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Construction of the Subway
and
the Plan of the City of Moscow



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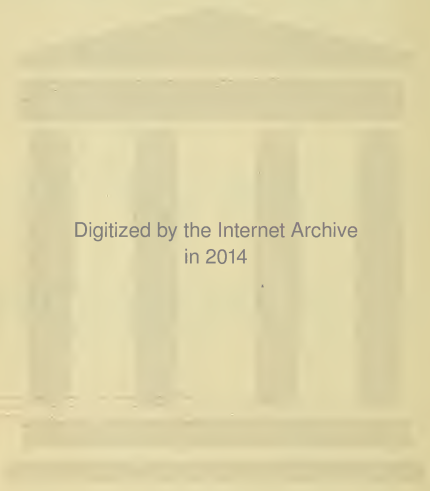
CONSTRUCTION
OF THE SUBWAY
AND

THE PLAN OF THE
CITY OF MOSCOW

By L. M. KAGANOVICH

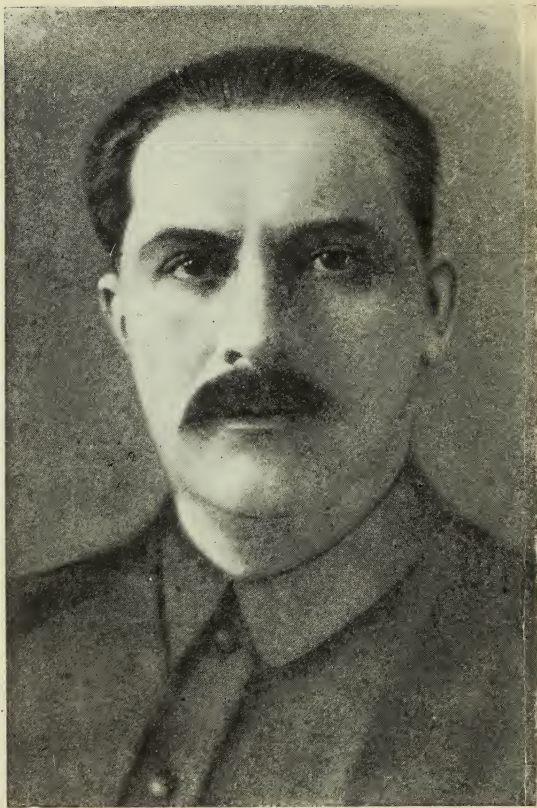


CO-OPERATIVE PUBLISHING SOCIETY
OF FOREIGN WORKERS IN THE U.S.S.R.



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L. M. KAGANOVICH

THE CONSTRUCTION OF THE SUBWAY AND THE PLAN FOR THE CITY OF MOSCOW

By L. M. KAGANOVICH

Speech Delivered at the Plenum of the Moscow
Soviet, Attended by the Shock Brigaders of Metrostroy
(the Subway Construction) and the Factories of
Moscow, July 16, 1934



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I

**DIFFICULTIES AND SUCCESSES IN THE
STRUGGLE FOR THE SUBWAY**

Comrades, six months of struggle for the practical realization of the January decision "on the Tempo of the Construction of the First Section of the Subway" have now passed. This half year has shown what great difficulties we have to overcome in the course of the construction of the subway. It has also shown what workers, what Bolsheviks are able to do when they tackle a job in earnest, when they mobilize the masses, and when they lead them correctly, supporting, encouraging and criticizing as is done by our Leninist Central Committee of the Party, and Comrade Stalin—the greater builder of our country and of its capital, our Red Moscow.

In this period we have had to overcome a series of obstacles and difficulties. We have had to recruit many thousands of workers for work on the subway. Almost all the Moscow enterprises selected their best workers, particularly Young Communist League members to take part in building the first Moscow subway. The workers selected are splendid men and women. The thousands of enthusiastic shock brigaders who have been forged from among them are the best proof of this.

But enthusiasm alone is not enough for work on the subway. What we need is experience, a mastery of the technique of this work.

An overwhelming majority of the workers recruited were not only entirely unfamiliar with the building of subways (it is understood that none of us had previously had any experience in this kind of construction), but they were also unfamiliar with the jobs of excavation, pouring and reinforcing concrete and other tasks. Textile workers, chemical workers, municipal workers, metal workers and collective farmers had to speedily qualify themselves as builders. Much work was needed to teach the subway builders correct methods of subway construction. In this the Bolshevik and Young Communist League enthusiasm of the workers helped, thanks to which it was possible in a comparatively short time to weld together a fighting collective of the Metrostroy shock brigaders.

However, comrades, we must not get swell-headed, for there are still plenty of defects in our work. There are very many who are still behind in mastering the technique, who have not learned the job to which they were assigned. In the early stages we had to overcome the hesitation of the engineering personnel in making responsible decisions, in firmly directing the work in their respective sections. Only in the process of work was it possible to remove those who failed to justify the hopes placed in them and to select the best engineers and technicians, those with skill, energy and initiative. And as a result there are hundreds of exemplary commanders among the engineers and technicians of Metrostroy besides thousands of splendid worker shock brigaders.



90 % of the Personnel Are Young Workers

It was necessary to overcome sluggishness, organizational confusion, bureaucratic desk leadership, weakness in operative command in the Metrostroy administration itself; it became necessary to draw the administration closer to the shaft, to the section, to strengthen the importance, the rights, and the independence of the lower units of the construction.

It was necessary to introduce mechanization, overcoming at times opposition to mechanization processes due to incapacity and unwillingness to master the mechanisms and to use them to their full capacity.

We encountered a series of most complicated technical problems, which we have solved successfully. The construction of a subway is a most difficult job, much more complicated than the construction of any factory.

In spite of the difficulties encountered in digging a subway under conditions where the subsoil is full of streams and quicksands intersecting the subway line, the construction of the subway has been accompanied by a comparatively insignificant number of accidents and cave-ins. The Moscow Party Committee and the Presidium of the Moscow Soviet demanded of the Metrostroy workers technical cleanliness, efficiency and accuracy in their work.

We have often been told: "Don't you know that in every city in the world where subways have been built there have been accidents, that houses and buildings have collapsed, and yet you want to build a subway without any accidents." To this we replied that we may also have some cave-ins, and cracks in houses, but we demand that our work be done in the most careful way, so that there will be a minimum of cave-ins and cracks. And to assure this we must take every precaution to avoid accidents and cave-ins, It was just this that was

repeatedly demanded of us by the Central Committee and by Comrade Stalin personally.

The Moscow Party Committee and the Moscow Soviet have repeatedly had to work out plans of detailed measures to overcome difficulties in construction which arose at different sections of the work, as, for example, in the colliery section of the Komsomol Square, in the Okhotny Row, on the Dzerzhinsky Square and elsewhere.

Thus, for example, in the beginning of this year, we received information about subsidences of the streets, or, to use technical language, movements of the subsoil in the tunnels of the Dzerzhinsky Square Station, the Myasnitsky Station and the Krassniye Vorota Station.

We met and thrashed out this question with the workers of Metrostroy. You, comrades, know, of course, that we are not engineers, and that we don't know much about the movements of subsoils. Until now we knew different movements—the workers revolutionary movement, and the counter-revolutionary movement, but now we were confronted with the movement of subsoil (*laughter*), we had to study the causes, and the ways and means of stopping this movement of the ground. After a thorough study of the question precautionary measures were taken; wooden supports were replaced by concrete and metal ones; the level of the station was lowered 2.17 metres; we carried on work in small sections and rapidly reinforced them with concrete, we mobilized all our forces, assigned our most competent men to the tunnel work, which continues to progress steadily without any damage to the square or the houses on it.

We met a series of difficulties also in other sections where we had to hasten the hardening of the concrete,

to rush the cofferdams, to build the best supports, overcoming the difficult conditions prevailing in subway excavation through the Moscow subsoil.

However, despite these difficulties we have recently attained an exceptionally rapid tempo in the construction of the subway.

The work accomplished so far can be divided into three stages: the first stage, from the end of 1931 through all of 1932, was the stage of preparation and organization; the second stage, the year 1933, marked the actual commencement of the construction; the third stage, the year 1934, marks redoubled efforts in all sections.

In November 1931, during the first stage, we started an experimental section and carried out much preparatory work, the geological survey and planning, recruiting of labour, organization. This was also a period of discussion and debates on the best methods of digging tunnels, sinking shafts, and so on.

During the second stage work started on sinking shafts in the Myasnitsky radius, construction work began in four other sections and preparatory work in five, while the shafts in the Arbat radius were only in the process of preparation.

Only during the third stage was work actually started at a proper tempo, and in all the sections. Only in January 1934 did we rapidly increase the tempo of excavation and concrete work. Only in January did we begin to sink shafts in the Arbat radius, and with increased efforts to proceed with this work.

Permit me to bring to your attention a short table of figures showing the amount of work accomplished during all three stages of construction.

| Operation | Total volume of work | WORK COMPLETED | | | Work remaining |
|--|----------------------|--------------------------------------|------------------|--------------------------------|----------------|
| | | 1st stage (end of 1931 and all 1932) | 2nd stage (1933) | 3rd stage (1934 up to July 16) | |
| Earth excavation in cu. klms. . | 2,055,000 | 14,000 | 300,000 | 1,326,000 | 415,000 |
| Percentage to total volume . | 100 | 0.7 | 14.6 | 64.6 | 20.1 |
| Concrete pouring in cu. metres . | 700,000 | 2,000 | 60,000 | 413,000 | 225,000 |
| Percentage to total volume . | 100 | 0.3 | 8.6 | 59 | 32 |
| Finished tunnelling in linear metres | 11,900 | — | 631 | 5,337 | 5,932 |
| Percentage to total volume . | 100 | — | 5.3 | 44.8 | 49.9 |

Permit me to demonstrate with the following chart the rise in the tempo of excavation and concrete work since January 1934.

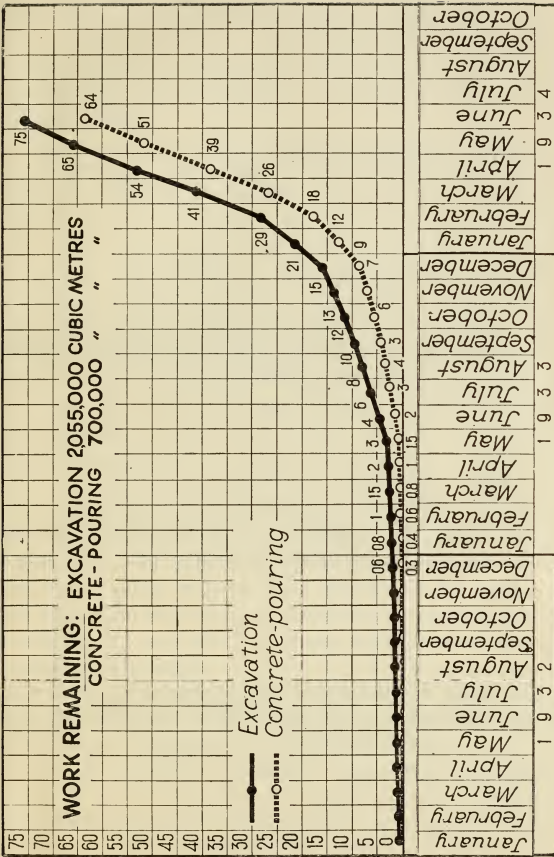
Side by side with the steady growth of excavation and concrete work, this chart also reveals how the work of pouring concrete is lagging behind the excavation work.

In order to increase the tempo in pouring concrete we had to eliminate a number of defects, in the first place, the long delays. The organization of labour and the distribution of the workers on the different sections of the work was bad, there was a shortage of transport facilities for removing the earth, for the supply of materials, and so on.

As is seen from the given figures, we have made in the past half-year a gigantic stride in the work of tunnelling the subway. In order to appreciate the importance of this half-year it is sufficient to indicate that *if we had continued to work at the same rate as in Decem-*

**WORK REMAINING: EXCAVATION 2055,000 CUBIC METRES
CONCRETE - POURING 700,000 " "**

—●— Excavation
-○-○- Concrete-pouring



ber 1933 (1,800 cubic metres of excavation and 456 cubic metres of concrete pouring a day), then the tunnel work as far as the removal of earth is concerned would have been completed in 32 months, and as regards the pouring of concrete, in 46 months, that is, by December 1937.

Now, however, we shall complete the basic work of the tunnelling in November 1934, and shall open the subway in January or at the very latest in February 1935.

So you see, comrades, even in the face of the natural difficulties encountered we have allowed for a delay altogether of three months in the opening of the subway and we are utilizing this time to the utmost in order to fulfil the instructions of the Central Committee, and of Comrade Stalin personally, to improve the quality of the work and to be best prepared for the opening of the subway. And so if we reckon the end of 1931 as the commencement of actual construction (which is very conditional, in reality it was 1933 when construction really began), then in three and a half years we will have built 11.9 kilometres of subway line, under conditions where the subsoil presented exceptional difficulties, where many workers were unqualified for such a job, where the engineering and technical personnel were inexperienced and where in many sections work proceeded only by hand.

In order to appreciate the importance of what has been accomplished it will be sufficient to show the tempo of subway building in some capitalist cities.

Here are the figures received by me at Metrostroy: in Berlin the first subway line, 11 kilometres long, of which more than half was not underground but elevated, took 6 years to build. The Gesundbrunnen-Neuköln line, 10

kilometres long, took about 6 years (from 1913 to 1930 with a break in the work from 1914 to 1926). The Alexanderplatz-Friedrichsfelde line, 7 kilometres long, took more than 4 years to build (from 1927 to 1931 inclusive). In Rome the length of time required for the construction of three projected lines, extending 25 kilometres, is estimated as 12 years. In Prague it is planned to build 3 lines extending over 21 kilometres, to be finished by 1950. In Tokio, 4 kilometres of line were built in 4 years. In New York the rate is faster—the Eighth Avenue subway line, 20 kilometres long with double tunnels, was built in 7 years.

In London they built more slowly, but the last section, 10 kilometres long, where 22 shields were used, was built in 13 months. This also shows us that the way to build the second subway section is with shields rather than by hand.

I do not cite this data in order to boast that we have surpassed the tempo of many capitalist cities. If under much more difficult conditions we have, in spite of a lack of experience and skill, surpassed the tempo of capitalist states, it is due to our system of economy, to the correct leadership of the Party, of its Central Committee, and the enthusiasm of the wide masses of the workers.

But at any rate this comparison of the rate of construction of the Moscow subway with those abroad does not give the representatives of capitalist culture grounds to put on airs, and treat contemptuously the rate of construction of our subway. We know that there has been a lot of scepticism shown in bourgeois countries towards our subway, as in the case of many of our other big socialist constructions, as for example, Dnieprostroy.

Even now, when we have already completed about two-thirds of all the work, there are people who will



Young Communist League Members in the Cloak-room
Before Going Down the Shaft

not believe that the subway will be in operation and very soon at that. Well, we can only feel sorry for them; they will have to be disillusioned as they have been on previous occasions. We willingly invite those people to come in a few months' time for a ride in our Soviet subway.

But we, Bolsheviki, in summing up the total result of our work, and laughing at the sceptics, will not become swell-headed. This is our way, this is what Lenin taught us, and what Comrade Stalin is teaching us all the time. Boldly disclosing our shortcomings so as best to mobilize our forces to eliminate them, we will successfully complete the first section of the subway, and begin work on the second.

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II

OUR TASKS IN THE STRUGGLE FOR THE COMPLETION OF THE SUBWAY AND FOR A GUARANTEE OF HIGH QUALITY WORK

We must not rest content with the work finished so far, and the tempo we have reached. We are still faced with great and serious work. We still have sections which are lagging behind. Unless we take a series of special measures these sections may lag behind half a year, and even longer, and this would delay the opening of the subway.

If we take the average figures, we find that up to date we have dug 11.4 kilometres of tunnels; that means that with the exception of some small obstructions, it is now possible to walk under the earth through all the 11.9 kilometres of the first subway line. The bulk of concrete work (68 per cent) has been finished, the bare tunnelling 50 per cent, completed roofs 69 per cent, walls 74 per cent, and invert 37 per cent. We have not yet done the bulk of the waterproofing and finishing work, nor have we begun the construction of the vestibules for the stations.

These are the average figures but we must not use these figures lightly to gloss over the condition of separate sections. This is especially inadmissible in such an integrated system as the subway. If 11 kilometres of tunnelling are ready, but in one section as, for instance, from Dzerzhinsky Square to Sverdlov Square

there is no finished tunnel, if only for a few hundred, or even a few dozen metres, then we cannot open the subway. One cannot do with a subway as is done in an animated cartoon film: a train comes along, and all at once leaps over a number of obstacles. It is only on the screen where cars can jump over hills. (*Laughter, applause.*)

We must expose all the difficult and backward sections of the work which threaten the fulfilment of our plan. There is first of all the shield section of shaft No. 12 on the Theatre Way through which the River Neglinka flows. There only 20 per cent of the work of removing earth and pouring concrete has been done. We are not satisfied with the tempo reached, especially in a section where a Soviet shield is at work. For this section we recently appointed a new chief by the name of Tyagnibeda.* The name suits this shaft. And Tyagnibeda is pulling them out little by little, but we are waiting for him to be fully worthy of his name. (*Laughter, applause.*)

*The Cofferdam Passage Near Komsomol Square is
the Most Difficult Section of the Work*

It is hermetically sealed work, where water is forced out with the aid of compressed air, and where only exceptionally sturdy workers with strong hearts can work. Although the people working there apply themselves to the job self-sacrificingly, and deserve praise, this group of cofferdam workers has removed only 58 per cent of the earth and poured 49 per cent of the concrete for the whole job—hence it is clear that the comrades, the cofferdam workers, must brace up.

* The name Tyagnibeda is composed of two words meaning "pull out" and "trouble."

The most serious work, from the point of view of a delay in the opening of the subway, is presented in making the sloping entrances from the vestibules at the surface to the deep underground stations. This work is going on in four stations, the Myasnitsky, the Krassniye Vorota, the Dzerzhinsky Square, and in the Okhotny Row. There will be installed in these slopes electrically operated escalators carrying the passengers up and down between the underground station and the street. Here only 22 per cent of the earth has been removed. If we do not make a decided improvement in the shortest possible time in this section, then a situation may be created where we will have the tunnel built but we won't be able to reach the deep underground stations. With all the enthusiasm of the Moscovites and our love for the subway is it certain that any of us will go down into the subway without a stairway? (*Laughter.*)

A complicated section is the excavation work in the big station in Okhotny Row. There we have still to remove 43 per cent of the earth, and pour 36 per cent of the concrete.

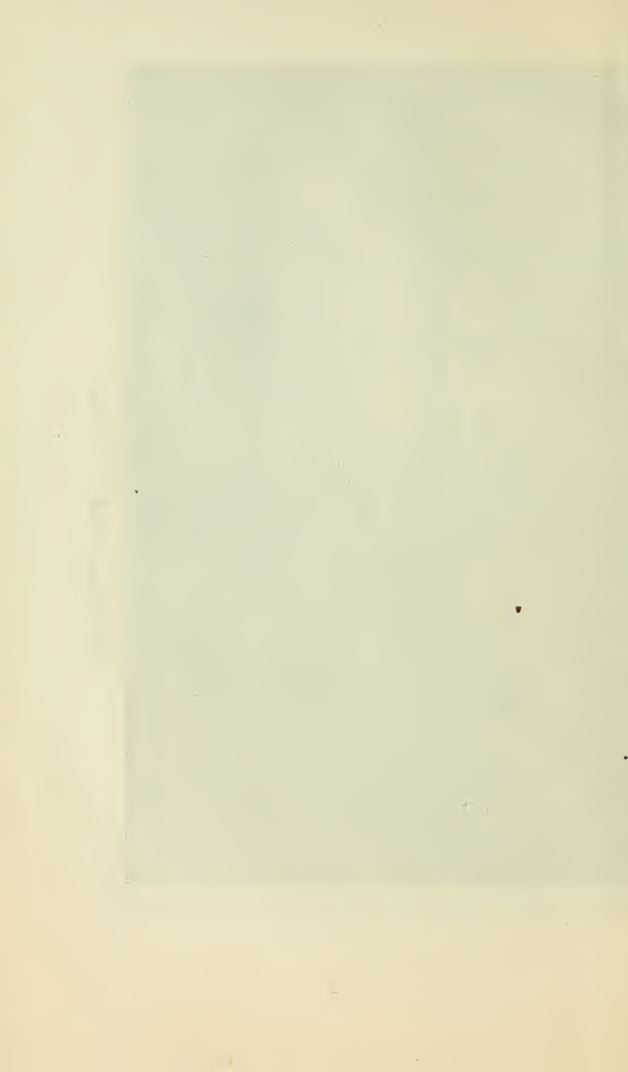
But these operations can in no way compare in their significance and seriousness with those which we have already completed. We must neither exaggerate nor underestimate them. We are paying keener attention to them in order to complete them in time, and with more strenuous effort we will surely complete them!

The Quality of Work

The question of the quality of work is the most important one in the construction of the subway, in fact, I would say the decisive one at the present moment. Right from the start of the construction we put before



The Finishing Work in the Tunnel



ourselves the task of producing the best subway in the world. Some of the Metrostroy workers took this slogan in the wrong way, repeating it boastfully, but not fighting for quality in practice.

Comrade Stalin, who generally likes all that is done to be done substantially, and well, systematically called our attention to the question of quality in the construction of the subway.

In all stages of the construction of the subway, quality of work is of the highest importance. However, the further the construction progresses the more intricate and acute the question of quality becomes.

When the earth is being excavated, the question of quality is chiefly a question of the productivity of labour, of net cost, a question of technique in work. But when we come to the concrete work, the waterproofing, finishing and assembly work, the installation of lights in the structure, the question of quality becomes more and more complicated and acute.

Have all the workers of the subway, beginning with the directors, and ending with the labourers, understood the importance of a day-to-day operative struggle for the quality of the subway? Permit me to declare that they have not understood it sufficiently. Do not look for contradictions between the statement on the heroes of labour, on remarkable people who have worked much and have accomplished a great deal, and the statement that the importance of quality has not been understood. This does not always depend upon the desires of a person, but depends on the approach, on the way in which one treats one's work.

Today the Moscow Soviet, the *active workers* of the factories, the *active workers* of Metrostroy, are in session. We are united, we are one family. But, comrades, don't let this unity, our unanimity lead to our neglect-

ing *self*-criticism. Don't let it lead to the subway workers going away from here reassuredly saying: "We have been to the Plenum, we have been praised—it means that everything is in order."

The Moscow Soviet—the organ of authority which expresses the will of the workers and toilers of Moscow—demands of you, as the Central Committee of the Party and the government demand of us, not simply to repeat the words about the world's best subway, but actually create it. Guarantee that this slogan should not be a boast but that we in practice should show the whole world that we are capable of both setting the tempos and producing a high quality of work.

We have not confined ourselves to a call for a struggle for quality. We have set up an expert commission into which we have drawn professors and the best specialists. This commission is constantly working, watching the quality of work. All the conclusions of our specialists available up to date show that there are no doubts concerning its durability. The subway is being built solidly. But we must certainly check up time and time again so that if cases are found of defects in durability, they should be quickly rectified.

The concrete work is being done, as a rule, solidly, but still slovenly, with uneven surfaces, sometimes with holes and crusts. Comrade Kuratov, the plasterer of shaft No. 12, who is working in the English shield tunnel, writes me that the arches of the tunnel have an uneven surface, and therefore they must be either trowelled or plastered more than is customary, which means that both time and cement are wasted. There is slovenliness in the work, and we must put up a stiff fight against it.

More accuracy in the work. Imperfections must not be covered up, but must be rectified.

We must put an end to supplying the shafts with inferior sand, rubble, gravel, roofing, rubberoid and pergemin. Preliminary washing, grading and proper preparation of the concrete must be brought up to the high standard demanded.

The most burning question is that of waterproofing the tunnels. That is the work of preventing the seepage of water in the tunnels, and this work is being done poorly. I could mention a whole list of shafts where the waterproofing work is being done carelessly. The details of the work are of great importance: how to lay out the rubberoid, how to join up the waterproofing sheets, to determine if waterproofing material has been broken or not, whether the ends are exposed or even neglected due to carelessness. There is nothing complicated in this operation, it is simple technical work. What is needed for people to reorganize their work? Very little is required of them. It is only necessary that the same attention be given to the quality of the waterproofing and finishing work as is given to the tempo. But this is not yet the case.

The Moscow district and city Party committees and the Moscow Soviet are systematically from day to day checking up the work of Comrades Rottert, Abakumov, Starostin, Ossipov, and of each director and Party organizer of the shafts, demanding of them not words, but deeds. The fight for quality must take on an operative character in all the sections. In every corner of the construction we must have a personal vital interest in the work. But this personal vital interest is just what is sometimes lacking.

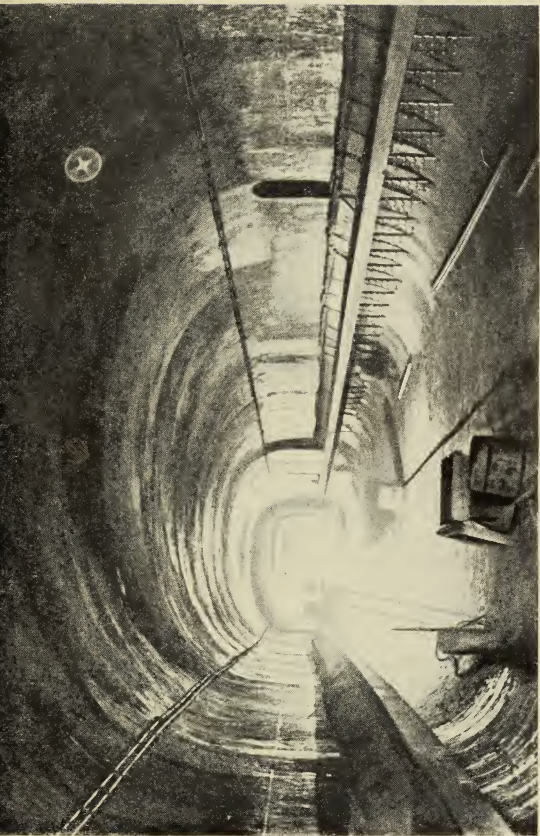
In the fight for quality the administration of Metrostroy must not act by means of "invocations"—to issue

an order, hold a meeting, and leave it at that. We must detect the unconscientious workers and catch them red-handed. We must not allow a single fact to pass us by. Each violation against the quality of the work must be rectified. We are building the subway not for a year, not for five years, but for a long period of time. The smallest error in construction will tell later on in the operation of the subway.

The unconscientious worker must not think that if he puts plaster on, covers up bad work, adds the waterproofing, and then puts a layer of concrete over it, that no one will see the bad work. It will be much worse, when it will be checked up in years to come not by our commission but by time, when the water will seep through and drip in the tunnel. Don't let the subway builders think that we are "Ivans who forget their relations." At the end of the construction we will remember the builder who worked well, but we will remember also the one who built a tunnel badly.

For those who underestimate this, the Plenum of the Moscow Soviet must issue a warning that we will check up from day to day the quality of the work done by the directors of Metrostroy, the chiefs of the shafts and sections, the chargehands, brigadiers, and workers. We will check up on how they fight for the best quality of work in the subway. And as to those who are not worthy of confidence placed in them, those who do not want to produce work of high quality, the organs of authority will take all measures necessary. I hope that we will not have to take these measures.

Thousands of directors, engineers, and fighters have grown up on the construction of the subway. The role of the comrades of the Young Communist League has been especially great. We came to know one another better in the period of constructing the subway, to-



The Tunnelling (Shaft 29) is Finished—Will be Doubletracked

gether we have overcome many difficulties, eliminated many defects, and so together let us bring this undertaking to a victorious conclusion.

Preparing to Run the Subway

We are still confronted by other intricate tasks. We must prepare for the running of the subway, train forces, complete a high-quality assembly, produce subway cars, escalators, build substations for power and assemble them, prepare repair shops, depots. Finally we must build vestibules, do the finishing, and equip the stations. A high quality subway means a good dry tunnel, a good track, comfortable and durable cars, a well arranged electric traction system, well designed and artistically finished stations and vestibules. All this must be done without any reservations, or references to objective conditions.

Our Soviet factories are producing the cars, motors and escalators for the subway. Heavy industry is giving us every kind of assistance. Workers are present here from the Mytischy Car Building Plant, from the Dynamo Plant, from the elevator construction works and other works. We hope that the workers attending the present conference—the representatives of these factories—and also the workers *not* represented here (the Yaroslav, Kharkov Electric Motor Works, Sormovo and others) will do everything possible to provide the subway with equipment on time, and of a high quality.

I must speak here especially of the role of the best plants of our Union—the Leningrad plants Red Metalist, the Putilov, Izhora, Electrosila and the others—which are producing for Metrostroy escalators, switches, accumulators, batteries, relays, which are being mastered in the U.S.S.R. for the first time. The help

given to the Moscow subway by the Leningrad Bolsheviks and workers will undoubtedly ensure our receiving the escalators on time, and of a quality not inferior to those of foreign make.

The question of preparing to run the subway is exceptionally complicated. If the subway trains run at the same rate of speed as a tramcar, if the subway trains stop because of breakdowns of the cars and in the electrical equipment of the track, or because of defective work in the stations, then the passengers—the Moscow workers—will give us no praise. The subway must differ from transport above ground by the fact that it runs a train at three minute intervals, so that any one who rides underground does not have to wait for a train, but arrives quickly at his destination. If a Moscowite now spends from an hour to an hour and a half on a tram ride from Sokolniki to the Smolensk market, then with the subway he will make this journey in one-half or one-third of the time. The time saved will be available for cultural rest and work. Running the subway becomes a question then of creating more conveniences for a cultural life. If we don't prepare properly for the running of the subway, then we cannot have these conveniences.

The Second Section of the Subway

In the first section of the subway, which is nearing completion, we shall open the Sokolniki-Myasnitskaya line, the Frunze and Arbat line, which reach two parks of culture and rest, the Sokolniki and the Gorky Central Park; we will link three railroad stations—the October, Northern and Kazan—the Krassniye and the Myasnitskiye Vorotas, the Dzerzhinsky and Sverdlov Squares, the Okhotny Row, the Arbat, which means,



45 Metres Under the Street the Brigadiers of Shafts 17 and 18 Meet



the most densely populated sections up to and including the Smolensk Square.

In the next four years we plan to build 20 kilometres more of new subway lines. So far there has been no decision on the lines of the second section of the subway. Designs and plans are being prepared for approval by the Central Committee of the Party and the government. Comrade Stalin advised us to select the most congested routes, and above all to cover the railroad stations, because hundreds of thousands of people are using them.

Here are the routes of the new lines we are planning:

1) A new Gorky street radius from Okhotny Row to the White-Russian-Baltic station, extending approximately four kilometres. A proposal was made to extend this line further, to the Dynamo Stadium, but we have not the resources and, besides, there is a fine wide road running there, the Leningrad Highway, beyond the White-Russian-Baltic Station. 2) A line from the Okhotny Row to Paveletsk Station which will intersect the Moscow River, and run probably under it. 3) A line of one and a half kilometres from Smolensk Square to the Bryansk Railroad Station which since the transfer of the capital of the Ukraine to Kiev is a point of great traffic congestion. 4) A line linking the centre with the congested Kursk Railroad Station, and a continuation of this line across the Stalin District to the Stalin Park and the International Stadium.

The construction of the second section will cost less, because we have already created a base for the production of the vital materials, we have houses, machines and what is most important—we have experience. We will have to draw lessons from the construction of the first section—to further mechanize our work.

In London they now build a subway almost entirely by the shield method using concrete blocks. You all probably have an idea of what a shield is. It is a big steel cylinder, the diameter of which is equal to the diameter of the tunnel, which supports the surrounding earth and in moving forward sets concrete blocks in the passages it leaves behind it. The work is extraordinarily simplified, speeded up and its cost greatly reduced.

The second section of the subway must be built for the most part with shields rather than by hand: fewer workers will be needed, the cost will be less. The basic cadres of Metrostroy will build the second section too; we must already select them so as not to lose the best people.

Comrades of Metrostroy, you have a big task before you. All of you must answer to the Party and to the working class for making the subway good and convenient in both sections, so that the passengers will always have a good word for your work. This will be the great reward for you, from the Moscow proletariat, and the Moscow Bolshevik Party organization.

I am convinced that under the leadership of the Central Committee and Comrade Stalin we will accomplish with honour the task of constructing a high quality subway.

III

THE PLAN OF THE CITY OF MOSCOW

Allow me to dwell on the question of the plan of the city of Moscow, which is closely tied up with the construction of the subway. You all understand that the construction of the first section of the subway, and the projected plan of the second section, to a great extent predetermines the fate of the plan for the further development and construction of the City of Moscow.

It is natural that each of you will rightly ask whether the routes of the subway were or are fixed fortuitously, only in accordance with the present needs of the transportation of passengers, or if the plan of subway construction is brought into harmony with all the plans of further development and planning of Moscow.

At the plenums of the Moscow Soviet and at the Moscow Party Conference it was already reported that at the instructions of the Central Committee of the Party, the government, the Moscow organizations—the Moscow Regional Committee, the Moscow City Committee, the Moscow Soviet—our planning and architectural institutions have been working in the course of the last three years on a general plan of the city of Moscow.

In fixing the routes of the subway we have taken into consideration the planning of Moscow.

Recently the Central Committee of the Party and the government held an important conference in which the Party and government leaders, the representatives of the Moscow organizations, and more than fifty architects and city designers who have been working on the rebuilding of our capital, participated. At this conference the plan of the city of Moscow, as proposed by the Moscow organizations, was taken up. Comrade Stalin gave us the essential and most important lines for the further development and planning of Moscow.

Allow me, first of all, to explain the significance of the plan. Some people think that the planning of the city is a luxury, that it can be postponed for at least a few years. They ask us: Have all the difficulties been overcome, have all the specific problems of socialist construction been solved that you have taken on the task of planning the city for fifteen to twenty years in advance?

These comrades make a great mistake. The art of our city building lies in the fact that we include the construction of each small section, each house in the one single unified plan of the future city.

In Moscow there are more than 2,500 streets and lanes, 51,000 dwellings, of which more than 31,000 are wooden ones, 23,000 one-storey houses and 21,000 two-storey. I have said repeatedly that the proletariat had inherited in Moscow a most complicated system of labyrinths, winding lanes, blind alleys, the backstreets which had been the old Moscow of landlords and merchants. A street starts as a street, and unexpectedly in the middle of it stands an absurd house. It has occurred to some Tit Titych * to heap up his house just in the middle of the street, or to filch at

* A type in a play by Ostrowsky denoting a merchant kulak.



L. M. Kaganovich (left) Inspecting the Construction

least a good five to ten metres for the wings of his "mansion." With the increase in population, and the city growing to five millions, with the rapid growth in the number of automobiles and other means of city transport it will be impossible to live in the city if we do not replan it, widen and straighten the streets, lay out new squares, etc.

Of course, it will be necessary to straighten streets by removing useless one-storey houses. At present, even in the central streets, as, for instance, in Gorky Street, we meet side by side with large beautiful buildings, miserable one-storey wooden shacks which disfigure the face of the proletarian capital. Similar ugly, ancient structures deface the best places of our city—the quays of Moscow River.

We are not indiscriminate in the tempoes of demolishing the old buildings, we are not in a position to settle to any great extent people from the demolished houses in a large part of the newly erected buildings, but a certain percentage of the newly erected buildings must be set aside for the accommodation of the people from the old houses. Unless this is done Moscow will not be rebuilt, the streets will not be straightened.

Where the widening and straightening of the streets is blocked by comparatively large and new buildings, these will have to be moved. Abroad they have already accumulated a rich experience for moving comparatively large buildings distances of tens and even hundreds of metres.

In rebuilding Moscow we must look years ahead, otherwise we will be erecting a lot of buildings and structures of every sort in places where they should not be. If there is no plan of the city we will be building such boxes as we will be ashamed even to look at in a few years' time. In some parts of Moscow such

boxes have already been built. Sometimes it even happens that a house is built just on a spot where a road must run, or where a square must be laid out—and we in Moscow have too few squares.

In recent years we have started a great deal of construction in Moscow. Since 1926 we have erected about 3,500 new houses and additional storeys to more than 300 buildings, with an aggregate floor space of more than 3,500,000 square metres. The year 1934 must add 655,000 square metres more of living space. In this same period we have built twenty-five factory kitchens, a meat combinat, twelve mechanized bakeries, and the capacity of vegetable storage houses has been doubled (from 105,000 tons in 1931 to 262,000 tons). One and a half million square metres have been covered with improved pavements, two big waterworks have been built and a dam at Rublevo with a hydro-electrical station, 717,000 trees and 3,000,000 bushes have been planted, occupying an area of ninety hectares, etc. In the Second Five-Year Plan period we plan to build new living accommodations with an aggregate floor space of 4,500,000 square metres, out of which 1,300,000 square metres come under the years 1933-34.

We plan to increase central municipal heating from a capacity of 207,000 kilowatts to 556,000. The improvement of roadways is planned to the extent of 2,700,000 square metres and 860,000 square metres of sidewalks; seventy new schools are to be built, twelve public bath-houses, eight mechanized laundries. It is perfectly clear that we cannot proceed with such enormous outlays of capital unless we have a plan.

At the conference Comrade Stalin sharply raised the question of a decisive struggle against haphazard building. Individual builders, organizations and institutions build planlessly, spontaneously, and thus harm the

city as a whole. We abolished private property in land long ago. However, even until today we can observe the private property approach of individual builders towards the sections which have been placed at their disposal. We must fight decisively against such anti-state tendencies in the building of the city. We must build—said Comrade Stalin—according to a fixed plan. Anyone who tries to upset this plan must be called to order.

A firm hand is necessary against anti-state tendencies, a firm and strong apparatus is needed, and firm discipline. The plan which defines exactly the line of the streets and squares must be an unalterable plan.

We had lively discussions in elaborating upon the plan of reconstruction of Moscow. We started from the point of view of linking up the bold perspectives of the plan with the concrete realities of today. We cannot consider seriously such plans of reconstructing Moscow as do not take into consideration the conditions of the city, which have resulted from its development in the historic past.

I will not tell here in detail the history, or give the essentials, of the various plans. There were niggardly proposals—to leave the existing complicated system of small streets, lanes and blind alleys as is, and to build only on the lots accidentally left vacant, on courtyards and the like. There were also plans which proposed to leave untouched the present Moscow with all its hovels, and to take the new construction far out of the city—twenty to thirty and even seventy to one hundred kilometres out of present-day Moscow. In this, both the extreme “Lefts” and the extreme “Rights” sometimes agreed. There were more “moderate” ones, who limited the plan to nothing more or less than a scheme for the removal of the government from the

Kremlin into the Petrovsky Park. In our plan of Moscow we rejected the extremes. Comrade Stalin, in remarking that the position taken by the Moscow organizations in the planning of Moscow was correct, pointed out that in reconstructing the city we must wage a struggle on two fronts. We cannot accept either the position of those who deny the very principle of a city, who would have us leave Moscow a large village, or the position of the advocates of excessive urbanization, those who propose to build a city of the type of capitalist cities, with sky-scrapers, with an over-crowding of the population.

History—said Comrade Stalin at the conference—shows us that the most economical type of distribution of population in industrial districts is the city, which affords economy in sewerage, water-works, lighting, heating, and so on. Therefore these people are wrong who propose to scatter the city another seventy to one hundred kilometres, which means to transform it into a village, and deprive it of all advantages of municipal services and cultural city life. We must build at least six or seven-storey buildings, and for some public institutions we may allow fifteen, and even twenty storeys.

In submitting our proposal for the plan of Moscow we rejected these extremes and we started out from the necessity of reconstructing the existing city, with its buildings and other material wealth. We must not jib at our tasks, but in rebuilding and working on the existing streets, straightening and widening them, we must proceed to the construction of beautiful, convenient, large, well-designed buildings in the new districts, before all the riversides, and the districts where there are large parks.

A most serious problem is the one of new territory for the city. We must extend the existing territory by

not less than fifty per cent of its present area. Where shall we carry the growth of the city? Some seek a solution of this problem only in the further encircling of Moscow, only with new rings round the Okružnyy Railroad. When we began working out the plan we asked ourselves the question whether it were not possible to find new districts by starting out from the concrete conditions of our town. While the elaboration of the plan was still in progress, two years ago, Comrade Stalin put forward the idea of a wide use of the banks of the Moscow River. All who travel along these banks have noticed that the cultural centre of the country has a riverside entirely neglected, impassable, uneven, and very poorly utilized. If there are buildings, then they are as a rule dwarfish and unattractive. The banks are not reinforced and they slide into the river. Within the city limits there are twenty-five kilometres of riverside, and counting both sides—fifty kilometres. This huge area is exceptionally favourable for building on. The river itself will be transformed, as soon as we finish the Volga-Moscow Canal; the other rivers, as for example, the Yauza, will also change; canals will cut through the city, along the extensive waterways and thus created Moscow will be developed still further. The importance of the Volga-Moscow Canal is enormous. This is an undertaking not smaller than Metrostroy. The canal will make Moscow a salubrious place, raise the level of the Moscow River by three metres, improve the eleven kilometres of the now stinking Yauza stream, make the whole length of the Moscow River and the Yauza navigable, provide Moscow with a sufficient quantity of water. The old Babyegorodsky Dam, which prevents navigation in the very centre of the town, will be done away with. The water supply of Moscow will be doubled from 44,000,000

vedros * a day to 100,000,000 vedros, and the average consumption of water per person will grow from 148 litres per day to 250 litres. We plan in the course of the next few years to build granite embankments all along the Moscow River and the Yauza to an extent of 50 kilometres. So far we have covered 2.3 kilometres, and in 1934, 9 kilometres of granite embankments will be completed. Apart from the riverside, Comrade Stalin directs our attention to park development: by which he does not mean the little plots of grass about which our people are sometimes so enthusiastic, but large parks, which we must develop in every way in Moscow and its nearest suburbs.

Some naive worker will think that if he has laid out a small lawn near the sidewalk (which, by the way, means narrowing the sidewalk) that this constitutes landscaping the city. But in reality such a plot only cramps movement, and does not help in the slightest to ozonize the air. It is necessary to create large woodlands, parks and wide boulevards. Side by side with construction on the riversides the construction must be directed into the neighborhood of the Sokolniki, Izmailovo, Ostankino and other parks.

Since we have made the territory of the existing city the basis for the further construction of the city, the question arises sharply regarding the planning and improvement of the existing streets and squares. Here also there were different proposals; the question was debated, as to which system of street arrangement is best—checker-board or radial—but in this some people forgot the historically formed network of streets, and in Moscow, as it is known, the historically formed arrangement of the city is one of circles, which scheme

* A vedro equals 2.70 gallons.

in its own way is not a bad solution of the traffic problem. There may be different opinions as to which scheme is best, checker-board or radial, but it is imperative and obligatory to reckon with the reality of the city as it actually stands. That is why we make it our task to perfect and improve the existing radial streets and circles.

If you look at the map of Moscow, you will see first of all the Kremlin circle, then the semi-circle newly created along the line, Kuznetsky Most, the Art Theatre Way, Ogarev Street, the Bolshoy Kislovsky Lane, the Krestovozdvizhensky Lane, the Kremlin and Moskvareka Quays. Today already we have positive results from this new semi-circle. As soon as we paved the streets with asphalt, traffic here became brisker. Why should a chauffeur drive where it is congested when he can drive along this new semi-circle?

Then come the "A" and "B" circles. Beyond these circles are the Kamer-Kollezhsky Val, and the Okruzhny Railroad. Thus we have a completed system of circles. Apart from the fact that street traffic is considerably facilitated, by this we bring into a definite system an enormous number of lanes and streets in which not only the citizen of another city, but even the born and bred Moscowite is so apt to lose himself.

The circular main lines are intersected by radial streets which converge into the centre of the city and connect it with the districts. The main thoroughfares are as follows:

- Gorky Street—Leningrad Highway;
- Dmitrovka—Dmitrov Highway;
- Neglinka—Ostankino;
- Dzerzhinsky Street—Yaroslav Highway;
- Myasnitskaya—Sokolniki;

Pokrovka—Izmailovo Highway;
Ulyanovskaya—Enthusiasts' Highway;
Solyanka—The Stalin Plant;
Ordynka—Warsaw Highway;
Yakimanka—The Kaluga Highway;
Kropotkin Street—Devichye Polye;
Arbat—Mozhaisk Highway;
Herzen Street—Horoshevo Highway, etc.

These are the starting and finishing points, but each of these main lines includes and joins together a series of streets.

To these existing radial streets we must add a number of new streets which it is imperative to lay out in those districts where the network of streets is insufficient.

By bringing all the numerous streets into a single well-proportioned system, after having widened and straightened them, we can have a well-proportioned system of sixteen to seventeen radial streets and six circles. At the present time conditions are exceptionally favourable for us to create this system, to put it into shape and perfect it. If we delay for five or six years, we will have immeasurably greater expenditure of money and labour and with less results because we will have built where we should not have done so. To avoid this we must determine the borders of expansion the so-called "Red" lines, so that in building we should not overstep these borders.

Comrade Stalin directed special attention to the absolute necessity of widening the streets and squares of Moscow, and above all the main streets. With every year and even every month the number of automobiles on the streets of Moscow increases. In a few years there will be scores of thousands of automobiles, and w

must give serious thought to creating wide, good, well-constructed streets so as to facilitate traffic, and reduce the number of victims of traffic accidents.

Regarding the width of streets Comrade Stalin pointed out that in the old sections of the city, where widening the street necessitates demolishing old buildings, we may limit ourselves to thirty to thirty-five metres of width, but where we are laying out new streets we should extend their width to sixty to seventy metres.

The plan of the city apart from the straightening and widening of the streets of Moscow provides for the creation of squares artistically laid out at the intersections of the radial streets and circular main lines.

For the convenience of traffic in the centre and to allow great numbers of people to pass through, there is being created a wide avenue from Nogin Square to Dzerzhinsky Square (as a result of razing the Chinese Wall), and over the Okhotny Row along the widened Mokhovaya and Volkhonka Streets to the Palace of Soviets and ending at the Krym Square. On the Mokhovaya, opposite the university, work of demolishing buildings and widening the street to the width of the Okhotny Row will be continued. We believe that in the future the whole block will have to be demolished, in order to afford a clear view to the facade of the hotel of the Moscow Soviet.

A further perspective we have in mind is the demolition also of the block between the Mokhovaya, Manezh Square and the Sapozhkovsky Square, right up to the Palace of Soviets, so as to lay out in front of it an enormous square, reaching to Frunze Street. The streams of traffic converging into the centre through the radial streets will flow freely about this central avenue. A supplementary route as an outlet from the

centre of the city will be, as I have already mentioned, the semi-circle along Kuznetsky Most, the Art Theatre Way, Ogarev Street and so on, with an egress on to the quay of the Moscow River. The opposite side of this prospect across the Moscow River—the Sophia, Bersenev and Krym Quays, now occupied entirely by small houses, will be decorated by large monumental buildings—for homes and public institutions. Concretely as a phase of this work we will start next year the construction of a gigantic fifteen to twenty-storey house and hotel of the Central Executive Committee of the U.S.S.R., on the Sophia Quay. These new buildings on the banks of the river and the deepened Moscow River, navigable along its entire course, will furnish, one might say, a background against which will stand out prominently the grandiose achievement in modern building and architecture—the Palace of Soviets.

Kitai-Gorod * will be entirely rebuilt. A start has already been made in clearing away a section for the erection of the House of Industry on the territory between Vetoshny and Blucher Lane, the Ilyinka and Sverdlov Square.

The Red Square is acutely in need of being widened. Later on we will have to demolish the G.U.M. building, which limits the dimensions of the Red Square. Then the facade of the House of Industry will directly overlook the Red Square in addition to the Ilyinka Street and Sverdlov Square, and we will thus beautify the best parts of the city.

The rebuilding of Kitai-Gorod will be accomplished by the demolition of the Zaryadye, which is absolutely crammed full of insanitary, chaotically distributed

* The Chinese City.

buildings. Over the site of Zaryadye, beginning from the Varvarka, there will be built a stepstone terrace; descending towards the Moscow River.

In the struggle for new Moscow a very important question is that of the beauty of the constructions, of the architectural designing of buildings, and of accommodation and conveniences. In the last years our architectural work has been improving although still insufficiently. Particularly acute is the question of highly qualified builders and of building materials of a high quality; however, we are confident that we will solve this problem. We are learning and will continue learning how to erect buildings which are good in every respect.

Our architects already play and will continue to play a big role in the reconstruction of the city.

We have reorganized our architectural and planning work. The architects have united in the architectural studies of the Moscow Soviet under the direction of leading architects. We are certain that in conditions where architecture is given such attention by the Party and by Comrade Stalin personally, the creative art work of the architects can and must develop more widely and deeply.

The Central Committee and the government have approved, in the main, the general plan presented by the Moscow Regional Party Committee, the Moscow City Party Committee, and the Moscow Soviet, and have commissioned us to work out concrete practical proposals and submit them for approval to the Central Committee and the government. We have already started to elaborate these proposals. We, of course, understand that the most difficult task—the realization of the plan—still lies ahead of us.

We know we must regulate the tempoes of the general reconstruction of Moscow with actual possibilities. The fulfilment of the general plan of reconstruction of Moscow entails an enormous expenditure of resources; we must not imagine that we can accomplish it in one or two years. Moscow took about 800 years to be built, it was built chaotically, and it will take us years and years of stubborn and persistent work to rebuild it.

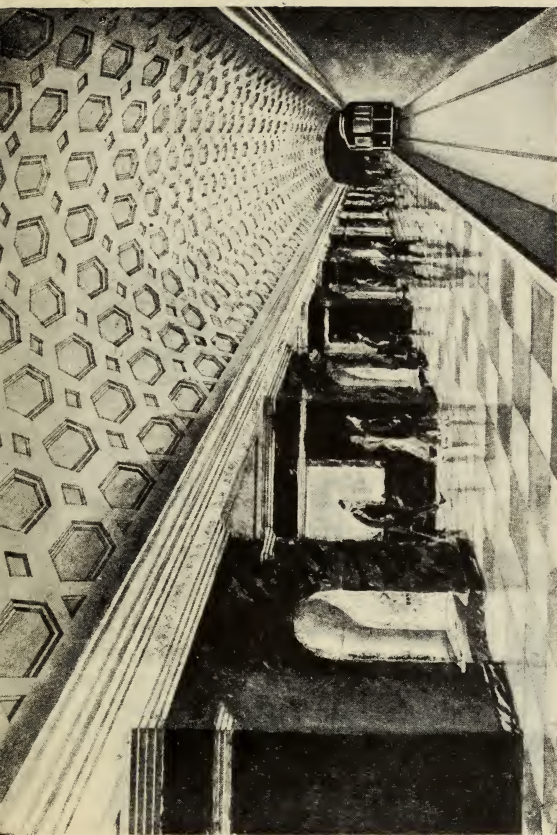
Current Tasks

In building the subway, the canal, in putting before us the main tasks of our plan, we must not for the sake of big things forget the so-called small ones—the questions of improvements of the present municipal services of the Moscow population.

Indeed these are not small, they are big matters which determine the moods and conditions of life today. We must keep in mind the needs of the population each day and not neglect our current tasks because we are taken up with big constructions. For example, it would be very bad if, having completed the subway by the scheduled time, we should forget to supply fuel on time in sufficient quantity to the population of Moscow.

Current problems of city management are particularly acute inasmuch as the construction of the subway has to some extent upset the normal life of the city, especially in the Sokolniky and Ostozhenka Districts, where the work is being done in an open cut. Simultaneously with the completion of the construction of the tunnels in the separate sections, we set ourselves the task of speedily removing from the streets the head frames* of the subway, and levelling off the surfaces,

* Shaft-towers.



Design of the Platform of the Krassniye Vorota Subway Station (Architect Fomin)



paving the streets and repairing the buildings. We have provided in the approved plan of work that the demolition of the head frames from Sokolniki to the Komsomol Square inclusive be effected in the period from July 15 to October 25, so that the main streets will be fully repaired and paved by November 1. It is planned to repair a large part of Ostozhenka by October 15 and Myasnitsky Street by November 1.

In our preparations for this, we have taken steps to complete the finishing of the new buildings now under construction on the main streets, as, for example, the hotel of the Moscow Soviet in the Okhotny Row and the building of the former Moscow Municipal Services Administration on Theatre Way, we are widening the passable part of Mokhovaya Street from Gorky Street to Manezh Square, and so on. In connection with the demolition of the Sukharev Tower we are reconstructing, landscaping and finishing the Sukharev Square. We are creating a wide avenue from Sverdlov Square to Nogin Square by razing the Chinese City Wall. All this will considerably improve the appearance and form of the central streets of the city.

As the construction of the subway progresses our plan calls for a gradual change also in the character of surface transport. Comrade Stalin in his speech approved our plans gradually to remove the tramcars which are overburdening the streets, retarding traffic and creating an incredible noise, from the over-congested streets in the centre to the outlying areas, and to replace them, apart from the new subway lines, with a more noiseless and flexible means of transport, as, for example, the autobus and particularly the trolleybus which has justified itself in every way. We have made the first experiment by removing the tramway from the Arbat. It should be noted that this has greatly

improved the street, the traffic congestion has been sharply reduced and the street itself has changed its appearance.

While we are improving and beautifying the central streets of the city, we must not neglect the outlying districts, the bad streets and dirty courtyards. We should be ashamed of those insanitary corners, that we have still been unable to eliminate—the remains of old, unkempt Moscow. In rebuilding Moscow, we must work obstinately and persistently for years not only on the construction of the new but also on the reconstruction of the old.

The bureau of the Moscow Regional and City Committees of the Party and the Presidium of the Moscow Soviet deemed it the most important economic and political task in line with the beautifying, improving and cleaning up of the whole network of central streets, to introduce a minimum of order into the rest of the streets of Moscow after eliminating the unendurable insanitary condition of the separate lanes, blind alleys, courtyards, old buildings, to repair the half-crumbled buildings which can be restored, to rid the city of the hastily knocked-together shanties which still stand in some parts of the city.

The Presidium of the Moscow Soviet and the Bureau of the City Committee of the Party, the District Party committees have undertaken this work. The closest assistants in carrying out their instructions are the district soviets. However, we must say frankly that the district soviets are still working poorly on the improvement of their districts, they still do not show and do not feel themselves that they are the masters of their districts in the full sense of the word.

A most important task is to bring the district soviets closer to the masses of the population which they

serve. In every corner of the district there must be a master, who would know all the needs of the district, and make them his daily concern. There should be a master who pays attention to the good order of his street and house; there should be a master who, loving his section, his street, would make it his concern to fight against hooliganism, bad house management, untidiness and lack of culture.

If the Moscow Soviet and the district soviets are to begin this big undertaking, it is apparent that sub-district soviets must be created. The districts containing up to 400,000 population are too big—each district is a whole large city in itself. It is hard to cover and keep account of the needs of such a big district from one centre. If there are sub-district soviets covering several streets, if the soviet deputies and the soviet section leaders work actively in the sub-district soviets, becoming fighters for their street, their sidewalk, their court, the improvement of Moscow will go on apace.

The successful reconstruction of Moscow demands that each citizen, each worker, each city inhabitant and social activist should love the street in which he lives, should work unceasingly to create cultural conditions in his house, court, lane and street and the place bordering upon them, the squares and parks.

* * *

Comrades, Moscow is attracting the attention not only of our country, but of all the world too. The subway is a concentrated expression of the attention, that love which the working class and collective farm peasantry show for the reconstruction of our great socialist capital.

The Central Committee of the Party and the government, at the initiative of Comrade Stalin, at a time

when the strengthening of our defence and the realization of the great tasks of socialist construction in the fields of industry and agriculture demand enormous resources, have nevertheless appropriated, out of the State Budget, funds for building the subway, the Volga-Moscow Canal, granite embankments on the Moscow River.

We Moscovites must justify through our work, our energy, our efforts that confidence and support which the Party and the government have shown us.

Today in discussing the question of the subway and the reconstruction of Moscow, we activists—the leaders of the city of Moscow—will say to the Party, to our Central Committee and the government, we will say to Comrade Stalin: We will be worthy of that confidence and that support which you have shown us, we will work unceasingly under your leadership, Comrade Stalin, so as to make Moscow the model socialist city of our proletarian state.

Long live the new Moscow—the capital of the great Soviet Union of Socialist Republics! (Stormy applause.)

Long live the working class of Moscow and of all the Union, long live the great army of shock brigaders, among them the shock brigade builders of the subway! (Stormy applause.)

Long live our great, mighty Party, our great and mighty friend, leader and organizer—Comrade Stalin! (Thunderous applause, cries of “hurrah,” all stand cheering.)

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J. H. KENNEDY

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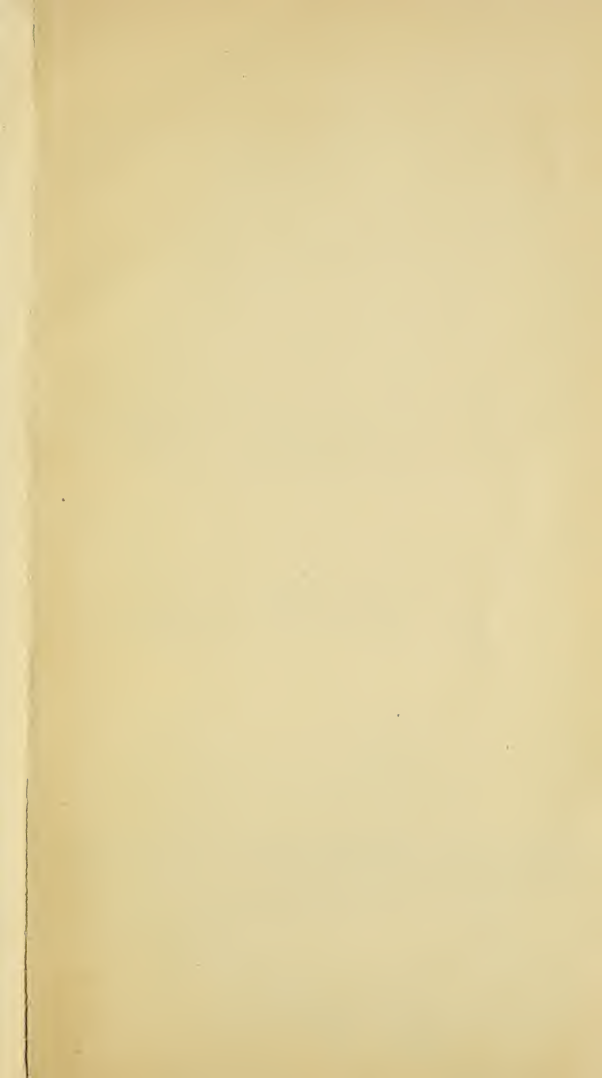
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