had no lodging houses," he said, "and used to sleep in the winter time in the mines and in the summer out there in the bushes. And for sixteen hours' work we got one rouble a day. Now the men get 3 roubles 30 kopecks for seven hours' work."

An idea suddenly occurred to him. "I read in the papers," he said, "that somebody in America thought we had convict labourers here in Chiaturi. Do these fellows look like convicts? But I admit we have one convict. He is a statistician and he was sentenced to a year's forced labour. He's a pretty good statistician, but he doesn't produce much manganese."

Not because of this remark, but from other conversations with less interested parties and from personal observation, it seemed to be true that there were no forced labourers in the manganese mines. The explanation is usually given that the regular workers in industry and mining resent too much the presence of forced labour. It would appear that the convicts, when employed, are employed in isolated groups and in districts removed from contact with ordinary workmen.

The past results and future programme of the Georgian Manganese Company are not only important in themselves but instructive indicators of the general policy of the Soviet Government under the Five-Year Plan to build up to the highest degree the production of exportable raw materials, and especially those which, like oil and manganese, are most readily convertible into foreign exchange, and at the same time develop the refining of these raw materials into an even more profitable commodity for export.

Here at Chiaturi, the world's richest source of high-quality manganese ore, production has been uneven since the revolution, but shows a steady upward trend until this year, with a production of 810,000 tons of washed ore and for the first time the pre-war total 117,000 tons of unwashed ore, it passed 826,533 tons. In 1929 the Soviet Union's total production, from Chiaturi and its only rival, the Nikopol mines in the Ukraine, was 1,200,000 tons of unwashed ore, with a manganese content of around fifty per cent.

This put Russia again ahead of all the other manganese-producing countries in the world, and in 1930 the Plan calls for a production from Chiaturi alone of 900,000 tons washed and 300,000 unwashed ore, and in 1931 of 1,000,000 tons washed and 300,000 unwashed ore. These are the developments that are causing concern among the mine owners of India, Brazil and the Gold Coast, chief competitors with Soviet manganese, not to speak of America's manganese producers, who suffer perhaps more than the others from foreign competition. In 1928 America produced 1,102,000 tons of ore, but with only 5 to 10 per cent. manganese, and 92,000 tons with 10 to 35 per cent., and only 47,600 tons with more than 35 per cent. of the metal.

America, however, leads the world in the production of ferro-manganese, the almost pure metal ready to be used for alloying steel. No manganese-

producing country until now has manufactured ferro-manganese at the point of ore production. Now, however, the Georgian Manganese Company, operating with an appropriation of 13,000,000 roubles, is building a ferro-manganese plant at Chiaturi, supposed to begin operation in June 1931, and to produce in its first year 40,000 tons of ferro-manganese. This product brings around £20 a ton, instead of the current prices for 48 per cent. manganese ore of £2 18s. 9d. a ton.

The Soviet Union's investment in the ferro-manganese plant should be highly profitable, with a prospective gross income of £800,000 for the first year's operation. The construction of this plant is one that American manganese men will watch with interest, for 40,000 tons of ferro-manganese is a respectable figure even alongside the average total United States production of around 300,000 tons a year. It is only another item in the constantly swelling list of products with which the Soviet Union is appearing or planning to appear on a world market that especially now is inclined to view any new production with distaste.

Dusk drew on before we finished the tour of the mines. Night fell as we mounted to the administration building, and when we stepped out on the veranda the sky had come down and joined so smoothly with the mountain range that the stars

could only be distinguished by their greater brilliancy from the lights of the valley.

"You see that light over there on the left," pointed Kamazadashvili. "That's where the Czar's police chief used to live. From his office there he could look right up that road where you see the row of lights. He knew everybody in Chiaturi, and whenever he saw a stranger he told his men to go and get him.

"One day Stalin was in town. That was a long time ago. Stalin had just escaped from Siberia and come here to hide. He was with three other escaped prisoners. They all wanted to go up that hill to reach the house of a friend. Stalin told them not to go up the road. He knew that police chief. But his friends insisted, and they went up the road and got caught. The police beat them nearly to death.

"Stalin, though," he finished triumphantly, "Stalin went over the back fences. He didn't get caught. And he didn't get beaten. You can't beat Stalin."

CHAPTER XIV

SOVIET TEA PRODUCTION

FROM pig-iron to tea, the Soviet Union with its Five-Year Plan proposes to make itself so utterly independent of outside sources for all its necessities that should a united capitalist world in 1933 lay down a universal boycott upon trade with Russia, the Soviet system could not only continue to exist but carry on with its programme of industrialization and socialization.

This, the inward sense of the Five-Year Plan, became more strikingly clear here in Batum than in any of the more prominent centres of industrial development visited on this tour. For here in the vicinity of Batum is a tea plantation that in its present growth and future plans tells more than volumes of theorizing about the policy of the plan.

To reach the tea district of Chakwa the way leads through one of the most luxurious of sub-tropical botanical gardens. After weeks of travel in the bleak north it seemed impossible that this profusion of exotic plants, stretching three miles along the warm, clear waters of the Black Sea, could belong to Russia. Snow had already blan-

keted the Urals, but here a sultry sun beat down on bamboos, lush ferns, camphor trees, lemon and orange groves, eucalyptus and palms.

On the other side of the botanical garden began the tea fields, their orderly rows of dark-leaved shrubs stretching inland to the crests of the low ridges of the Caucasian foothills. Interspersed were groves of Japanese tangerines, not one of which will reach a Russian, though Russia has had no oranges since the Five-Year Plan began.

Every one of the 1,500,000 tangerines, no very great number in themselves, but quite enough to excite appetites in Moscow, will be exported. The few thousand dollars they will bring abroad are worth more to the Government than the temporary satisfactions they might afford the population. The case of tea is just the opposite.

No tea, of course, is exported. For tea is one of the fundamental necessities of Russia, ranking only next to bread in importance for a population that drinks on a conservative estimate an average of six glasses per person daily. This universal Russian love of tea does not show up in the figures of per capita consumption as compared with other countries because Russia's poverty has compelled the population to drink its tea weak and to make much tea from few leaves. England, for example, had in 1925 a consumption of 8.82 pounds of tea per person; Australia 6.1 pounds; Canada 4.4 pounds; Holland

3.8 pounds; the United States 0.88 pound; and European Russia's pre-war consumption, probably greater than now, was only 0.72 pound. Yet the Russians undoubtedly drink a greater fluid volume of tea than any of the nations named, and for Russia the need of tea is more essential than for others.

So essential is it that in 1928-29, first year of the Five-Year Plan, when the Soviet Government reluctantly spent a meagre 72,000,000 roubles abroad for food imports, nearly half of that sum, or 30,000,000 roubles, was spent for 29,564 tons of tea. Nearly all of it came from China, but in 1927-28 22,747 tons were imported from China, and in 1928-29 only 20,688 tons.

Here is the kernel of the tea policy and of the Five-Year Plan policy of the Soviet Union. In 1929 came the trouble with China over the Chinese Eastern Railway in Manchuria. At once the danger of war loomed imminent. The Kremlin was convinced that the occasion was about to arise for that dreaded attack by the capitalist nations, an attack, perhaps, on all sides after hostilities had broken out on the Far Eastern front.

Though the war scare receded, its effects remained, and in place of actual military action the Soviet leaders began, they believed, to perceive the beginnings of a movement on the part of the capitalist Powers toward an economic blockade that would

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be for the Five-Year Plan only less destructive than actual war. Immediately, as has been pointed out before, the Plan was speeded up and from the steel plant of Magnetogorsk, that had its quota raised from 600,000 to 2,500,000 tons of steel and iron yearly, to the tea plantations of Georgia, that have had their quota raised from the modest quantity of 600 tons produced this year to an eventual 20,000 tons, enough to cover two-thirds of the country's needs, every industry was called upon to multiply its efforts.

The parole was given out: "Hurry, hurry, hurry so we may be through before the blow falls." Every piece of machinery that enters the country, every kopeck saved on imports of consumption goods and spent on imports of the tools of production, seems to the Kremlin like just so many of the precious axes, saws, hammers and nails saved by the Swiss family Robinson from the wreck before it sank.

For the wreck, the Kremlin fears, is going to sink, and the capitalist nations close down with a choking grip that will cut off the Communist state from the resources of the "bourgeois" world. It is a fear that has come to approach a phobia, but whether justified or not, is deserving of earnest consideration as one of the compelling motives behind the economic policy of the Soviet Union during these hectic years. Not that the Soviet Government thinks that within five or four years it can perfectly

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industrialize the country. It merely believes that within that time there may be brought into the country sufficient primary tools of production to make it possible thereafter to go ahead and build a modern, powerful industrial state even if the borders are hermetically sealed. In the absence of such an event, foreign trade, it is anticipated, will proceed after 1933 along lines similar to those now followed. To import consumption goods is not contemplated for many years to come, if ever, and Chakwa tea is the best proof of it.

It had been planned anyway to develop the Georgian tea industry at a moderately rapid pace, but the events in Manchuria set the tempo up by several hundred per cent. The immediate enemy, China, was the source of the most of Russia's tea. There had to be created a substitute for that source.

At Chakwa is one tea plantation and one tea-drying plant. By the end of the Five-Year Plan there will be forty-eight tea-drying plants, if the programme laid down last year is carried out. Forty-eight million roubles had been assigned for tea development under the Plan. After the Chinese-Eastern trouble 138,000,000 roubles were assigned.

The stimulation of production has been such already that by the end of the second year of the Plan the output of tea was equivalent to that which had been fixed as the quota for the fifth year of the Plan. Pre-war acreage devoted to tea cultivation

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in Russia was 1,825 acres. By 1929 the Soviet administration had increased the area under tea to 16,800 acres. Pre-war output of the Russian plantations was 130 tons, in 1927 it was 246 tons, 1929 436 tons, this year 600 tons, and it had been planned to reach by 1934, 4,800 tons, and by 1939 21,000 tons. The Manchurian events led the Soviet Government to propose for 1934 the results they had hoped to achieve in 1939—that is, to cover two-thirds of the nation's need of tea by the end of the Five-Year Plan.

These are gigantic goals, and they presuppose no let up in the accomplishment of the export plan. For tea-drying plants too need machines, and to buy these machines the Soviet Government has to exchange, not roubles, worthless in the outside world, but goods. Here again there comes to light the compulsory character of Soviet foreign trade policy. The goal it has set itself is to protect itself against the necessity of imports. But to attain this goal it is necessary for the time being to have an uninterrupted flow of imports. And to have this uninterrupted flow of imports it is necessary to maintain an uninterrupted flow of exports, regardless of what the world market prices may be for the exports the Soviet Union has to offer.

Back the circle comes again to the forcing of exports, dumping, which in turn irritates capitalist markets, and promotes the tendency toward that

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boycott of Soviet trade which the Five-Year Plan was projected to avoid. The Bolsheviks have been the foremost proponents of the idea of economic determinism, but nowhere in the evolution of their state has the fatality of economic determinism been better demonstrated than in this succession of circles of cause and effect.

CHAPTER XV

ON THE RED RIVIERA

IN the dining-saloon of the ship a group of pretty women dressed in evening clothes, each wearing ear-pendants that swung almost to her shoulders, each with her lips painted pomegranate red, were laughing at a table with three young army officers. They were the first silk dresses I had seen in Russia.

From somewhere aft came the strum of a mandolin and the lilt of a dance air drifted through the portholes. It was the first dance music heard after 7,000 miles of Russia.

The engines slowed, somebody cried the name of a port, and everybody went on deck. Before us stretched a beach and on it, basking in the glow of subtropical moonlight, the bodies of a thousand bathers gleamed white against the dark sands.

It was the Red Riviera, or part of it, for that incomparable stretch of sun and moon-soaked coast line begins at Batum in the south-eastern corner of the Black Sea and extends with few interruptions to the western coast of the Crimean peninsula. These 300 miles of beach are populated by the only Rus-

ON THE RED RIVIERA

sians who smile. Here Red Army officers take off their insignia, women put on cosmetics, even the "bourgeois vice" of romantic love recruits its followers, and Communism recedes.

For this is Russia's playground under the Plan. There is no Five-Year Plan on sunshine. It is scarce enough in Russia proper to come on the "deficit" list, and if the Planners could bring it under their otherwise airtight monopoly on everything used by man and beast it would be rationed—everywhere except in the Caucasus and the Crimea. Here it pours sunshine, and when the unfortunate inhabitants of bleak Moscow are shivering in the first snows of winter the beaches of the Black Sea are still crowded with tens of thousands of men and women exulting in the warmth and the steel-blue waves of the temperate inland ocean.

No country has a playground more favoured by nature. With no effort at all on the part of the zealous Planners the Soviet Union has on its ledgers the asset of a stretch of beach long enough to accommodate the whole population of the country if they could all assemble at once, and beautiful enough to obviate the necessity for foreign travel to obtain the delights of the more famous resorts of Europe. Wishing to become totally independent of the outside world in economic affairs, Russia has been naturally endowed with independence in this respect. The Black Sea and the high mountains of

the Caucasus provide a range of scenery and climate from altitudes greater than the Alps and peaks more rugged than the Engadine, to the soft warmth of the vine-clad foothills and the luxurious heat of the shore from Batum to Sochi.

Old Russia knew the charm of this eastern Riviera as well as the new Russia does and from the Czar himself to the latest Moscow *nouveau riche* the wealthy of the land kept country estates here. We drove along the Crimean coast on a road that wound high along the mountain sides overlooking the sea. For nearly half an hour the way led past the gardens of the Czar's vacation palace, Livadia, its broad white mass rising like marble from the dense green of the surrounding firs.

To-day Livadia, the palace of Prince Felix Yousouppoff, richest noble, slayer of Rasputin; the palaces of all the Grand Dukes and Duchesses, the hundreds of scarcely less magnificent summer homes of the old Empire's opulent commoners, places with an average of 100 rooms apiece, with square miles of park, are occupied by the workers. They are rest homes, clubs, sanatoria, children's hospitals, orphan asylums. To trade union members alone goes the privilege of a room or a cot in these palatial vacation homes. Under the Plan, each factory, shop and office receives a quota of places reserved. There are never enough to go around and the offer of a free trip to the Crimea or Caucasus is one of the

most alluring of the premiums put up for extra work in factories and mines.

As hard as they work under the severe conditions of the Plan, just so hard do the Russian people play when vacation takes them South. There is a hectic quality about the Red Riviera no different from that on the French or Italian, the same pursuit of pleasure, and in Russia's case, the same desire to forget, not the boredom of too much but the misery of too little.

Costumes for vacation time in this part of Russia are little addition to any one's expenses. The occasional silk dress, the rare pair of silk stockings still to be seen are almost without exception treasures saved up from pre-Plan times, stored away for use when far from Moscow's desecrating eye.

These articles of apparel, however, are only for the promenade and the moving-picture show. The most popular costume for the seaside, for both sexes and all classes, is precisely nothing. "Nude culture," developed to a considerable extent in Germany and elsewhere, has been carried to its limit here. A bathing suit is a curiosity and the man brave enough to wear one makes himself liable to a barrage of ridiculing glances. At Batum, at Yalta and all along the beach between the entire population of vacationers appears totally unclothed. At beaches where accommodations are provided for dressing, the sexes usually bathe separately with a

wire to divide their sections of the strand. Outside, however, the great mass of the people unwilling to invest a few kopecks for a dressing-room use the beach indiscriminately.

Nude bathing, of course, is not unique to Russia and the custom has long been shared with Germany, some of the Scandinavian countries and with Japan. Whereas, however, in Germany only a few thousand followers of the "cult" make a point of going conscientiously nude, and in Scandinavian countries only certain classes of the population do so, in Soviet Russia it was inevitable that even so private a matter as how one chooses to bathe should become an affair of principle. The reproach of "bourgeois prejudice" was sufficient to kill the bathing suit industry. Marxism, supposed to influence decisively everything from arithmetic to hygiene, put its stamp here, too.

Formerly the earnest propagandists of the nude were more aggressive. So in Moscow was formed the association "Down with Shame!" whose members, marching through the city's thoroughfares and boarding street cars with nothing on but sandals, so upset the staid Communists, many of whom lead the most rigidly puritanical lives, that the Commissariat of Health was forced to issue a manifesto. It read: "Comrades shall not be hindered from liberating their bodies to air and sunlight. But comrades should remember that the dust of the

city's streets is harmful to the skin. Therefore it is forbidden to appear nude on the streets."

Caucasian and Crimean sunshine, however, are the only stimulants to smiling in the Soviet Union, even at play. I watched a roomful of workmen playing pocket billiards on the one-time excellent tables of the Hotel National in Samara. During twenty-five minutes not one man smiled. I watched a group playing volley ball on the banks of the Moscow River. Not a human being, of players or spectators, cracked a smile for half an hour. Sport is promulgated as a serious duty, not as a pleasure. Games are encouraged for mental hygiene, not for fun.

This earnestness is one of the profoundest characteristics of the Communist attitude toward life. It has found its flower in the didacticism of the Five-Year Plan, and the finest of its noseays is the Five-Year Plan for Chess and Draughts. This is no joke, but a deadly serious affair. These two ancient games, for centuries played so frivolously by light-hearted generations of "bourgeoisie," must be organized, proletarianized, communized, Leninized and fitted into the plan.

No less a person than N. B. Krylenko, Attorney-General of the Soviet Union, was responsible for the Five-Year Plan for Chess and Draughts. A passionate chess-player himself, it was he who in 1925 brought to Moscow the international chess

tournament, first international affair of any kind to meet in the Soviet Union. Chess has a sound tradition here, for Lenin played it as a youth.

Under these good auspices met the All-Union Chess and Draughts Conference to hear the Attorney-General expound the Five-Year Plan for their games. The fans came believing they were games, they left full of the knowledge that chess and draughts are tasks.

"Away," shouted Krylenko, "away with chess for chess' sake. Tournaments, match play and competition of all sorts must aid the creative spirit of the masses and not be ends in themselves. We must put an end to the neutrality of the chess and draughts movement and kill once and for all the slogan of chess for chess' sake, draughts for draughts' sake, just as we have done it for the slogan, art for art's sake.

"The Plan element must be introduced. We must organize brigades of shock troop chess and draughts players. The execution of the chess and draughts Five-Year Plan is our immediate task."

Here arose Comrade Yarimaeyeff and read the production figures laid down for chess and draughts playing. There were 380,000 chess and draughts players in 1929, he said, and this number must be increased to 4,000,000 by October 1, 1932-33. This will mean multiplying the entire chess and draughts-playing personnel of Russia by ten, or an increase

each year, etc., etc. "Chess and draughts playing efficiency must improve," concluded the speaker.

Hardly less remarkable is the Five-Year Plan for Art. Under this plan all the painters and sculptors in the Soviet Union are to be catalogued, and to a few will be assigned the task of painting original pictures. The pictures, passed upon by a commission, are then to be adopted as standards for mass production. The other less qualified artists, taking the standards as models, will then turn out quantities of reproductions in studios presumably equipped with conveyor belts.

Standardization of life and of individuals, often charged against the United States as one of the grave defects of our industrialized civilization, seems bound for new and more imposing levels in the Soviet Union.

CHAPTER XVI

THE LARGEST POWER PLANT IN THE WORLD

OF all the grandiose individual goals of the Five-Year Plan none is more monumental than the project during these five years to multiply by five the electric energy production of the Soviet Union and to lift the nation from tenth among the power-producing countries of the world to third, behind only the United States and Germany. In Dnieprostroy, overlooking the majestic span of the hydroelectric dam that, from 1933 on, is to furnish an annual 2,500,000,000 kilowatt hours of energy, the prospect of fulfilment of the Five-Year Plan's energy programme gains considerably in probability.

Here were the stamping grounds of Taras Bulba, just above the island fortress of the Zaparozhian Cossacks. They were famous in Russian romantic literature. To-day the dam, its fabulous horsepower, kilowatt hours and cubic metres of concrete are the subject of as many stories in the new Russia as the Cossacks, their lives and loves were in the old.

Deprived of all other forms of romance, the Soviet Russian expresses his nationally mystic bent

THE LARGEST POWER PLANT IN THE WORLD by the contemplation of glamorous statistics. Having had so little to boast about in the way of industry, the Soviet Union's sense of inferiority was considerably corrected by the fact that the Five-Year Plan provided not only a general elevation of industrial production but a series of "the world's greatest," and the greatest of these, because the most tangibly near to completion, is the Dnieprostroy dam. A show place, certainly, but well worth showing, and a monument among others to the engineering skill of the American, Colonel Hugh L. Cooper, whose likeness in bronze is embedded in his handiwork, the Wilson Dam at Muscle Shoals.

Colonel Cooper will be commemorated by no bronze tablet at Dnieprostroy. The fact that he and his staff are the guiding engineers of the dam is mentioned as seldom as possible in the Soviet press. It is not good for proletarian morale to be reminded of the importance in the Soviet Union of thoroughly "bourgeois" engineers. But the success of his leadership in this pet project of Joseph Stalin's, the earliest of the Five-Year Plan's greater undertakings, was responsible for stimulating the demand in this country for American technical assistance.

Oldest of the American colonies in the Soviet Union, the Dnieprostroy group of consultants and their families consist of Colonel and Mrs. Cooper an average of two months out of each year; Milton

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Thompson and Mrs. Thompson of Montclair, Frank P. Fifer, of Baltimore, Louis G. Puls of New York, James Johnson of North Carolina and Henry Wilkinson of Washington, D. C. They are the only Americans in this country who have been able to create for themselves an almost 100 per cent. American living environment.

Their group of brick cottages each with six rooms, kitchen and bath, central heating, hot and cold water would grace an American garden city development. Their food, imported by the ship-load through Odessa, is almost exclusively American, and their sports opportunities could hardly be excelled anywhere in America. With excellent swimming in the Dnieper River in the summer, two concrete tennis courts, four clay courts and a golf links, skating in the winter and motoring for those who can stand Russian roads for the sake of the Crimean scenery, the Dnieprostroy colony has a distinct advantage over any other Americans in the country. Few of the other American engineers in the Soviet Union were foresighted enough to draw their contracts, as Colonel Cooper did, to permit the import of all their necessities duty-free from America.

With Fifer I spent the day on the dam, now a little more than half completed, but already a most impressive achievement. Its dimensions satisfy even the Russian love of superlatives. A mile and a

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quarter long, 200 feet high, it will contain 1,150,000 cubic metres of concrete, a power house 820 feet long, operating under a head of 116.5 feet a set of nine turbines of 85,000 horse-power apiece, but to render an ultimate total of 850,000 horse-power and an annual production of 2,500,000,000 kilowatt hours. This is a larger power production than any other single unit in the world, even of Niagara Falls. Muscle Shoals produces 620,000 horse-power. The turbines are larger than any other, the next largest being the 75,000-horse-power units in use at Niagara.

We watched them installing the water passages of the turbines, fresh from the American manufacturer. Twenty-eight feet in diameter, the huge snail-shaped steel structures dwarfed the men at work. It took us thirty minutes to walk across the mile-long caisson dam to the other side of the river. They were placing concrete at an average rate of 3,000 cubic metres a day.

There were more than enough machines to help. Thirty forty-ton locomotive cranes, ten steam shovels, fifty locomotives, eighty dump cars, all American machinery, presented such a forest of equipment as could not be seen elsewhere on any single construction site in the world, according to the Americans here. The Dnieprostroy dam, enjoying the particular favour of the Government, is more highly mechanized than any in America, and

the 17,000 workers on the job, with their five-day nonstop week, have been able to place more concrete per month than has ever been placed in engineering history before. In September were placed 88,000 cubic metres, against the highest record at Muscle Shoals of 53,000 in one month, and in October the Dnieprostroy record was 110,900 cubic metres.

It is more than a matter of ordinary prestige for the dam to be finished on time, for achievements like this are literally meat to the Soviet population. The dam was conceived under Catherine the Great, not, of course, for electric power, but to help navigation. In the present dam one of its valuable features is a system of locks for river steamers and the fact that the lake that will be formed by the dam will obliterate the hitherto impassable Dnieper rapids. During the late Czar's time the project was talked about. Lenin took it up as early as 1920 to illustrate his thesis that "electrification plus the Soviet power equals socialism." Colonel Cooper was called in June 1926; actual excavation began in May 1927; the first two turbines are scheduled to go into operation in September 1932, and all nine of them during 1933. There is, however, a disposition in Dnieprostroy to believe that the whole installation will not be completed before 1934.

What is to be done with its power is another question. The annual production of 2,500,000,000

kilowatt hours will be ready to serve an industrial population of 8,000,000. To-day there are not more than 1,000,000 in the whole district available for service by the plant. But this is a typical Five-Year Plan development, and the project includes not only the dam but the building of a new city of factories to utilize the dam's power. As at Magneto-gorsk, the Planners have deliberately set about to move a population to the natural source of supply.

The scheme holds out promises of business for American machine manufacturers, for according to L. L. Rodert, chief Soviet engineer, there will be spent abroad £30,000,000 and most of it in America, for the equipment of the factories planned. They include an aluminium plant by French engineers for 15,000 tons yearly; a ferro-alloy plant for 260,000 tons yearly; a metallurgical plant by American engineers for 1,150,000 tons of cast iron yearly; a coke plant, and a cement plant. For these factories all the plans have been received, and for the whole project sewers and water lines have been laid, and a brick factory put in operation. Fifteen million dollars have been spent this year on planning preliminary work and foundations and next year will be expended £16,000,000. Seven thousand workers are employed already on construction and 45,000 will be needed next year. The prospects for unemployment in the building trades in the Soviet Union appear to be remote.

At the same time there is being planned a city of dwellings to be occupied by 150,000 workers by 1933, at first along the Dnieper bank. When the contemplated expansion to a population of 500,000 comes, the city will be extended to the island Hortiza, in the centre of the river, where in Cossack times no woman could enter under pain of burial alive. The total cost of the factories, equipment and dwelling-houses of the new city will be around £80,000,000. Of Dnieprostroy's 880,000 horsepower these factories will use 500,000 and the rest will go to the steel plants in Dniepropetrovsk, forty-five miles away, while some lines will be run even as far as the Don Basin, 180 miles away.

The cost of the dam is given officially as 220,000,000 roubles, and the projected cost to the consumer of the current it will produce is given as 1·2 kopecks, or about $\frac{1}{4}$ d. per KWH, compared to an average of 7 kopecks, or $1\frac{3}{4}$ d. from other power sources in the Soviet Union. There is ground to believe that the cost of the dam and of its current will be higher than these figures, perhaps considerably higher, but the fact remains, as Colonel Cooper's chief assistant, Thompson, remarked, that the power produced will be cheaper than any thermal power. The dam will produce power equivalent to that from 3,000,000 tons of coal annually, an amount equal to nearly one-tenth of the 1928 coal production of the Soviet Union.

Lenin's slogan on electrification has kept this phase of the industrial programme at the very forefront. Following the revolutionary taste for new names, some enthusiastic Soviet parents christened girl babies "Elektrifikatzia." Actual achievements in "Elektrifikatzia" have been relatively very considerable, although absolute figures are still low.

Russia had in millions of KWH in 1913, 2,000; 1925, 3,517; 1927, 4,060; 1928, 5,180; 1929, 6,465, and this year 8,700, or more than four times pre-war. But of the sixteen leading power-producing countries in the world only tiny Holland, Belgium, Rumania, Austria, Poland and Sweden had less power output than the Soviet Union. On the other hand, the Soviet Union plans to have 25,000,000,000 KWH by 1933, a figure only less than America's 113,000,000,000 and Germany's 30,000,000,000 in 1929.

This is an impressive ambition, but even if it is achieved, as there seems to be ground to believe it may be achieved, the huge Soviet population will after all have but 165 kilowatt hours per person, and that will still be less than in any except Poland and Rumania of the sixteen leading power-producing nations. America had 942 kilowatt hours per person in 1929, Canada had 1,815 and Norway 2,988. But after Dnieprostroy is finished the Soviet Union is planning a new dam, for 1,000,000 horsepower across the Volga at Samara, and after that

another at Lake Baikal with fantastic capacity estimates running high into the millions.

Statistics are tiring, but these are interesting because they illustrate so precisely the three outstanding facts about the economic rating of the Soviet Union under the Five-Year Plan as compared with the outside world: its real speed of progress, the very long distance it still has to cover, and the audacious outlook of the Planners in the future.

CHAPTER XVII

IN A SOVIET COAL MINE

Two hours in a Don Basin coal mine 2,000 feet deep was an experience. Crawling for hundreds of yards through galleries three feet high to chambers where the miners worked their whole shift through on all fours was a lesson. Coal mining is no sport in any country, but given the choice between a penitentiary sentence or mining coal in the Don Basin any normal human being would choose the penitentiary.

The chief engineer and I sat in the pit office waiting for our mine clothes. The shift was coming off and a stream of men, faces grimed dead black with coal dust, shoulders drooping, poured out of the mine head.

"This is the best mine we have," said the engineer. "It is the most highly mechanized. With 250 workers we produce 120,000 tons a year. They only work a six-hour shift."

A younger engineer, manager of the mine, burst into the room and with a curse exclaimed: "They've skipped."

"Who've skipped?"

"Those blasted fellows from the farms. Came up here last week, worked five days, and now the half of them have left."

"Why?" came in a chorus from the chief and the others in the room.

"Lily livered—still wet behind the ears," yelled the mine manager, slamming the door.

Our clothing came. Stiff canvas jackets and trousers, high leather boots. We started down.

"Where is the lift?" I asked as we entered the pit mouth.

"There is no lift," said the engineer. "We have mechanical transportation for the coal, but not for the men. It's that way nearly all over the Don Basin."

To reach a depth of 2,000 feet it is necessary to traverse a good mile and a half in zigzag descent. The first half-mile led through a tunnel, the roof of which was about the height of a man's chin. It was pitch dark, and the light of our miners' lamps barely sufficed to show the way as we stumbled down, crouching low. The footage of wet and partially rotted planks was insecure. Every hundred yards came a set of double doors.

A half-mile of walking in a bent position even above ground is an exhausting job. After fifteen minutes of it one would give a good deal to be able to straighten up. But after fifteen minutes the engineer exclaimed, "Now we do this." He

was down on his hands and knees and disappeared sideways under the slate roof that had come down to within three feet of the floor. The incline was too steep to go head first. There was nothing to do but travel sideways like a crab, half crawling, half sliding, the lamp hanging from one's neck, the coal dust enveloping us in a choking cloud.

"Here," I cried, after 200 yards of this sort of locomotion. "You don't mean to say that the miners have to get down to work this way."

"Of course they do," said the engineer. "They don't mind it."

I thought of the farm boys who had worked five days and quit.

The gallery widened into a chamber. Its height remained the same, just the height of the anthracite seam. We had been going thirty minutes, were about two-thirds of the way down. With every hundred yards of depth the temperature had gone up perceptibly, until now it was hot. Sweat drove rivulets through the grime of our faces.

"Here is our electric cutting machine," exclaimed the engineer, pointing to an American Sullivan cutter. It was being operated by five men. They were crouched, as we were, like apes. They had paused as we crawled in. Now they started the machine again. The dust clouded the chamber heavily, though a current of air from the ventilators was steady and strong. An explosion boomed from

away down the mine. The ground shuddered. "Dynamite shot," remarked the engineer. In a moment the fumes reached us, acrid, penetrating.

"Do these men have to work in this unnatural position for their whole shift?" I asked. "Why don't you cut the roof higher so they can stand up?"

"Too expensive," said the engineer. "Sure they work this way. This isn't so bad. You ought to see some of our really deep mines, 2,500 feet down, where they haven't any machines and lie in chambers like this on their sides, naked to the waist, hewing with picks. Another 500 feet down makes it really hot. They sweat."

We crawled further. From this chamber led a system of iron chutes to carry the coal to the bottom of the mine, whence it would be picked up by an electric conveyor and carried out another gallery to the top.

The chute occupied almost the whole breadth of the tunnel, so there was no other way to get down except by squatting with the coal in the chute and sliding. In this fashion we reached the bottom.

"Why can't the men ride the coal conveyor up?" I asked.

"Too dangerous," replied the engineer.

"Why don't you install some kind of lift for the men?"

"Too expensive," he said.

"But isn't it very expensive to waste all that time and strength getting down to work and coming up from it?"

"Yes, the shift begins at the top. It takes the miners about half an hour to go down and half an hour to come up, so when they work a six-hour shift they are only putting an actual five hours on the job."

The ascent was interminable. When we reached the pit mouth it was already dark. The group of miners and engineers in the pit bureau asked what I thought of it. I said it was such hard work to get down in the mine I should think there would be little strength left to hew coal. "You're right," exclaimed a miner. "Make no mistake about it. You've done the hardest part of the job when you get down to it."

It was plain that this extraordinary condition was an effective reason why in the Don Basin this year 178,000 men quit the mines, why they have working only 177,000 men though they need 231,000. They could not quit before the Five-Year Plan because there were no other jobs to be had. Before the Plan the Soviet Union had several million unemployed. To-day the demand for workers is great throughout the Union, and from the Don Basin the exodus of workers has become a flight. The experiment was tried of bringing jobless German

miners from the Ruhr. Nearly a thousand came, stayed a few weeks, and now many have returned home, preferring unemployment in Germany to employment in the Don Basin.

Only the Soviet youth, the members of the Communist Youth International, need no persuading even to go to the coal mines. Of all human assets of the Government the youth represent for the present and for the future the most considerable.

This applies to the majority of all the persons in the Soviet Union under twenty-five years old. The revolution is now thirteen years old. There are approximately 25,000,000 persons between the ages of fifteen and twenty-five years, who from the ages of two to twelve years on have known nothing but the Soviet State, have had absolutely no contact with the "bourgeois" world, and the oldest of whom have at the most dim childhood memories of war-time Czarist Russia. None of them knows the pre-war regime.

It is difficult for an outsider to realize the power over such a body of isolated youth of a system wherein every publicly spoken or printed word, every avenue of instruction and information, every lecture platform, book, magazine and newspaper, every school and club, every radio speech, theatrical performance and moving picture, is the propaganda instrument of an inexorable political machine. The majority of youth is convinced that the Soviet Union

though obviously not yet quite perfect will become so with the completion of the Five-Year Plan and will at the same time become the most powerful nation on earth.

Toward "bourgeois" persons, whether Russian or foreigners, their attitude ranges from lofty contempt to hatred, and their general feeling is that all "bourgeoisie" are nearer the lower beasts than to mankind. These are the approaching rulers of the Soviet Union and they are even now the most dependable reliance of the Government. Placing themselves at the disposition of the authorities, they ask to be commandeered to go to any difficult spot on the Five-Year Plan front, where they may be relied upon to work with all the self-sacrifice of a nearly religious fanaticism.

Brigades of these young "shock troops" have been sent to the Don Basin. They were ordered there by Molotoff, the right-hand man of Stalin. His visit to the Don Basin was illustrative of the methods used to promote production in a backward branch of industry. Although the industry produced 46,651,000 tons of coal this year, against 39,658,000 tons last year, the increase of 7,000,000 tons was not sufficient to supply the fuel needs for the plan. Molotoff came to Stalina, and in a week his decree was issued, a most instructive document.

All the directors of the Union Coal Trust were

discharged; the G.P.U. was ordered to use its forces to weed out slackers; half the students in the third and fourth years of the mining academies were ordered to the Don Basin for a year; the Ukrainian Communist Youth International was ordered to send its best shock brigades to the Don Basin; the Soviet Government, the Council of People's Commissars, was ordered to prepare certain plans within five days, and blanket instructions were issued to raise wages, improve the food supply, increase premiums. The Don Basin is now the only place in the Soviet Union where the workers can buy all the cigarettes they want without limit, get meat every day and eight metres of cloth a month.

One of the most interesting features of Molotoff's decree, made in the name of the Ukrainian Central Committee, was, however, the fact that the committee "resolves that it is necessary to direct the Council of People's Commissars of the Soviet Union within ten days to prepare plans, etc." The Communist Party no longer conceals the fact that it is the real Government and has ceased to take the trouble to clothe its orders in the form of suggestions.

Stalin commands Molotoff, Molotoff commands the Ukrainian Central Committee, the Ukrainian Central Committee commands the Soviet Government, the Government does the job.

CHAPTER XVIII

THE FIVE-YEAR PLAN

THE decline in the standard of living in Russia since 1927 is unevenly distributed throughout the country but nevertheless very great everywhere. It would not have been so striking to one who had not returned since the famine years of 1920-21. Conditions now are not as bad as in those fatal years, but they more nearly resemble 1920-21 than they do the flourishing years of the NEP from 1925 on to the beginning of the Five-Year Plan in 1928.

One of the first questions that strikes an observer of the privations now being suffered by the people, a question that becomes the more insistent the longer one stays and the further one travels in the country is: "Why was the pace of industrialization put up so high that the population has to suffer so much?"

Without an answer to this question the situation in Russia to-day appears senseless, the Plan a mockery and its authors malevolent men deserving the execration of their fellows. An analysis of the causes, however, reveals that the privations were

planned, but only to a certain degree, to a degree nothing like the actual state of affairs. It reveals that the major part of the privations now being endured were due to the intervention of factors beyond the control of the Planners, and to at least one great mistake in the administration of the Plan.

It does not make out a very good case for the cause of Socialist-planned economics versus capitalist free-market economics, but it at any rate relieves the Planners of the reproach that they deliberately set out to achieve industrialization by stripping the population to the bone. Oddly enough, the Communist sponsors of the Plan prefer to accept this reproach rather than admit they have made mistakes, or have failed to forecast accurately the course of events.

This course of events was planned to include a high tempo of industrialization, involving certain hardships for the people. It was put at this level for three principal reasons: economic, military and internal political.

Most important was the economic reason. To understand it one must keep in mind the fact that industrialization was the necessary keystone for the stabilization of the dictatorship of the proletariat. The heads of that dictatorship, the leaders of the Communist Party, realized that until Russia was transformed from an agricultural state to an indus-

trial one their tenure of power could at best be maintained only by the repressive forces represented in the police and military arms. To reverse the ratio between the 83 per cent. of agriculturally employed and the 17 per cent. of industrially employed, to shift a large part of the 125,000,000 peasants into the ranks of the proletarians now numbering about 25,000,000, was the primary task of self-preservation for a proletarian government.

By the end of 1927 the industrial plants that had been built before the revolution by capitalist owners had largely been restored and industrial production had surpassed pre-war figures by 19 per cent. There could be no further progress toward industrialization without the erection of new plants. Machinery and equipment for such new plants could only be procured abroad, could only be bought with foreign currency, which in turn could only be obtained by the sale of exports. Exports, however, were the most backward element in Soviet economy.

In 1913, exports were 1,520,000,000 roubles; 1924-25, 559,100,000; 1925-26, 676,600,000; 1926-27, 780,200,000; 1927-28, 777,800,000. At this irregular rate of progress it would take a decade or more to reach pre-war level of exports.

This was due more than anything else to the fact that no grain or almost no grain was being exported. Grain constituted some 40 per cent. of the export of pre-war Russia, but only a fraction of

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a per cent. of the total post-revolutionary exports. It had become apparent by the end of 1927 that under the post-revolutionary system of individual farming Russia was either going to have no more grain exports, or was to get them almost exclusively from the class of well-to-do farmers who had replaced the former landowners at the top of the rural social scale.

The old landed estates had been split up into millions of tiny individual holdings. More than 90 per cent. of the peasants now lived on farms whereon they produced little more than they could consume, partly from necessity, partly from resentment against the Government that provided them with next to no manufactured articles, confiscated their grain, and campaigned against their church. Only the so-called well-to-do peasants, a term extremely relative since most of them would be considered poor wretches in Western Europe or America, produced anything for the market. Soviet authorities declare that the Kulaks, numbering 6 per cent., produced 20 per cent. of all grain harvested, and 40 per cent. of all grain marketed.

The growth and prosperity of this comparatively well-to-do class of peasants clearly meant the rise of a new class of landlords, a new "capitalist" class. Even so, however, the Kulaks were not yet able to supply grain enough for any considerable export. They were just about able to supply the cities,

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but in doing so they were becoming prosperous, becoming a "menace" to the Communist state.

Hence the Government was faced with the alternative, either to do without grain exports for many years longer, meanwhile waiting for them to be supplied by a growing class of the Government's enemies, or else to intervene energetically and socialize agriculture. The decision was made to collectivize the farms.

Collectivization would mean little without mechanization. Mechanization of agriculture meant, first, tractors and farm implements. Tractors and farm implements meant factories to make them in. Factories meant steel to supply them. Steel meant coal, oil and electricity, and so on down the line. The whole thing spelled industrialization.

The Soviet planners were happy. Their reckoning all fitted in perfectly. They would collectivize the farms to get more grain to export in order to buy machines abroad to collectivize the farms, and in the whole process the land would be industrialized. There had to be, however, a starting point for this beneficent circle. It was necessary therefore to tighten up the belt a bit at the beginning and to export some of the things that otherwise would have been consumed by the population, food, textiles, and so on. At the same time imports of these consumption goods would be stopped.

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With the money gained by both processes machines and raw materials would be bought abroad.

This was the first, the most important reason for the Plan, its economic foundation. It entailed some, but no abnormal amount of privations.

Only slightly less important were the military considerations. Lenin taught, and every Bolshevik believes, that a Communist state will never be allowed by the capitalist countries of the world to attain stable prosperity. At some point in the upward climb of the Soviet Union its leaders felt positive there would come another "bourgeois intervention," military perhaps, economic certainly. Now if the upward curve were steady, but slow, the bourgeois countries would have plenty of time to convince themselves of the reality, would have comfortable opportunity to organize public opinion in their countries for the attack that Soviet leaders regarded as inevitable as the coming of the seasons. A sudden upward spurt, however, catching the bourgeois world by surprise, and leaving the Soviet Union at the end of a few years master of an industrial system capable of supplying all its military as well as economic needs, would be the surest way of meeting the threat and then, with all this power, what might not be done for the cause of world revolution?

They chose the spurt. It was decided not merely immediately to build tractor factories, farm imple-

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ment factories and the other plants necessary for collectivization of the land, but to build at once, within five years, an entire complex of all the primary industries, so that the Soviet Union should be utterly independent and have every process of manufacture in its power from the iron ore in the ground to the completed machine.

This goal had been set anyway for a decade or so hence. The whole Five-Year Plan, however, was speeded up and these primary plants projected on greatly enlarged lines, largely due to the war scare of 1929, when conflict with China over the Chinese Eastern Railway seemed unavoidable. Then appeared for the first time the Slogan, "Five-Year Plan in Four," and the population took up its belt another notch.

So obsessed are the Soviet leaders with the idea that the country is going to be attacked that there is a disposition among some of them to see at least one benefit from the wretched appearance of the population.

Masking the fundamental industrial progress of the nation, it lulls the bourgeois countries into a sense of security and before the hostile world has awakened to the fact of Soviet strength the nation will stand impregnable. This at any rate is their chief consolation for the fact that this same deplorable aspect of the people, leading to the assumption that the country is hastening toward bankruptcy,

has checked the inclination toward advancing the Soviets credits.

To these two reasons for the pace of the Plan must be added a third, less important but nevertheless a factor. It may be remembered that the Plan was born and put into effect not long after the expulsion of Leon Trotsky from the party and the country that had witnessed his spectacular rise from émigré chess-player to organizer and commander-in-chief of the Red army. Trotsky's differences with Joseph Stalin were largely of a personal nature. The brilliant Jewish military man lost because the shrewd Georgian party man was a better manipulator of the political machine.

But Trotsky had many friends; his expulsion and exile came nearer to inflaming a violent revolt within the party, came nearer to starting the Russian revolution on the way of the French than anything that had ever happened. Trotsky was the proponent of the radical course. So long as Trotsky was on the stage, Stalin represented the moderate course.

With Trotsky gone, it was not only possible, but politically advisable for Stalin to strike out a new line, even more radical than that proposed by Trotsky who had proposed to leave the peasants on their individual farms, but to requisition their grain and dragoon the last penny of taxes out of them. Stalin's proposal forcibly to collectivize the farms

was not Trotsky's course, but it was extreme enough to satisfy all but the most irreconcilable Trotskyists. What a soothing effect it had on the party turmoil may be judged by the fact that of 5,000 Trotskyists sent into exile in 1928 there remain now but 300 unrepentant. Christian Rakovsky, former Ambassador to France, is still holding out, but the majority have come back and been readmitted to the party.

These, the three motives of the Plan and its pace, were to tighten Russia's belt by two notches. This much was planned. There were to enter, however, several unplanned factors, one great mistake, and one unforeseen event, that were destined to lower still further the standard of living, incite a world-wide protest against Soviet dumping, delay important features of the Plan, and face the Soviet Union with the threat of an economic boycott on the part of the capitalistic world.

CHAPTER XIX

PROGRESS OF THE FIVE-YEAR PLAN

SOCIALIST-PLANNED economy is superior to capitalist-unplanned economy, say Soviet political scientists, because crises such as those that periodically visit the capitalist world are excluded from the Socialist system. The history of the first two years of the Five-Year Plan, most ambitious attempt ever conceived to regulate the affairs of mankind, shows that events unforeseen by the Five-Year Planners have caused the Soviet Union to suffer far more severely than any capitalist country has suffered in modern times from merely economic causes.

Two principal factors, not reckoned upon, have so far appeared to render more difficult the execution of the Plan, and each has set up a vicious circle of effects and causes from which the Soviet Union is now carrying on a struggle to escape, a struggle so desperate and so resolute that eventual success seems probable. The first of these factors was the excessive speed of collectivization of the farms; the second was the decline in world commodity prices.

The first, resulting in the destruction of 25 per cent. of the country's live stock, disorganization of

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agriculture and an uproar of ill-feeling among the peasantry, aggravated the already severe food shortage, guaranteed that the standard of living set for 1933 could not be attained, discouraged thereby the whole population, put a brake on industrial production, and cost the Government hundreds of millions of roubles. Russia had to pull in its belt a third notch.

The second factor, the world decline in commodity prices, proved ironically that the Socialist state, whose Communist International agitators cheered so loudly at the bourgeoisie economic crisis, suffered more from it than any capitalist country. By reason of the fact that prices shot downward on all the things Russia had to sell, while prices on the things she had to buy remained about stable or sank but slowly the Soviet Foreign Trade Monopoly, forced for the sake of the Plan to keep its imports of machines and industrial equipment up to the Plan level, was compelled to increase its exports enormously in volume.

This was the immediate occasion for the worldwide protest against Soviet dumping. The violent increase of exports, taken in considerable part out of the consumption goods needed by the people, further depressed the standard of living. These two causes together, resentment at Soviet competition and scepticism over Soviet solvency in view of the miserable condition of the population, inclined

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the bourgeois world to restrict credits. This in turn made it necessary to export more, and so the vicious circle was completed. Once more Russia had to take up a notch, and the net result of these four tugs at the belt, two planned and two unplanned, was the present living standard.

Serious as were the results from the second factor, the first, the mistake in the speed and the manner of collectivization, was most immediately disastrous. Alexis Rykoff, the so-called "Premier" of the Soviet Union, chairman of the Council of Peoples Commissars, now "interned" in the Politburo as the last member of the Right Opposition to be tolerated in Stalin's councils, was in favour of slowing up the Plan to a more comfortable speed.

To that end he made a speech at the Sixteenth Party Congress, a speech that was properly howled down by the majority group, and never published. All Moscow has heard, however, that among his biting remarks was: "The forcible collectivization of the land has cost the country as much as the Civil War and Intervention."

This was certainly an overstatement, but near enough to the truth to be extremely unpleasant. What happened is easy to illustrate. It is not mere history, for its consequences are being keenly felt in every home in Russia to-day.

There were in 1928 about 25,000,000 peasant households in the Soviet Union, and of these about

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500,000 had been collectivized. According to the Plan, collectivization was to go forward slowly, and for the first year this was done, so that by the summer of 1929 the number of collectivized households had risen to about 1,000,000.

The Plan foresaw that by the summer of 1930 there should be collectivized about 2,500,000 households, or ten per cent. of the total. For the collectives to be formed out of these 2,500,000 households the Plan had provided sufficient machinery.

Force, applied at first cautiously, but then with increasing severity, was a principal instrument in the process of collectivization. As it met with little resistance at first, the Soviet authorities were encouraged to proceed not only faster but more radically, in that the collectives were patterned, not after a loose co-operative, but after a rigid commune, in which every member was forced to give up for the common household not only his horse, but his cow, his pig, his sheep, his chickens and even his dog.

Spreading like a prairie fire, the process of collectivization reached gigantic dimensions. Almost at one stroke Kulaks, numbering at least 3,000,000 were "dekulakized," that is, deprived of their entire property, ousted from their land and many sent to Siberia, the Urals, or elsewhere far away.

By March 1930, instead of 2,500,000 individual farms in collectives there had been forcibly thrown

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together a total of 11,000,000 farms, or nearly 50 per cent. of all the peasant households in the Soviet Union. There were no machines for these so-called collectives; there were no agricultural experts for them; not enough seed for them, in short they were for the most part abortive.

Stalin called a halt, in his famous speech "Dizziness from Success" in which he put all responsibility for the excess of collectivization upon "over-zealous under-officials." It was too late, however, to remedy the very great damage already done. Millions of peasants, rather than give up their live stock to the collectives without compensation, preferred to kill and eat their cows, pigs, sheep, chickens, and many even slaughtered their horses out of sheer indignation. In many parts of the country 50 per cent. of all the bulls were killed, one-third of horned cattle, of sheep and goats, nearly one-half of all swine, two-thirds to three-fourths of all poultry, and 15 to 18 per cent. of horses, at least 25 per cent. of all live stock throughout the country.

For a brief period Russia ate more meat than it had eaten in decades; then it went on a vegetarian diet.

As a result of Stalin directive one-half of all the new collectives were immediately dissolved. In March there had been 11,000,000 farms collectivized, in May there were 5,000,000. To-day there

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are probably 6,000,000 to 7,000,000 individual households in collectives, for the process has begun again, this time much more slowly. According to official Soviet estimates, it will take at least three years and probably more, to make up the losses of live stock suffered. Meanwhile as a result of the first great mistake in the execution of the Plan, the population was compelled to endure a degree more privation than the two degrees the Planners had reckoned upon.

For the second unplanned difficulty in the fulfilment of the Plan, an examination of the Soviet foreign trade returns together with a chart of world commodity prices from the beginning of the Plan, to date, is extremely fruitful. It shows that during this period the Soviet Union took a loss of probably fifteen per cent. on its entire foreign trade. That is to say, the prices the Soviet Union received during this period for its exports, nearly all raw materials, fell off approximately thirty per cent., while the prices it had to pay for its imports, about 65 per cent. machines and equipment and 35 per cent. raw materials, fell off approximately only fifteen per cent.

Of all the commodities the Soviet Union has to sell, only petroleum kept anything like its 1928 level of prices. Lumber, now the leading Soviet export, declined 30 per cent., grain 50 per cent., furs 40 per

cent., and so on. The Soviet Union gained on the likewise lower prices for its imports of cotton, wool, rubber and metals, but the mass of its imports, consisting of machines and equipment, remained almost as expensive as ever.

All countries having a predominant export of raw materials suffered under the same decline in prices. But the great difference between these countries and the Soviet Union was that all the others reduced their exports during this unprofitable period; the Soviet Union alone increased hers. She alone had a Five-Year Plan that forced her to keep her imports to the planned level, regardless of the fact that in order to do so she was compelled to export at a loss.

For the Soviet Union is also unique in having a balance of payments almost identical with its foreign trade balance. Small amounts of gold and platinum, irregularly shipped abroad, an infinitesimal tourist trade, balance the expenses abroad of Soviet diplomats and trade representatives plus the expenditures for the salaries of American and other engineers at work in the country. It is, however, almost literally true that every pound of imports has to be paid with a pound of exports.

It was not the desire of the Soviet Union to keep up its imports to the Plan schedules merely for the sake of fulfilling the import plan, but because the

whole system of industrial construction within the country depends upon strict adherence to the import plan. Every factory in the Soviet Union, without exception, is counting upon this or that machine, shipment of steel, or cargo of raw material to arrive punctually at the appointed time from abroad. A reduction of a few per cent. in imports means disturbing to an incalculable degree the execution of the Plan.

Hence the necessity of straining every effort to fulfil the import plan, and hence the consequences, when an unforeseen factor such as the decline of commodity prices intervenes. Soviet publications proudly announced that while in the nine months period, October 1, 1929, to July 1, 1930, all the capitalist countries showed a decline in foreign trade, the Soviet Union's rose 25.2 per cent. It was a Pyrrhic boast. The process is best illustrated with the period just cited.

During that period, in the effort to keep its imports up to Plan, the Soviet Union increased its exports in value seventeen per cent. and to do so it had to increase them in volume 57 per cent. This loss was only partially compensated by the much smaller decline in the prices of its imports, and even with this effort, plus the fact that the trade balance was 76,400,000 roubles passive, only enabled an increase of 35 per cent. in the value of

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imports whereas the Plan had called for a 40 per cent. increase.

From these operations there were six principal consequences. First, the government could pay for its purchases abroad; second, there was a net loss per ton on exports as compared with exports last year; third, there was still less for the population to eat, wear and use in Russia; fourth, many factories in the Soviet Union and many construction sites failed to receive important orders because the imports had lacked coming up to Plan by 5 per cent.; fifth, the fact of a passive balance made it necessary to screw still higher the export plans for the coming months; sixth, there arose all over the world the protest against Soviet dumping.

In view of the obvious compulsion under which the Soviet Union acted in the forcing of its exports, and in view of the many subsidiary unfavourable results of it, there appears little room for the theory that Soviet dumping was motivated politically. To the outside world, however, the argument did appear cogent that under the prices prevailing to-day either the Soviet Union with its greatly increased exports was suffering a loss, or that the improbable assumption would have to be accepted that the Soviet Union previously, when prices were higher, had been taking an enormous profit. In other words, the assumption seemed in favour of the dumping charge.

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An examination of Soviet production costs for certain commodities, wheat, rye, oil, anthracite coal, and manganese, as compared with world market prices, should give some assistance in the choice of assumptions.

CHAPTER XX

THE MATTER OF DUMPING

IN the consideration of the problem of Soviet dumping, the case of wheat is the simplest and most inescapable example. The fact is that with the world wheat market what it is to-day, the lowest in more than a decade, every wheat-producing country in the world is forced to sell at less than the cost of production. Soviet authorities alone declare their wheat is not sold below cost. Their own figures, however, show that if they sell any wheat at all abroad, they must sell most of it at a loss, although they may be able to sell at least a portion of it at a smaller loss than, for example, the wheat farmers of America.

"Union Grain," the Government grain-trading organization, is paying this year to private peasants and to collective farms throughout the Soviet Union an average price of one rouble forty kopecks a pood for wheat, according to official information given me by the Government Planning Commission. Reckoning the rouble at par, or the Soviet State Bank rate of nine roubles forty-three kopecks to the £, this amounts to 4s. 11d. a bushel. Trans-

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portation from Black Sea ports to north European ports at the current charter rate of thirteen shillings a ton works out to 4d. a bushel. Railroad transportation from the farms to the port of loading, plus handling, at the most conservative estimate would average 1d. a bushel. Thus the cost of putting this Russian wheat in any north European port would total 5s. 4d. a bushel.

Russia's best wheat market in the past has been England. In Liverpool the average wheat quotation for October on a steadily declining market was 3s. 4d. a bushel. In Rotterdam, the current price for November delivery is 2s. 8d. a bushel. On September 19, Russian wheat, c.i.f. Amsterdam, was offered at 3s. 1½d. a bushel. In the first week of October, German buyers took a shipment of Russian wheat, c.i.f. Amsterdam, at 2s. 10d. a bushel.

Any Russian sales of this wheat, purchased by "Union Grain" at 4s. 11d. a bushel, must have meant, when transportation and handling charges were added, a loss of 2s. a bushel in Liverpool, 2s. 8d. a bushel in Rotterdam, and the actual Russian sales in Amsterdam must have been made at a loss, respectively of 2s. 2½d. and 2s. 6d. a bushel.

This much would be admitted by Soviet authorities. Their attempt at refutation comes through another channel. The Soviet Union, they declare, does not export the wheat it purchases for 4s. 11d. a bushel. It only exports the cheap wheat from

the highly mechanized state farms which sell to the Government at cost. This cost, they say, is only about 1s. 7½d. to 2s. 0½d. a bushel.

To take up first the matter of the cost of wheat on the state farms, it may be observed that the estimates frequently printed on this topic in the Soviet Press are largely theoretical. It would appear to be a much more reliable method to obtain the exact figures from the farms themselves.

In the North Caucasus, at Verblud, famous as the most effective and scientifically managed state farm in the Soviet Union, L. S. Margolin, the manager of the farm, told me his cost of production, as laid down in the Plan, should have been 80 kopecks a pood this year, or about 2s. 9d. a bushel, but that expenses would probably run a fraction higher. At Gigant, the largest farm in the Soviet Union, Jacob F. Bogomolkin, manager of the farm, told me his cost of production would run about 55 kopecks a pood. At the same time, however, he furnished statistics as to his costs of labour, machines, interest on investment, etc., which distinctly proved actual costs would run considerably above 80 kopecks a pood, or again about 2s. 9d. a bushel.

Taking this figure as an average for all the State farms, although as a matter of fact the average must be higher, inasmuch as Verblud and Gigant were among the first farms to be founded, and

have the advantage of experience and of being 100 per cent. mechanized, the cost of wheat from this source would be 3s. 2d. a bushel c.i.f. north European ports, again reckoning on 5d. total transport and handling charges.

At this rate, even the State farm wheat, sold in Amsterdam at 3s. 1½d. a bushel obtained by Soviet agents September 19, would have meant a loss of ½d. a bushel; at the price of 2s. 10d. paid by German buyers in Amsterdam in the first week of October for Soviet wheat, it would have meant a loss of 4d. a bushel. At the Rotterdam price of 2s. 8d. for November delivery it would mean a loss of 6d. a bushel. Sales at Liverpool on the favourable days of October would have brought a profit of 2d. a bushel.

This seems to indicate that with the trend of prices as they are Soviet wheat even from the State farms will have to be sold below the cost of production. It is important, however, to attempt to establish how much of the total of Soviet wheat export will come from the State farms.

All the State farms, of the State Grain Trust, the State Farm Centre, and the Ukraine United State Farms, planted a total area this year of 2,200,000 hectares. Deducting 200,000 hectares for non-grain crops—they would probably amount to more—there are left 2,000,000 acres under grain. Of this amount less than three-quarters are planted

in wheat. This would give a maximum of 1,500,000 hectares under wheat. The average yield according to Margolin has been fifty poods a hectare, so the total wheat yield from State farms would amount, at the maximum, to 75,000,000 poods, or 50,000,000 bushels, or 1,250,000 tons.

This amount, however, is only a fraction of the total amount of wheat the Soviet Union expects to export this year. Official sources are extremely cautious about giving out absolute figures on the probable total export. Every person who has directly to do with foreign trade or the grain market is obligated to rigid secrecy, but the predictions one hears in Moscow run from two to four million tons, or 75,000,000 to 150,000,000 bushels.

Certain it is that a total wheat export below the figure of 75,000,000 bushels will be a huge disappointment to the Soviet Government. The operations of the Soviet Textile Syndicate on the Chicago Board of Trade were a clear indication of the Soviet Government's confidences in its ability to export more wheat than the Chicago market thought it could export. There is no question as to the fact that Russia has grown more grain, will collect more grain and export more grain this year than ever since the revolution.

The countryside is literally groaning under a crop that is estimated to be 5 per cent. better than the good normal year of 1913. Everywhere one goes

in the rural districts there are to be seen long lines of peasant wagons waiting at the "Union Grain" elevators and purchasing stations, to discharge their high-piled sacks of wheat and rye.

It would apparently follow that if the State farms have produced 50,000,000 bushels of wheat, and the export is to be not less than 75,000,000, the loss when sold at the current world market prices will be considerably greater than the few cents that must anyway be lost on State farm sales. The exports must include several hundred thousand and perhaps a million or more tons of the wheat for which the Government had to pay 4s. 11d. a bushel.

To this statement of the situation, however, the Soviet authorities have a rejoinder. Namely, that in addition to the grain from the State farms the Government has concluded contracts with collectives whereby the farms, in return for the advance of seed and the loan of tractors, agree to pay a certain amount of their indebtedness in grain. According to Soviet spokesmen, the grain obtained by this method is even cheaper than that which comes from the State Farms. It may be observed that it would be remarkable if peasants on individual farms or collectives, who enjoy the advantage of only partial mechanization, should be able to deliver grain at a production cost cheaper than that from the huge State Farms, completely mechanized and organized on the most economical basis.

An almost identical chain of facts applies to Soviet rye, a product insignificant for America, but of importance for most of Europe where rye is eaten almost as much as wheat bread. According to the Government Planning Commission's official information, "United Grain" is paying this year throughout the Soviet Union to private farmers and collectives, fifty-nine roubles eighty kopecks a ton for rye, or, in German currency, about 118 reichsmarks. The latest prices in the Free Port at Hamburg, before customs, range from seventy-four to eighty reichsmarks a ton. State Farm prices, proportionately lower as in the case of wheat, would reduce the loss incurred, but on rye as well as wheat Soviet sales would be bound to take place below the cost of production. To cite one actual instance, in mid-September, Soviet agents sold to German buyers c.i.f. European ports from forty to fifty thousand tons of rye at an average price of ninety reichsmarks a ton, showing a net loss to the Soviets, if the rye came from private or collective farms, of something more than twenty-eight reichsmarks a ton.

No Soviet wheat or rye is imported into the United States. To be quite accurate about it, according to the Soviet official statement of foreign trade, two tons of wheat were sent to America in 1926, and one ton in 1927. One wonders to whom and why.

America and Canada are vitally concerned, however, with Soviet wheat competition on foreign markets. Every bushel of American or Canadian wheat must be sold against the pressure of Russian prices, and north European ports to-day are the meeting points for grain-laden ships from the Gulf of Mexico, as well as from the Black Sea. America's huge wheat reserve demands an outlet. The world's wheat supply is too great for the demand, and producers from every country are suffering.

Pertinent to this point is the information given by the American Department of Agriculture's publication *Crops and Markets*, June issue, showing the cost of wheat production in America, based on voluntary reports. In the North Atlantic States the cost is given as \$1.32 a bushel, South Central States, \$1.19 a bushel; West North Central States, \$1.14 a bushel; South Central States, \$1.35 a bushel; Western States, \$1.17 a bushel; average for the country, \$1.20 a bushel.

This wheat, too, has to be sold at the world market price, and that means below the cost of production. Even further below production cost than the facts just given show to have been the case with Russian wheat. Necessity apparently is the mother of dumping, in the "bourgeois" as well as the Communist world.

CHAPTER XXI

VARIOUS PRODUCTION COSTS

CARRYING coals to Newcastle is an ancient phrase to illustrate the superfluous. Carrying Soviet coals to Pennsylvania is a modern fact that may illustrate one variety of Soviet dumping, if by dumping is understood merely sale abroad at prices below the cost of production.

Down in the Don Basin, where 80 per cent. of all the coal in the Soviet Union is produced in a tiny mining settlement, there are fourteen anthracite mines. Piled up on the loading platforms beside the breaker plant are stacks of shining coal, piles of pea, of chestnut and of egg. At the end of the platform rises a mountainous stack composed of nuggets a bit larger than what we know as egg, each nugget the size of one's fist, each perfectly uniform, each glinting in the dim light with the high lustre of first-grade anthracite.

"This," said the manager of the mines, "is our best coal, for export to America."

"What does it cost you to produce?" I asked.

"Very expensive—this sort," he said. "It costs us seventeen roubles a ton to produce."

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The manager called the coal in question "gas generator coal." This should not be confused with bituminous coal usually employed for generating gas. The anthracite in question is what is known on the Continent as No. 1 size, larger than egg, sieve 60 to 90 millimetres. It is used for household purposes as well as to produce an exceptionally clean quality of gas for gas engines. All the output of the mine in question was intended for America.

The production cost, seventeen roubles at par (\$8.76) a ton, is at about the same level as the cost of production of similar coal in the Ruhr in Germany where at the pit mouth this quality sells for about \$9.50. But the fact that the Don Basin is a third of the way around the world from America makes it impossible to sell Don Basin anthracite in America except at a loss.

According to the official tariff issued by the Commissariat of Railroads, the cost of shipping one ton of coal from the anthracite district to Mariupol on the Azov Sea, a distance of about 100 miles, is \$1.45. The current sea freights for coal from the Azov Sea to American ports average 13 shillings a ton, according to Rudexport, Soviet shipping agency, and 15 shillings a ton according to the German Hanseatic Association. Taking the lower figure, or \$3.25 a ton, and adding \$8.76 plus \$1.45, one arrives at a total of \$13.46 a ton for the type of coal in question, c.i.f. American ports.

Composite retail prices for American anthracite compiled from all sources by the American Bureau of Labor Statistics show the average to be, for chestnut \$12.50 a ton, for egg \$12.21 a ton, for pea \$8.96 a ton. No retail figures are given for "gas generator coal," but the price of "gas generator coal" at the mine in America, according to New York authorities, is \$8.50 at the mine, compared to \$8.65 for egg anthracite at the mine, so that the retail price of "gas generator" would certainly not be higher than that of egg anthracite. It will be fair to deal with the anthracite that commands the highest price in America.

According to the American Bureau of Labor Statistics figures, this highest average retail price is \$12.50 a ton. From this it would appear that if the Soviet anthracite in question costing \$13.46 a ton c.i.f. American ports were sold at the highest price any anthracite can command in America it would be sold at \$0.96 a ton below the cost of production and delivery.

But the Soviet Information Bureau in Washington furnishes the statement that according to the contract between the Donetz Coal Trust and the George W. Warren Corporation, Soviet anthracite sells in Boston for \$12.10 a ton. Taking the same set of Soviet production and delivery cost figures, this would indicate a loss of \$1.36 a ton. Oddly enough, however, American coal of the same type sells at

\$11.39 a ton, and the Soviets, presumably, are able to obtain a high price by reason of the superior quality of their coal. This is assuming that the Warren Corporation contract figures are no higher than the average level for Soviet anthracite sales prices in America.

Soviet sales of anthracite below the cost of production would appear to be fairly well established by this calculation, based exclusively on Soviet statements of their costs for production and delivery. Soviet answers to the charge of dumping anthracite are three.

First, that dumping means the sale abroad, not merely at prices below the cost of production, but in large enough quantities to make a difference to the producers in the land of import. The facts are that in 1928 the Soviet Union sold in America 113,000 tons of anthracite; in the first seven months of 1930, 129,332 tons. In 1928 America's total production of anthracite was 74,552,312 tons, and not much less in 1929. Soviet sales amounted to less than 1/700th part of the total American production last year. If the Soviet anthracite exports to America doubled in 1930 the ratio would climb to 1/350th part this year.

These are, in truth, small fractions. But it may be appropriate to observe that the United States has become the largest importer of Soviet anthracite, that France used to be one of the largest buyers of

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Soviet anthracite, and that with the recent French defection from the ranks of Soviet customers the importance to the Soviets of the American market for anthracite has become proportionately greater.

How enormously the Soviets are forcing their export of coal since the Five-Year Plan began may be judged by the fact that their total export of coal in 1926-7 was 272,218 tons; in 1927-8, 219,288 tons, but in the first eleven months of the year of the Plan, 1928-29, it was 1,005,735 tons, or five times as great as in the previous twelve months, while by April 1930, it had reached 167,270 tons in one month, an amount which if averaged throughout the year would total nearly 2,000,000 tons.

On the question of dumping in America, however, the Soviet spokesmen further declare that it must be a part of the definition of dumping that sales are executed below the domestic sales price in the country of import. If Soviet sales in America actually are executed at the Donetz-Warren contract prices, they argue, there could be no complaint on the part of American producers, since it obviously is not unfair competition to sell above the market. The Soviet list price is roughly \$1 above the American market, but there appears to be a disposition among American coal experts to suspect that some Soviet anthracite is sold below list price.

Finally, Soviet spokesmen declare that it is unfair to pick up one product of an industry, establish

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that it is sold below the cost of production and thereby construe dumping. Dumping, they assert, should only be charged if the industry as a whole loses money on its foreign exports. This they declare is not true of the Soviet coal industry.

It is plainly impossible to check the last statement. Nobody but the heads of the Donetz Coal Trust, the Supreme Economic Council and the Politburo know the facts about that. It seems to be a fair test, however, to take one particular quantity and grade of coal, learn its production cost, trace it through to America and compare sales price. By this process, this particular quantity and grade of anthracite certainly appears to have been sold below the cost of production.

In general one may say first, that Soviet exports of coal, both anthracite and bituminous, and coke so far have never been significant in volume. Out of a total world production of 1,470,000,000 tons of all varieties of coal in 1927, the Soviet Union produced 35,400,000 tons, most of it bituminous, and even if the Five-Year Plan for coal production is carried out 100 per cent. the Soviet Union will only have a total coal production of 75,000,000 tons in 1933, compared to the United States production of 508,471,300 tons in 1928.

Second, however, that to export any anthracite at all and compete with foreign mines the Soviet Union must export the highest quality and that this

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highest quality, to judge from the cited example, for the moment at any rate, is so expensive to produce that it cannot be exported save at a loss.

The chief reasons for the high cost of Soviet anthracite are the high cost of labour and its low productivity. Labour is paid a maximum of ninety roubles or \$45 a month, compared to the American average of \$7.77 a day.

But the terrific labour turnover in the Don Basin practically halves the working efficiency of the miners. In the year just ended the entire personnel of the Don Basin was renewed almost twice. The short working day, six hours below ground, is reduced to five by the fact that almost none of the mines have mechanical transportation of the workers down to and up from work, and it consumes a full hour of their shift to reach the job and leave it. Only about half of the mines are mechanized, and these inefficiently.

The same lack of mechanical equipment handicaps the manganese production in Chiaturi, whence comes all of the Russian manganese exported to the United States. It might reasonably be assumed that manganese, too, must be sold below the cost of production, especially since the production costs of the Harriman concession at Chiaturi were so high that it would have been impossible to have sold his manganese at the present market price and make a profit. Harriman's concession covered the

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same mines as those of the Georgian Manganese Trust to-day.

Nevertheless, the same system of investigation and reasoning that leads to the conclusion that the Soviet Government is selling wheat, anthracite, and, as will later be established, certain oil products at below the cost of production leads to the conclusion that it is not selling manganese at a loss but at a profit.

The Georgian Manganese Trust, now in charge of the twenty-seven mines at Chiaturi, is producing this year washed manganese ore at a cost of 12 roubles 91 kopecks, at par \$6.50, per ton at the mine, and at a cost of 19 roubles 94 kopecks, at par \$10, per ton at Poti, the port of export. These are the figures furnished by Karpe Modebadse, president of the trust, and by Kalistrat Kamenzashvili, vice-president of the trust, independently. They are beyond doubt the figures used in their own book-keeping.

The cost of transport from Poti to Baltimore has averaged \$3.50 per ton of manganese during the last nine months, according to the trust's record of charter contracts. This would make a net cost, c.i.f. Baltimore, of \$13.50.

All the manganese ore shipped to America is supposed to contain, when loaded in Poti, at least 52 per cent. of manganese. By the time it reaches America it has usually lost in weight, but the mini-

mum standard at the port of delivery is 48 per cent. manganese. The price is reckoned per unit of manganese, a "unit" being 1 per cent. of a ton of 2,000 pounds, or twenty pounds.

The market price for manganese in America varies, but Caucasian manganese invariably commands a premium for better quality. A recent New York quotation showed a price of 26 to 28 cents a unit for American domestic manganese, 30 cents for Caucasian, Indian, Brazilian and African. At 30 cents a unit the sales price of a ton of 48 per cent. Caucasian manganese would be \$14.40, and at a production cost, c.i.f. Baltimore, of \$13.50, the profit would be 90 cents a ton.

Thirty cents a unit is the price the Georgian Manganese Trust actually does receive for its manganese under the contracts it has with the two largest consumers in America, the United States Steel Corporation and Bethlehem Steel. Of this your correspondent is convinced, having seen the contracts, in English, taken from the safe, where they certainly were not planted for the sake of impressing an inquisitive visitor.

There only remains the question as to how the Soviet administration has been able to produce manganese and put it in Poti at 19 roubles 94 kopecks a ton when it cost the Harriman concession 27 roubles a ton, or seven roubles more. It appears unreasonable at first, but to one who has

followed the fortunes of the Harriman concession from its inception in Moscow to its end it is not impossible to accept the Soviet figures at their face value.

Reasons given by well-informed persons for Harriman's high costs are various. His concession was, from the beginning, handicapped by a species of passive resistance on the part of the Russian personnel. Labour conflicts and partial strikes were frequent; during his time the mines were run only when the market was profitable for manganese, and whenever the market dropped off, the mines closed. This ran up the labour bill enormously, inasmuch as Soviet labour laws demanded payment for a certain period of time after the men were laid off.

Harriman's overhead must have been expensive, for charged to personnel were not only a large staff of highly-paid American engineers and managers, but offices in London and Paris as well as New York. Finally, the terms of Harriman's contract with the Soviet Government made it in certain ways advantageous to show as large a cost of production as possible.

It is a fact that during the term of the concession, other foreign owners still operating a few of the mines in the Chiaturi district were able to deliver their manganese at Poti at a cost of 24 roubles a ton, or three roubles less than the Harriman com-

pany. These reasons, however, it must be emphasized, were not decisive for the liquidation of the concession, in the last analysis brought about by the Soviet Government's development in Nikopol of manganese production that eventually made it impossible for Harriman to continue.

Manganese is one of the most important Soviet exports to America. Nearly all of it is sold to the United States Steel and Bethlehem. The total sales in America in the year ended October 1, 1929, were 338,500 tons, and 210,000 tons in the nine months ended July 1, 1930. Until the end of this year the contracts of United States Steel and Bethlehem insure the Soviets a profit of about 7 per cent. above the production costs. It is true that the price of manganese has been declining. Whether the margin of profit can be maintained at a price of 26 cents is another question, one that the Georgian Manganese Trust, however, hopefully affirms with the assertion that their costs too will decrease.

Soviet wheat and coal were examples that had to be booked on the side of sales below the cost of production; manganese on the profit side. It should be instructive to examine the case of oil, Russia's richest product.

CHAPTER XXII

SOME SOVIET BOOK-KEEPING

How Soviet sales beneath the cost of production and delivery may affect sometimes favourably and sometimes unfavourably the dividend receipts of American oil stock owners is one of the remoter facts to be learned from an investigation of the oil exports of Batum. How a pipe line in the Caucasus may stir the world oil market is another thing to be learned thereby, while lessons in dumping cost accountancy are by-products of the inquiry.

To sum in advance, it appears that the Soviet Government, but not the Soviet oil companies, has lost money on the export of at least one important oil product, but that it has made a net profit on the sum total of oil exports. It appears that the loss on the one product meant a gain to the American oil company that buys the product. It further appears that the loss to the Soviet Government on this product will be replaced this year by a profit that will increase during the next three years until it becomes very large, and that the capacity of Russian oil to compete in the world market will soon be great enough to cause all oil-exporting lands good ground for worry.

The case of oil is more complicated than that of wheat, anthracite or manganese, but on closer inspection, more interesting. The facts are these. Nearly two-fifths of the total export of the Azerbaidjan Oil Trust, called in Russian "Azneft," the largest petroleum concern in the Soviet Union, consists of fuel oil, called mazout. Out of 2,541,348 tons exported from Batum in 1928-29, 931,000 tons were mazout. Mazout is the heavy residue left from crude oil after the removal by distillation of gasoline, benzine, kerosene, etc. It is largely purchased by commercial shipping concerns for oil-burning engines, by the navies of Italy and France, and by an American oil company.

One of the more important purchasers is the American company. According to information from an unimpeachable authority, "Azneft" delivers mazout to this American firm—in Batum—at an average price of \$8 a ton. The market price in Hamburg is \$11, and the difference great enough to guarantee a decent profit.

Now the cost of production for mazout is difficult to calculate. For the moment, for the sake of argument, one may assume its cost of production as nothing. Even at that, it may be demonstrated that the Soviet Government, if not "Azneft," must have stood a net loss on every ton sold in Batum at \$8 a ton.

Mazout, as well as all the petroleum products

exported from Batum, on the Black Sea, must be transported thither from Baku, the oil-field and refinery centre, on the Caspian Sea, 534 miles across Caucasia. Until this year, the only means of transportation for crude oil and mazout was by rail. The old, pre-war pipe line carried only kerosene. In 1928-29 the pipe line carried 760,875 tons of kerosene, the railroad 1,668,784 tons of mazout and crude.

The cost of transporting a ton of mazout 534 miles varies. To give first a few American examples on the authority of the Interstate Commerce Commission:

From Bayonne, N.J., to Apex, N.C., 530 miles, costs \$10.40 a ton; from Lima, Ohio, to Canastota, N.Y., costs \$7.02; from Pittsburgh to Danville, Va., costs \$8.80; Pittsburgh to Brattlesboro, N.C., \$8.80; Oil City, Penn., to Brockton, Ill., \$7.48; from the Oklahoma oil fields to points in Missouri, \$6.60. The average of these six examples, picked at random, is \$8.18 a ton.

In Germany, according to the standard rate, the cost for 534 miles is \$16 a ton. According to the special rate for transport from wells to refinery, it is \$9 a ton.

In the Soviet Union, to-day, the official rate for Government shipments of oil, published by the Commissariat of Transportation, reckoning the rouble at par, is \$13.17 per ton for 534 miles. In

pre-war Russia, in 1913, the rate from Baku to Batum was 9 roubles a ton. According to the official index issued by the Soviet State Bank the purchasing power of the Soviet rouble to-day is almost precisely one-half the purchasing power of a 1913 rouble. So that the pre-war rate from Baku to Batum translated into Soviet roubles would be 18 roubles, at par, \$9.

From all this it would appear reasonable to expect a rate of at least 18 roubles per ton, or \$9, for shipments of mazout from Baku to Batum. The Soviet railroad system is certainly not more efficient than the American or the German. Its own regular rates are as high as those in America and Germany. The cost of production of nearly any object of manufacture in the Soviet Union reckoned in roubles is considerably higher than in any capitalist country, and there appears no ground for excepting transport. Therefore, with a transportation cost of \$9 a ton, and a sales price of \$8, "Azneft" should have lost \$1 a ton.

Nevertheless, it appears that not "Azneft" but the Soviet Government, *i.e.*, the railroad, has had to stand the loss. For, when all this material was laid before an official of "Azneft," he responded that "Azneft" actually pays the railroad a special rate of 6 roubles a ton, or \$3, for transport from Baku to Batum of crude oil and mazout. This

price, \$3.60 below the lowest American tariff, was possible, he declared, because the Baku-Batum line carried almost exclusively oil. So it did also, however, in 1913.

Throughout this calculation, mazout has been considered as costing nothing in Baku. It obviously does cost something, however. If one may take the sales price ratio established by "Azneft" for its sales to "Sovtorgflot," 30 roubles a ton for mazout to 48 roubles a ton for crude, the cost of production of mazout might be reckoned at two-thirds that of crude.

To err, however, on the safe side, one may take the cost of production of mazout as one-third that of crude. "Azneft's" own figure on cost of production of crude for 1928-29, published in "For the Petroleum Five-Year Plan," is 13 roubles 19 kopecks, or \$6.60, of which one-third is \$2.20, the estimated cost of production of mazout.

Thus, if one takes \$2.20 as a conservative estimate of the cost of production of mazout, based on "Azneft's" own cost figures for crude, and \$9 as a reasonable figure for transportation, based on pre-war Russian costs, present day Soviet railroad rates for other commodities, and comparison with foreign rates, the total actual cost of laying a ton of railroad-borne mazout down in Batum is \$11.20. At a sales price of \$8 the loss would be \$3.20 a ton, and with

a total sale of 931,000 tons, if all were sold at the price made to the American company, the total loss would be \$2,972,000.

If, however, one takes the actual figure of six roubles or \$3 a ton for transportation given by "Azneft," and \$2 as the cost of production, the cost of laying a ton of mazout down in Batum would be but \$5.20 and "Azneft" would have a profit of \$2.80 a ton on all sales to the American company. The loss would have been borne by the railroad. If this were true, however, it is difficult to understand why "Azneft" should charge "Sovtorgflot" steamers bunkering in Batum 30 roubles a ton for this same mazout. Thirty roubles, or \$15, would represent a profit of \$3.80 a ton even above the cost of \$11.20 reckoned above as probable. It would represent a means of recouping from domestic sales some of the losses on foreign sales, and thus would present one of the classic features of dumping.

Asked why "Azneft" charges 30 roubles a ton for mazout to "Sovtorgflot," a spokesman for "Azneft" replied it was because "Sovtorgflot" charged "Azneft" three times the regular world market price for transporting oil. Why "Sovtorgflot" should charge "Azneft" three times the world transportation tariff, while the Soviet railroad system charges "Azneft" but one-third the world transportation tariff remains unexplained.

Soviet mazout prices have shown their capacity to override considerations of anti-Soviet feeling even in France, where hostility to the Soviet Government has lately crystallized into a system of licence restrictions on Soviet goods. The French Navy continues to buy Soviet mazout despite the clamour against the Bolsheviks. When representatives of the Right parties interpellated the Government asking, "Why should we buy Soviet mazout when shell oil can be had in Constanza and Venezuela?" *Courier de Petrol* replied in a leading article, "because Soviet mazout is cheaper and better." Here, the foreign owners of Venezuelan oil could claim a loss on Soviet dumping.

From the data given there seems to be very little doubt that mazout has been sold below cost, whether the loss was borne by "Azneft," by the Baku-Batum railway, or by the domestic consumers of mazout in Russia. From this year on, the situation will be materially changed. This year there went into action a new pipe line between Baku and Batum, to carry mazout and crude for the new refineries now being equipped in Batum under American engineering supervision.

This pipe line, according to Soviet statements, is ten inches in diameter, has thirteen pumping stations, a capacity of 1,640,000 tons a year, and cost 50,000,000 roubles. Its capacity of 1,640,000 tons a year is large enough to take care of nearly

all the mazout and crude previously shipped by rail. It was formally opened in February 1930, and actually in full operation, according to Soviet statements, by June.

From June on, therefore, the charge of dumping mazout could not longer be substantiated on the ground of railroad costs. It is interesting to observe, however, that "Azneft" has declared it intends to amortize the new pipe line in three years. To do this it would have to charge against pipe line transportation costs approximately ten roubles per ton of oil carried. This would be four roubles a ton more than "Azneft" declares to have been the tariff on the railroad.

At that, however, there would still be left a net profit of 80 cents a ton on mazout at the sales price to the American firm in Batum, and, if the pipe line were thus amortized in three years, by 1934 the actual profits to "Azneft" for the sale of mazout would be around \$5.80 a ton.

Even in 1928, however, it would seem that "Azneft," in spite of its losses on mazout, made a net profit out of its export. The current price list of Soviet petroleum products other than mazout, compared with their cost of production figures, leaves a large margin of profit even if one reckons with maximum railroad and ocean freight charges.

Their cost of production for kerosene, for example,

is given in official statements of "Azneft" as 19 roubles 14 kopecks, at par £1 19s. 6d. The list price of Russian kerosene in Hamburg is £3 18s. 3d. If one reckons their pipe line transportation from Baku to Batum at the American pipe line rate of about 8s. 2d. per ton for the distance covered, plus ocean charges, the total cost of a ton of Russian kerosene c.i.f. Hamburg would amount to about £2 16s. 11d., leaving a profit of about £1 0s. 6d. a ton. For benzine, cylinder oil and machine oil the ratio of profit would be about the same. With total sales of 397,000 tons of benzine, 727,000 tons of kerosene and 192,000 tons of lubricating oils in 1928, their total profits on exports from Batum alone should have amounted to at least £1,200,000, or twice the estimated paper loss on mazout. Their own statement is that they earned a net profit of 37,200,000 roubles, at par £3,720,000, in 1928 on all business, foreign and domestic. If this sort of profits were possible without the pipe line, the net income of "Azneft" should greatly increase now, and Russia's competitive strength in the oil should be much enhanced.

These profit figures, declare Soviet apologists, are proof that no dumping has taken place even if mazout were sold beneath the cost of production. An industry, they assert, should be taken as a whole, and, if its entire foreign trade shows a profit,

it cannot be accused of dumping. The dispute would seem to be a matter of nomenclature.

All this wearisome calculation might have been unprofitable were it not for the fact that it has revealed some of the methods of shifting costs within the Soviet economic system in such a manner that it is not only impossible for an outsider to establish costs precisely, but is probably also beyond the capacity of the Supreme Economic Council. When, as in the case of wheat, and coal, and manganese, the Soviet statement of their cost of production plus actual transportation charges comes to more than the world market price, the fact of sale beneath the cost of production and delivery can be established even by an outsider. It may be established as overwhelmingly probable in the case of mazout.

But with "Azneft" getting railroad transportation for one-third the ordinary rate and steamship transportation for three times the ordinary rate and selling mazout to an American firm for \$8 a ton and to a Soviet concern for 30 roubles a ton, how can the Supreme Economic Council itself ascertain anything precise about the balances at the end of the year on the books of "Azneft," "Sovtorgflot" and the Commissariat of Transportation?

That, however, and all these calculations about Soviet dumping are simple matters. So far all the calculations have been done in roubles at par. The real task is to try to establish what the rouble is

worth. Is it fiat money? Is it worth anything? How does its value or lack of value affect the Soviet Government's capacity to sell goods abroad? These are questions to be attempted in the next chapter.

CHAPTER XXIII

THE FINANCIAL PROBLEM

SHORT of everything except money, the Russian people have one humorous reflection to make on the Five-Year Plan. If it has treated them badly it has treated the rouble much worse. But the prospects for the eventual improvement of the condition of the people are hopeful—for that of the rouble dubious.

Since the first stabilization of the Soviet currency in 1923, the State Bank has issued every month a statement, containing a table entitled, "Foreign Exchange." Here could be read twelve times a year for the last seven years that par value of \$1 was 1'9434 roubles, that the highest rate during the month was 1'9434, the lowest rate 1'9434, and the average rate 1'9434. The rouble was apparently the most stable currency in the world.

This endless reiteration of a fictitious fact used to be neither frivolous nor meaningless. It was fictitious because the rouble is not sold in New York, and, if it were, would presumably be sold to-day at something like the rate prevailing on the bootleg exchanges of Russia's neighbours, where,

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in Riga smuggled roubles are sold at ten to the dollar, in Warsaw at eleven, in Persia at twenty, in Mongolia at thirty.

But the State Bank quotation was also a fact, for the rouble in Moscow, ever since 1923, has been sold by the State Bank at 1'9434 to the dollar, and only at the State Bank could one buy roubles without risking severe punishment for trading illegally in foreign exchange.

The quotation used to have another meaning, an earnest one. It meant that one day the Soviet Union hoped that the chervonetz, the 10-rouble note that was made the standard unit of Soviet currency, would be traded in on foreign exchanges, that the Soviet note would take its place among solid "bourgeois" currencies, beside the dollar, the pound, and the mark, as a valuable, even though politically unreliable, member of the family of international money.

What a help that would have been to Soviet foreign trade needs no emphasis. Instead of paying for every ton of imports with a ton of exports, as the Soviet Government is forced to do to-day, it could pay with its own currency, and have a margin, as every bourgeois country has, in which to manœuvre when its foreign trade fell a bit out of balance. There was a time, in 1926, when it was rumoured that the chervonetz was going to be quoted on the Berlin Bourse. In those days cher-

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vonetz could be taken out of and into Russia with no restrictions. The rumour proved false; Berlin chose to wait and watch.

All that belongs to the past, the good old days of the New Economic Policy, the pre-Plan days, of two long years ago when the Soviet Union was making evolutionary, not revolutionary progress towards Socialism, when there was plenty to eat, and industrialization was an ideal, not an obsession. To-day the rouble, apparently, has ceased to aspire to bourgeois company. And the men who fostered those aspirations, have retired from the forefront of the scene. Two of them, N. P. Brjukhanoff, People's Commissar of Finances since 1926, and J. Pyatikoff, president of the State Bank, have just been dismissed from their posts. Moscow believes it was because they refused to sponsor a deliberate inflation.

Inflation is a hateful word in Moscow. The people know they have it; the government swears it is not so.

"A rouble!" shouts the droshky driver who has just demanded ten roubles for a one-mile drive. "A rouble! Why, a rouble's not worth ten kopecks." Porters carry one's bag from the room to the hotel door, and when they receive a rouble tip, look pained and say it is very little.

For a silver rouble one could receive as much of goods or services as could be had for five to ten

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paper roubles. But silver roubles have completely disappeared. Bank officials occasionally give a foreigner a silver coin as a curiosity, much as gold \$2.50 pieces are treated in America. Only the aluminium, copper and bronze kopeck pieces are still in circulation, and they to a limited extent. Even they command a premium. If a droshky driver asks for five roubles, and one offers him two roubles and a half, the half to be in kopecks, the temptation of getting the kopecks will usually secure the ride.

No amount of severity has been able to check the hoarding of coins, and hoarding has been unofficially but practically defined as the possession of more than five roubles in coins. A barber and his wife saved twenty-one roubles in coin for a holiday in the country where they could buy nothing with paper roubles. They were denounced by an envious neighbour, arrested and shot. More than twenty death penalties for this offence have been published in the Soviet Press.

Despite these popular evidences of inflation, the Government insists the currency is stable as a rock. Its own official statements through the State Bank show the following facts : On October 1, 1928, the total circulation of chervonetz and treasury notes was 1,773,000,000 roubles; on October 1, 1929, it was 2,411,000,000 roubles; on September 1, 1930, it was 4,173,000,000 roubles.

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In the first year of the Five-Year Plan the currency had increased by one-third with a new emission of 638,000,000 roubles. In the first eleven months of the second year of the Plan, the currency had further increased by eighty per cent. over the previous year, with a new emission of 1,762,000,000 roubles. In the twenty-three months from October 1928 to September 1930, the currency had been multiplied by two and one-half, with a total new emission of 2,400,000,000 roubles.

All this was done quite legally, on the basis of decrees, and according to a rapidly dwindling class of Soviet financial experts the currency is still adequately covered with a gold and foreign currency reserve. The law on this point states that the chervonetz must have a "firm cover" of gold and foreign currency of at least 25 per cent. The State Bank statement as of September 1 asserts an actual coverage of 25·6 per cent.

The crux of the matter, however, is the issuance of treasury notes, bills in denominations of one, three and five roubles. According to the original stabilization law, treasury notes could be issued against chervonetz in a ratio of 50 per cent. The treasury notes had no other backing than the chervonetz, which in turn were covered by a 25 per cent. reserve. But in July 1929 this ratio was changed by decree, and it was permitted to issue treasury notes up to 75 per cent. of the chervonetz

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issue. Then, in September 1930, a new decree permitted the issuance of treasury notes up to 100 per cent. of the chervonetz issue.

On September 1 there were actually in circulation 2,161,800,000 chervonetz, and treasury notes to 81·8 per cent. of that amount. By the end of November the treasury notes will probably have equalled 100 per cent. of the chervonetz, and the coverage for all notes in circulation will have amounted to 12·5 per cent. This enormous issue has been accompanied during the last few months by a phenomenon never before observed in the currency system of a country, not even in Germany during her astronomical inflation. There are being issued whole series of notes, all with the same series number. As many as 1,000 one-, three-, or five-rouble notes are issued, each bearing the identical number.

What will happen when each chervonetz has ten roubles of treasury notes out against it, is a question that has been puzzling foreign observers in Moscow. It is generally supposed to have been one of the questions that led to the resignation of the Finance Commissar and State Bank president.

The State Bank declares in its statement as of October 1, 1930, that it has a total firm cover of about 550,000,000 roubles, consisting of 483,888,000 roubles worth of gold; 23,689,000 roubles worth of platinum and silver; 47,252,000 roubles worth of

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foreign bank notes. To cover the more than 1,000,000,000 roubles of new chervonetz issued in the last two years the increase in the reserve had to be 250,000,000 roubles. All this new gold and platinum was supposed to come from internal Russian mines. This would mean an approximate production of \$50,000,000 worth a year, while the total production of the United States, including Alaska, was \$48,000,000 in 1928.

But the question as to whether the State Bank has or has not an adequate reserve is, as any Soviet official will frankly state, nobody's business but their own. As long as the Soviet currency is not traded in on any official bourse, the existence or non-existence of a gold reserve, they say, is of no consequence to the outside world. It may be observed, however, that there is good ground for crediting the Government with a reserve of something like the amount indicated on its State Bank balances, for £50,000,000 would be about the minimum for a military reserve fund, for use if that threat of foreign intervention that constantly tortures Soviet dreams should ever be executed.

It is apparent that the Plan is being financed in part by the issuance of paper money, despite the fact that no other government on earth has such unlimited means of obtaining from the population new sums for capital investment. With all industry in its hands, a complete monopoly, the Government

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obtains money first by a 4 per cent. turnover tax on all enterprises; second by enormous internal revenue taxes on all important consumption goods, 85 per cent. of the sales price of vodka, 75 per cent. on tobacco, 35 per cent. on sugar, 20 per cent. on woollen goods, 10 per cent. on cotton goods. Third, come the agricultural taxes on the peasants; fourth, the income tax on everybody.

These involuntary contributions are further increased by savings bank deposits, amounting to more than 600,000,000 roubles, of which one-third is immediately invested in State loans. These loans, finally, have yielded the Government around 1,500,000,000 roubles, and the business of obtaining subscriptions for each new loan as it is issued is made easier as the population's supply of money increases and supply of goods decreases. With nothing else to buy, it is comparatively easy to persuade the Soviet citizen to buy bonds.

Even with all these resources, however, the government budget has not been able to pay its share of the Plan, due largely to the fact that costs of production have failed to come down according to Plan. The Plan called for a reduction in the cost of production for all industry this year of 11 per cent.; costs were actually reduced 7·1 per cent. With a total industrial production valued at about 20,000,000,000 roubles, this failure by 3·9 per cent. to reduce costs meant unforeseen expenses of

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780,000,000 roubles that had to be covered. They were covered with new emission.

These are the statistical facts on the currency. The official explanation of why there is no inflation is about as follows: The currency is backed, not merely by "firm cover" but by the basic capital of the country, and volume of currency must be determined by the business needs of the country. Both basic capital and needs have more than doubled during the Five-Year Plan. Therefore, although the currency has more than doubled also, it is still in a sound ratio to the resources of the country and therefore there is no inflation.

This, they declare, is true also of bourgeois countries, where the use of cheques more than doubles the actual amount of currency in circulation. Cheques are little used in Russia. Therefore the Soviet Union needs more banknotes than a bourgeois country.

It is true, they declare that consumption goods have decreased in quantity and therefore prices are high, and there is an apparent inflation. The actual amount of goods in the country, however, they say, has kept full pace with the currency issue; it is only true for the moment that most of these goods are tied up in instruments of production. Many of these instruments of production in turn are producing further instruments of production.

THE FINANCIAL PROBLEM

It will take another two years before this chain of productive processes results in a flow of consumption goods. And only then will the population awake to find itself supplied with all it wants, the rouble once more at par, the "illusion" of inflation dissipated.

All this might be granted, but the fact remains that the Plan itself only called for a total increase in basic capital from 70,000,000 roubles in 1928 to 127,000,000,000 roubles in 1933, an increase of 182 per cent., while the currency in circulation has already been increased 250 per cent.

Finally, politely, the conclusion is reiterated, "The value of the rouble is nobody's business but our own."

In one important respect, however, the value of the rouble does concern the outside world. Any calculations of Soviet costs of production, calculations upon which many countries are basing their protests against Soviet dumping, must be based upon some calculations of the value of the rouble. For a specific inquiry, such as that carried out in this book, that value can be taken as nothing else than par. But observation of these facts about the currency indicates how very far from par the Soviet rouble is.

Its buying power has sunk, according to the very optimistic statistics of the state economic organs,

9 per cent. since 1928. But if one reckons conservatively that the average individual must cover 25 per cent. of his needs on the free market, where prices have tripled, the buying power of the rouble must be estimated as having sunk no less than 50 per cent. since 1928. This does not conflict with the estimate that the standard of living has decreased at least 60 per cent. since 1928, since even with the expenditure of twice as much money there still remain many needs that cannot be satisfied at all.

It would seem to be fair enough to take the official statement that the purchasing power of the rouble had declined but 9 per cent. since 1928, reckon it at par and so be able to calculate, as has been done, that the Soviet Union is selling abroad below the cost of production. It must nevertheless be admitted that the value of the rouble is so nebulous, is so far below its par value that there can be no precision about estimates of any kind concerning their real costs.

The example of Germany may recall the fact that as the mark fell to cosmic depths, the price of German exports bought in foreign currency fell also, and the world resounded with protests against German dumping. The conclusion appears irresistible that with a currency that has become virtually fiat money, standing now at certainly not more than one-half its par value, the Soviet Union is actually able to produce more cheaply

than any country having a stable currency. With the rouble at par the Soviet Union is exporting, in many cases, below the cost of production. With the rouble at its actual value, the Soviet Union is exporting, in all cases, at a large profit.

CHAPTER XXIV

SUMMING UP

As nearly as it can be expressed in figures, the Soviet Union hopes to be twice as powerful a state industrially, economically, militarily at the end of the Five-Year Plan as it was in 1928. As nearly as it can be estimated to-day, this end may be achieved, barring foreign war or disastrous crop failure or an international boycott that would choke off her access to the foreign machine equipment and raw materials essential to the Plan.

It is important to note that it is the state that is to become at once more powerful, not the population that is to become better fed, clothed, more comfortable and happy. That will follow eventually, but the state comes first. Power for the state has become an end in itself under the Five-Year Plan. Under it the Soviet Union has become the national incorporation of Nietzsche's "Will to Power."

Ill-fed, ill-clothed, ill-housed and partly terrorized, the population is wretched, but not yet desperate. The Government has three advantages: First, that desperation point in Russia is lower than in any country of the western world; second, that the

SUMMING UP

Government has incomparable means for determining how close to desperation the population is, and, third, that it has the ability at the approach of the desperation point to slow down the Plan a trifle and throw a bone to the people.

Active human assets of the Government are: The Communist Party, with its 1,000,000 members, the youth of the country, the Red army, the G.P.U. and the working class. Membership in these classes and organizations overlaps, but the total probably would amount to 30,000,000. Enemies within the country may number a few or many millions, but they are too effectively terrorized to be estimated satisfactorily. The vast majority of the population is passively acquiescent.

Zeal and terror are the two psychological instrument for accomplishment of the Plan. Zeal on the part of the "believers," terror on the part of the "unbelievers." The terror has become a permanent institution. There appears not the slightest intention to abandon or abate it. It is much more active to-day than three years ago. In Moscow one of the most imposing of the new buildings going up is the new G.P.U. headquarters, the old building on Lubyanka Square having been outgrown, big as it was. Remnants of the bourgeoisie, the more prosperous individual peasants, all professional men save the younger class of Soviet intelligentsia, live in a constant state of fear ranging from vague but

persistent anxiety to the paralyzing panic that comes when the G.P.U. strikes near home.

It strikes very frequently. Forty-eight were shot at one time while I was *en route* through Russia. They were charged with counter-revolution, disorganizing the food supply. In the months of August and September alone, according to the newspaper *Krasnaya Gazeta*, 3,000 persons were arrested in Moscow charged with speculation. During the last few months the raids upon the intelligentsia have perceptibly diminished their ranks. Virtually the whole staff of the Metchnikoff Institute was arrested because it was alleged a company of Red Army soldiers upon being vaccinated with serum from the Institute developed an inflammation of the skin.

Professor Kondratieff, world famous agronomist, founder of the Research Institute for Agricultural Economics, and twenty-five others were arrested. His institute had furnished Rykoff with material for an attack on the tempo of the Plan. Nearly the whole staff of the Bacteriological Institute of Timirasieff has been arrested. Many of the scientific leaders of the chemical industry have been arrested. Three fire brigade chiefs were arrested. A group of Soviet engineers employed at Dnieprostroy were arrested. The list might be extended indefinitely. Worst offence to-day in the Soviet Union is to doubt

the Plan. Scepticism in Bolshevik Russia is more heinous than crimes of violence.

Methods of the terror heighten its dreadful effect. All arrests are made between midnight and dawn. For political offenders, and the vast majority of all prisoners come under this category, no attorney may be employed, no communication had with friends or relatives. Wives, mothers, learn only from the newspapers that their husbands, sons, have been shot. The accused are not told of what they are accused. They never even see their judges. Most prisoners are condemned by the collegium of the G.P.U. without trial, without witnesses, without a chance to defend themselves. Their testimony is coerced from them by the most subtle of psychic third degrees. Their execution is in secret, their burial places unknown. The G.P.U. allows no martyrs. No hero can stand up in court and gladly take a death sentence. His tribune is the G.P.U. cellar, his auditors the executioners, and the only echo of his words the shots that end them.

The terror is effective in the sense that it has made it extremely improbable that revolt could break out unless conditions grow far worse than they were. The G.P.U. is, however, not merely an instrument of police power, but an espionage agency of the first order. The nerve net of the most extensive and intensive internal espionage

system in history reaches almost to each individual family in Russia. Despotisms have fallen in the past because, having no democratic representation, they could not gauge the danger point of popular feeling. The Soviet Government has an espionage service amply sufficient to warn in time.

Its intention is to push the Five-Year Plan tempo up to within two degrees of desperation point. When the pointer touches danger the Government is in a position at any moment, by checking exports, to throw thousands of tons of consumption goods on the market at any price it wishes or by importing consumption goods to further increase the supply. This would involve a revision of the Plan downward. It need not involve more.

First judgment at once brands the Five-Year Plan as a failure. The appearance of the population appears to prove it. But the Five-Year Plan is a colossal coercive savings plan for the entire nation, and every pound of food, yard of cloth, and pair of shoes denied the population is represented by just so many shillings' worth of machines for the new factories of the Plan. The Plan is a method for Russia to "starve itself great."

Quantitatively the results for the year 1929-30 show, according to the Supreme Economic Council, that the production of all industry increased 24.2 per cent. over 1928-29. This was 7.1 per cent. behind the so-called "control figures," which

represent the "Five-Year Plan in Four Years." But the original Five-Year Plan only called for an increase in 1929-30 of 21.4 per cent., so that the actual achievement was 2.8 per cent. better than the Plan. It may be remarked that nearly all reports in the Soviet Press emphasize the failure to attain the control figures, and thus easily lead a false picture of the actual results achieved.

Primary industry increased 37.7 per cent. while the consumption goods industry increased only 11.1 per cent. Total production was double that of 1913. No branch of industry failed to increase its output, and even the most heavily criticized, as coal-mining, had an increase of 17.6 per cent. Costly, in paper roubles, was the fact that the costs of production, instead of sinking by 11.8 per cent. as provided in the Plan, were reduced by only 7.1 per cent., while worker productivity increased only 13.5 per cent. against the 25.2 per cent. proposed by the Plan.

Quality of production is extremely poor, making at times, in some industries, up to 30 per cent. of the output unusable. The yearly increase in quantitative output, however, is so great that a large per cent. of the total production could be stricken off on the score of bad quality and there would still be left a volume far in advance of anything Russia had produced before.

In agriculture, collectivization of the farms has

been resumed, and this year, according to the official figures, 25 per cent. of all peasant farms have been collectivized, and 53 per cent. of all the grain coming on the market will be drawn from the collectives and state farms. Turnover of labour amounts to 40 per cent. in all industry, but the fact that unemployment has been virtually eliminated more than compensates for the material loss and excessive turnover.

When one draws the balance sheet of the Five-Year Plan at the end of its second year, the credits appear to overbalance the debits to such a degree that an original judgment based upon the wretched appearance of the population must be reversed. The Plan up to now has gone far toward the achievement of its primary aim to strengthen the Soviet state.

It is possible that the terrific tempo of the Plan will have to be reduced. Joseph Stalin's method in the past has been to execute politically his opponents and then adopt their more useful suggestions. He had just finished off Alexis Rykoff, the last of the right opposition who protested against the present tempo of industrialization as exaggerated, harmful and intolerable. As soon as it can be done without any credit going to the opposition, the Plan may be slowed down a bit.

From the inside the Government fears no serious obstacle. For outside dangers it harbours growing

anxiety. The threat of an international boycott on Soviet trade appears to the Kremlin to have become imminently serious since the actions of France, Rumania, Hungary, Belgium, Canada and Bulgaria against Soviet dumping, and especially since the movement of protest in the United States. To offset this threat Moscow counts upon what is known as "sound business sense" on the part of capitalist countries profiting immediately from Soviet trade, "sound business sense" being a quality that in the more private sessions of Marxist thinkers is referred to as "capitalist greed."

For the outside world it makes little difference whether the Plan is accomplished in four, five or six years. Its meaning in terms of trade and of the world revolution remains the same. The Communist Party's politics of world revolution have undergone a change. Originally the hope was that the proletariat of the "bourgeois" countries would revolt, and help from Moscow to that end was a matter of course. To-day the intention is to build up first a powerful Soviet Union. Then, but not until then, although surely then, the world revolution will fit into its place in the "Fifteen-Year Plan," with the resources of an industrialized state of 150,000,000 to back it. So dream the leaders of the Communist International, condemned for the moment to vegetate.

For America this threat is more remote than for Europe. For us the Five-Year Plan's success means immediately two things:

First, the appearance on the world market of a competitor strong in the export of raw materials, able by reason of its monopoly of industry and trade to conduct its foreign business at an advantage over all rivals. In this respect the Soviet Union is like a huge department store, where in one department or another, at one time or another, and for one reason or another, bargain sales are held and goods disposed of at prices often below the cost of production. Just now the reason is the compulsion of the Plan, but dumping can no more be dispensed with under the Soviet foreign trade system than can bargain sales be abjured by department stores.

Second, the success of the Five-Year Plan means the continuance and probable increase of Soviet purchases in America, that have amounted from 1923 to July 1930 to \$518,000,000, against sales to America of \$147,000,000. Total American-Russian trade next year should equal \$200,000,000, according to E. A. Eschba, Moscow manager of Amtorg.

Against this background of considerations must be weighed the strictly technical question of the credit of the Soviet Union. The representative of one of the great central banks of Europe, possessed of expert knowledge of the country, told me he considered the Soviet Union a perfectly sound risk for

trade credits up to three or four years. Because, he said, during the next three or four years the execution of the Plan is so important for the Soviet Union that it may be counted upon to meet its obligations.

Failure to do so would be suicidal, and he did not ascribe suicidal inclinations to the Soviet Government. Monetary loans, in any large sums, he advised against, on the grounds that the exaltation that could be anticipated as a result of such a loan might lead to its unwise investment in gigantic and unprofitable projects, and that the present financial policy of the Government offered little security for proper amortization of a long-term loan.

Meanwhile the people of Moscow are thinking of other things. Fuel has been rationed and the legal temperature minimum reduced. Formerly janitors were compelled to maintain a minimum of 55 degrees Fahrenheit, itself 5 degrees below temperate. The minimum has now been set at 48 degrees. It will be a cold winter in Moscow and the hardest period of the Five-Year War for Industrialization.

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