THE DEVELOPMENT OF CITY PLANNING IN SOVIET RUSSIA

by

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Professor Frederick J. Adams, Head
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Dear Professor Adams:

I hereby submit this thesis, THE DEVELOPMENT OF CITY PLANNING IN SOVIET RUSSIA, in fulfillment of the final requirement for the degree of Master in City Planning.

Respectfully yours,

Maurice Frank Parkins

PREFACE

Differences between East and West appear not only in the political and economic spheres but in the field of city planning. The Soviet government has made bold and progressive long-term decisions about the future of her cities and countryside. It is the purpose of this thesis to examine these decisions and evaluate accomplishments in Soviet city planning, and learn from their experience. In a field as complex as city planning, the story comes into its true perspective only when translated into its larger political, economic, and social implications.

First, we shall look into the background and analyze the development process of city planning. According to the Soviets, city planning in the U.S.S.R. has had three stages: The Initial Phase, 1922-1931; The Second or Transitional Phase, 1931-1944, which saw a change from trial-and-error method of planning to one of matured principles and practices, culminating in the General Plan for the Reconstruction of Moscow, but to be interrupted by World War II; and the Third or Reconstruction Stage, 1944-to the present.

In the preparation of this study the author spent the better part of one year in gathering material that is available in this country and in talking to architects and planners who have at one time worked in Soviet Russia.

The author is Russian born and uses the language; most of the sources were consulted in the original. This work is limited in that he has not checked at first hand city planning practices in U.S.S.R. However, he followed intensively the writings and examined the plans of the leading Soviet architects and planners. Conclusions were reached cautiously and attempt for objectivity was the keynote throughout. If some personal impressions or judgements have crept into the text, he is alone responsible. His own analyses are interspersed among authentic statements. His conclusions do not necessarily reflect opinions of members of the Department of City and Regional Planning of Massachusetts Institute of Technology and the Harvard University Russian Research Center, under whose auspices this study was prepared. Although this is not a comparative study, in a few instances comparisons are drawn with planning practices in the United States.

ACKNOWLEDGEMENTS. I wish to extend my most sincere appreciation and thanks to:

The faculty of the Department of City and Regional Planning of the Massachusetts Institute of Technology for their pedagogical assistance and friendly guidance, particularly to Professor Adams who was good enough to read the manuscript and give me the value of his objective criticism and suggestions and to Dr. Rodwin for his initial inspiration.

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The library workers of Harvard University, the Library of Congress and the American Russian Institute who so generously assisted in leading to sources; especial thanks are due to Mr. John T. Dorosh, Curator of the Slavic Section and Dr. Vladimir Gsovski, Chief of the Foreign Law Section of the Library of Congress.

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CONTENTS

Page

LIST OF FIGURES

LIST OF CHARTS

TRANSLITERATION OF RUSSIAN ALPHABET

The transliteration of Russian names and places used in the text follows generally the system of transliteration of the Library of Congress and the Harvard University Library. The only deviation in Harvard University Library practice from that used by the Library of Congress is in the loose use of diacritic marks and ligatures (where a single Russian letter has to be rendered by two Latin letters). For purposes of simplicity, I am omitting all diacritic marks and ligatures, e.g., Я as Ia, rather than I͡a; Ц as Ts, rather than T͡s; and dropping ˘ in Ĭ. The English equivalents of the Russian alphabet is given in the following table:

Russian alphabet	English equivalent	As in	Russian alphabet	English equivalent	As in
А а	A a	ah	Р р	R r	ring
Б б	B b	be	С с	S s	sit
В в	V v	ever	Т т	T t	to
Г г	G g	go	У у	U u	root
Д д	D d	do	Ф ф	F f	if
Е е	E e	yet	Х х	Kh kh	German ach
Ё ё	E e	yonder	Ц ц	Ts ts	nets
Ж ж	Zh zh	measure	Ч ч	Ch ch	child
З з	Z z	zest	Ш ш	Sh sh	shoe
И и	I i	seen	Щ щ	Shch shch	rash-child
Й й	I i	boy	Ъ ъ	" "	hard sign for consonants
К к	K k	cake	Ы ы	Y y	build
Л л	L l	let	Ь ь	' '	soft sign for consonants
М м	M m	many	Э э	E e	echo
Н н	N n	net	Ю ю	Iu iu	pure
О о	O o	ought	Я я	Ia ia	yard
П п	P p	put			

FIGURE 1. MAP OF THE UNION OF SOVIET SOCIALIST REPUBLICS, circa 1947

REPRINTED BY COMMITTEE ON EDUCATION OF THE NATIONAL COUNCIL OF AMERICAN-SOVIET FRIENDSHIP, 114 East 32nd Street, New York City 16 from the "Soviet Union Today," an outline study, by courtesy of the American-Russian Institute, 58 Park Avenue, New York 16, N. Y.

CHAPTER I

BACKGROUND

A. General Conditions

The development of city planning in the U.S.S.R. (FIGURE 1) must be viewed in historical perspective, not so much as a record but as a means of understanding present trends and practices.

Land has always been a dominant factor in Russia. Vast stretches of rich, virgin soil (covering more than one-sixth of the earth's surface) with climates ranging from arctic severity to sub-tropical warmth, hide in their depths untapped natural resources. The constant battle waged with the land created the traditional "mystical love of the muzhik for the soil." The greater part of the land was sparsely settled, and undeveloped. It was conquered, settled, and made productive under a system of feudal ownership long abandoned in the rest of Europe, but still partially intact on the eve of the Revolution. A low density of population and an undeveloped transportation system created a kind of rural life that was almost independent of the city; these explain some of the reasons for the isolation of the Russian peasant, his economic

and cultural backwardness.[1] The village community (mir) made him dependent on collective life and authority.

The changes that occurred at the end of the 19th and beginning of the 20th centuries in the political and economic life of Russia are strongly reflected in the composition and appearance of her cities. The abolition of serfdom (1861) and the development of industry and the extension of the railway network were followed by the tremendous flow of rural population into cities. The number of urban dwellers grew from 3,482,000 in 1851 to 26,800,000 in 1914,[2] nearly an eightfold increase.

Old commercial-industrial centers were expanding rapidly; many administrative and administrative-trade centers

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[1]Anisimov, N. I. Sel'skoe Khoziaistvo S.S.S.R. za 30 let (Agricultural Economy of the U.S.S.R. for the Past 30 Years), Moscow, Izdatel'stvo "Pravda," 1947, p. 4.

[2]Davidovich, V. G. Planirovka Gorodov, Inzhenerno-ekonomicheskie osnovy (The Planning of Cities, Engineering-Economic Basis), Moscow, Izdatel'stvo Ministerstva Kommunal'nogo Khoziaistva R.S.F.S.R., 1947, p. 20. According to the Soviet definition of urban population, a community is classified as a city if (1) more than half the population is engaged in non-agricultural pursuits and if (2) at least 500 of the inhabitants are employed in industry or 2,000 are engaged in commercial undertakings. (In the United States, beginning with 1910, the Bureau of Census classified as urban all agglomerated areas of 2,500 or over.) Within the borders of pre-Revolutionary Russia in 1897, the number of inhabitants in places that were classified in 1926 as urban amounted to somewhat less than 16 million or about 15.0 percent of the total population. (This proportion of 15.0 percent is slightly less than the corresponding figure for the United States in 1850.) Lorimer, Frank. The Population of the Soviet Union, Geneva, 1946, p. 32, footnote 8. By 1914, this figure rose to about 25 million, or about 17.5 percent of the total Russian population of that time. Sotsialisticheskoe Stroitel'stvo, 1936 (Socialist Construction), Moscow, 1936, p. 397.

became commerical-industrial cities; heavy industrial centers arose on the sites of home-trade villages. Along with the development of cities in the Central Industrial Region, new mill and mining towns arose in southern Russia.

The unevenness of development and distribution of productive power of Russia was similarly reflected in the distribution of cities. Thus nearly one-fifth of the entire urban population of the country[1] was concentrated in Petersburg[2] and Moscow.

At the same time, the territorial expansion of cities developed haphazardly. Industrial enterprises occupied the banks of the rivers in the central parts of cities. Railway stations with their constantly growing structures (freight depots, yards and warehouses) spread with city territories and encroached upon other city structures. As the industrial pulse quickened and the demand for a permanent labor supply near industrial plants became greater, housing construction was intensified. Many multi-story "speculative" apartments were built in Petersburg and Odessa. These structures (especially in Petersburg) occupied entire districts and were built at a

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[1]Davidovich, V. G. op. cit., p. 20.

[2]Baranov, N. V., Ed. Leningrad, Leningrad-Moscow, Gosudarstvennoe Izdatel'stvo "Iskusstvo," 1943, p. 44; 50. The old capital Sankt-Peterburg (Saint Petersburg) was referred to popularly as Petersburg until 1915 when the name was Russianized to Petrograd. On January 26, 1924, the name was changed to Leningrad.

high density with little consideration for light, air, and space. On the other hand, entire blocks in the center of cities were built in the "European" style of flamboyance and spaciousness.

In spite of the appearance of the tenement-building, the housing distress among the greater part of the urban population reached catastrophic proportions. The dwelling area[1] continually decreased in the factory towns and districts of the cities. For instance, in the large textile center of Ivanovo-Voznesensk (Ivanovo) it amounted to about two square meters per person.[2]

The municipal governments were legally not entitled and financially not in a position to ameliorate these conditions; the contractors cared little for the quality of workmen's dwellings. The erection of cheap tenement houses by private companies, partly of a semi-welfare character, mitigated the housing distress but slightly.[3]

The already deplorable sanitary conditions worsened, since sanitary-engineering measures were applied only in the

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[1] Only the floor area of the living-rooms (living room, bed rooms) is described as dwelling area (exclusive of dining-kitchens, bathrooms, corridors, etc.)

[2] Bol'shaia Sovetskaia Entsiklopediia (The Great Soviet Encyclopedia), Vol. 33, Moscow, Gosudarstvennyi Institut "Sovetskaia Entsiklopediia" OGIZ, R.S.F.S.R., 1938, p. 653.

[3] Ibid.

largest cities, and then only in the central districts. In smaller cities and in suburbs of large ones municipal services and public facilities were rarely available. In 1911, for example, out of 1,063 towns with a population of over 10,000 only 219 possessed water supply systems.[1] These conditions led to a high mortality rate.[2] This development was further aggravated by the complete lack of police control on building and housing conditions. Moreover there was hardly any semblance of zoning or planning.

Soviet authorities generally agree[3] that city planning in Russia began in the Peter I epoch with Leblond's French baroque design in 1717 for the construction of the new capital, Saint Petersburg (FIGURE 2). The plan of mid-eighteenth century Moscow (FIGURE 3) -- a metropolis already existing in which organized planning was noticeably lacking -- showed haphazard street development, contrasted with the well-drawn scheme for Petersburg. Although this plan was not entirely followed, the design greatly influenced the subsequent evolution of the capital itself and the planning of other Russian cities. Used as a

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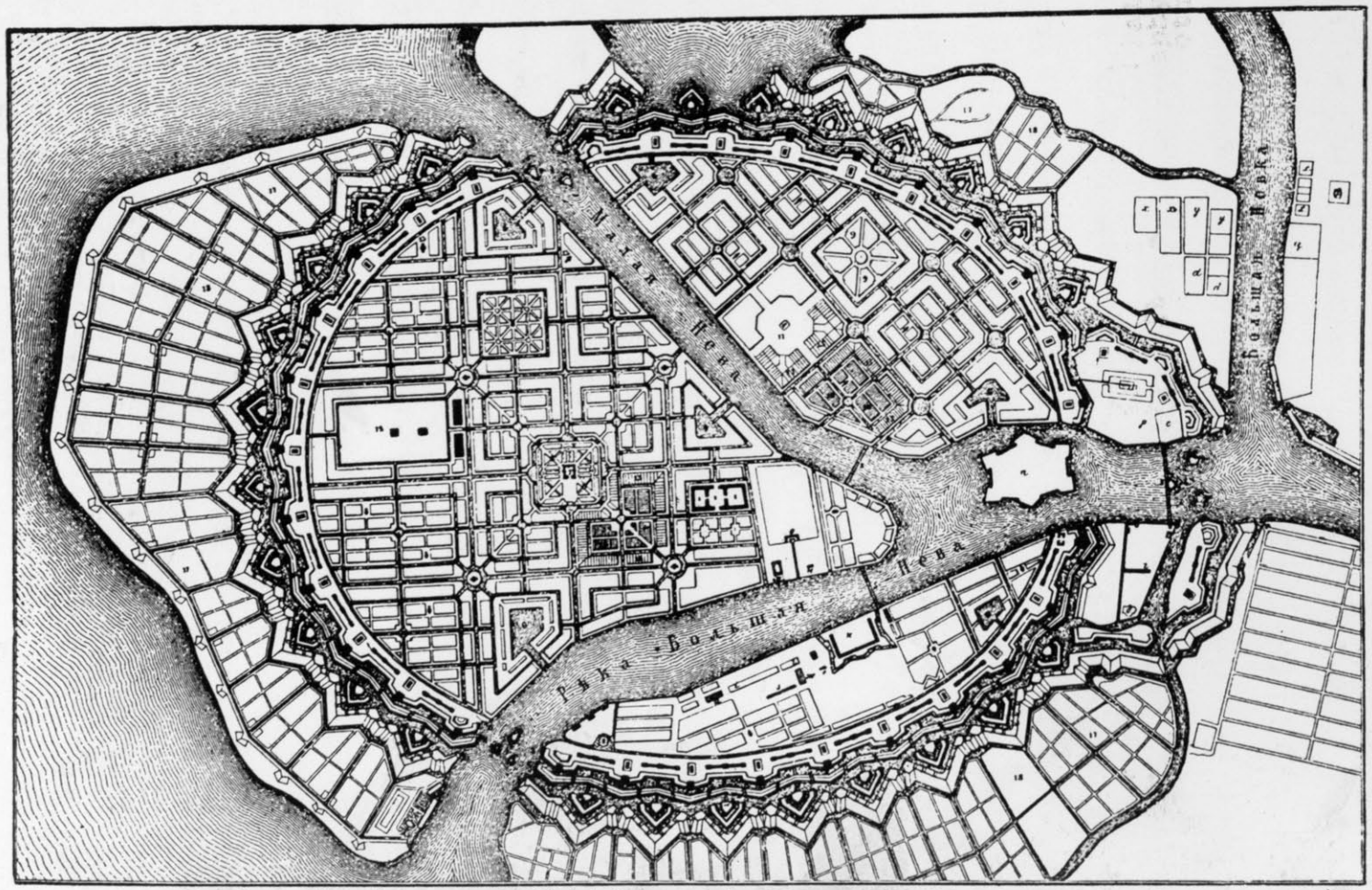
[1] Ibid.

[2] Ibid. During 1910-14, the average annual death rate in workers' districts in Petersburg was 50 per 1,000 inhabitants.

[3] Bunin, A. V., Poliakov, N. Kh., Shkvarikov, V., Ed. Gradostroitel'stvo (City Planning), Moscow, Izdatel'stvo Akademii Arkhitektury S.S.S.R., 1945, pp. 204-205.



Bunin, Kruglova. Arkhitekturnaia Kompozitsiia Gorodov, Moscow, 1940

FIGURE 2. THE PLAN FOR ST. PETERSBURG, 1717
Alexander Leblond, Architect

The plan, never materialized, was oriented to the design of Peter's Palace on the Island of Vasil'evsk and not to the River Neva and to topography. It had tremendous influence on the planning of St. Petersburg and on other Russian cities.

model by Catherine II, for the planning of provincial cities like Bogoroditsk and Rostov-Iaroslavl' (FIGURES 4-5), the characteristic city pattern was radial or fan-shaped, emenating from a palace[1] or a large square and interspersed with a simple gridiron. This scheme remained the basis for all official Russian city planning until the end of the 19th century.[2]

In the beginning of the 20th century the art of planning cities which received considerable impetus in western Europe and America, found only a weak echo in tsarist Russia. Virtually the only planning done at this time appeared in the disorganized network of streets with monotonous empty squares in cities like Omsk and Odessa.

The social consequences resulting from the rapid urban growth were chaotic and contributed to the growing breach between city and country. The Soviet government, as a part of its large-scale program of industrial, agricultural and social development, set out to solve this very complicated problem. Here we see one of the earliest principles underlying Soviet city planning: to eliminate the differences between the city and the village. General statements in the writings of Marx,

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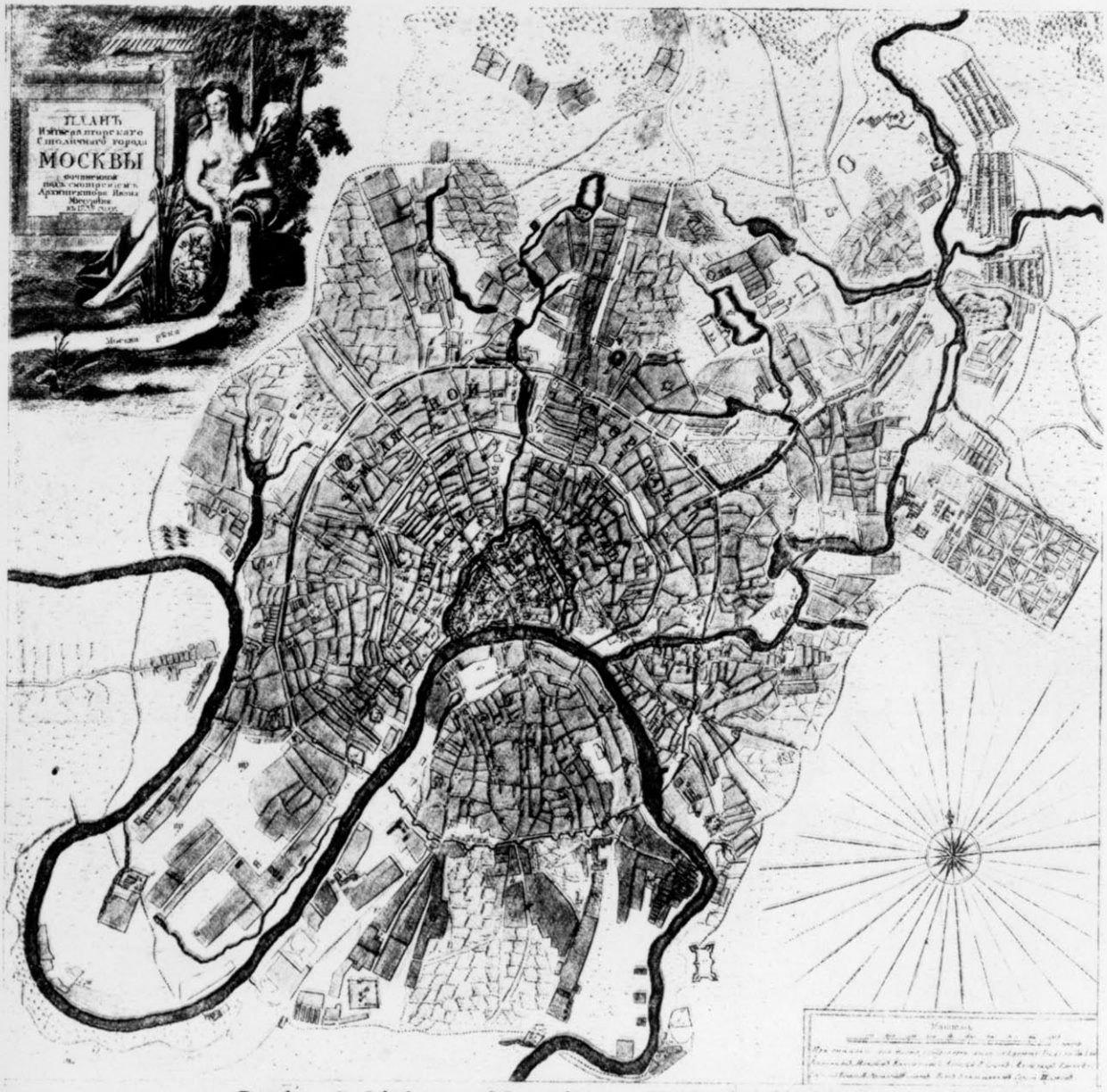
[1] In the 1935 Plan of Moscow all the diagonal arteries were oriented on the Palace of the Soviets, just as Leblond's main streets were oriented on Peter I's Palace.

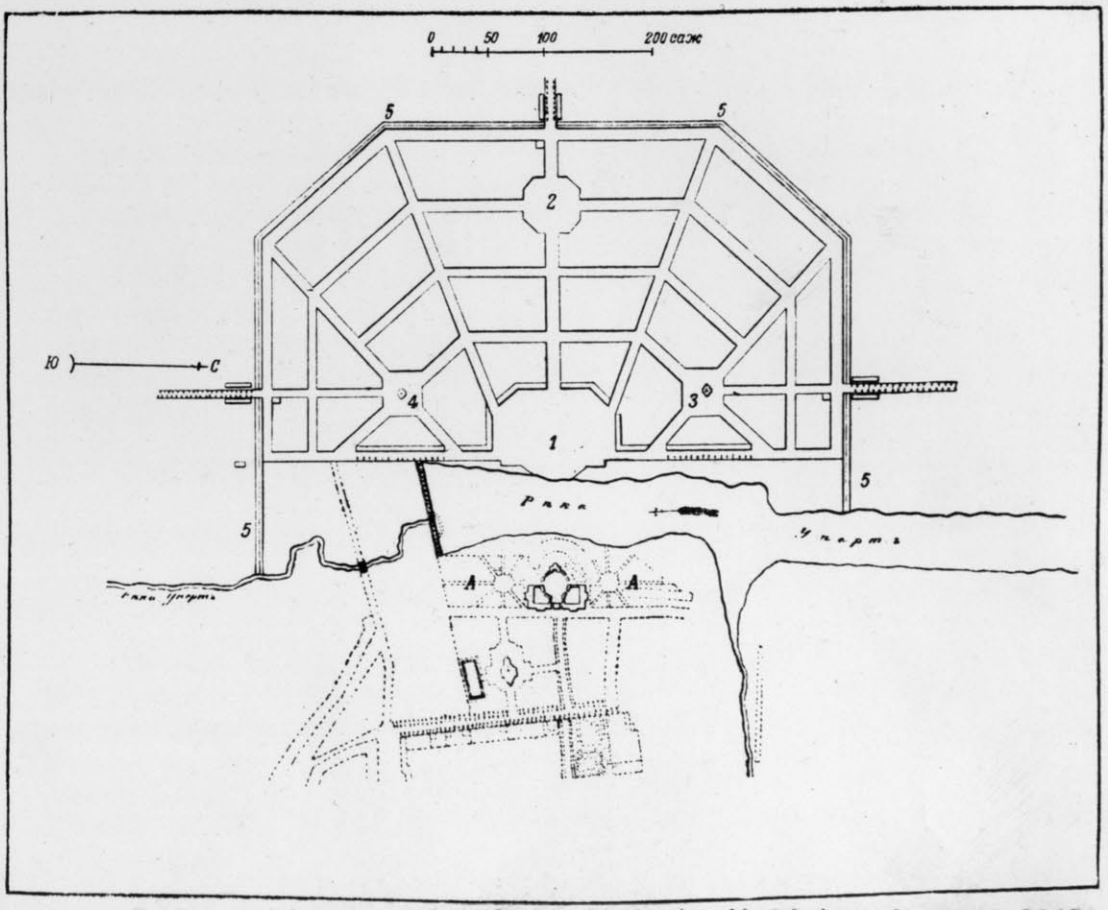
[2] Poliakov, N. Kh., Ed. Spravochnik Arkhitektora, II. Gradostroitel'stvo (Architect's Handbook, Vol. II. City Planning), Moscow, Izdatel'stvo Akademii Arkhitektury S.S.S.R., 1946, pp. 24-25; 158.



Bunin, Poliakov, Shkvarikov. Gradostroitel'stvo, Moscow, 1945.

FIGURE 3. PLAN OF CITY OF MOSCOW, 1739

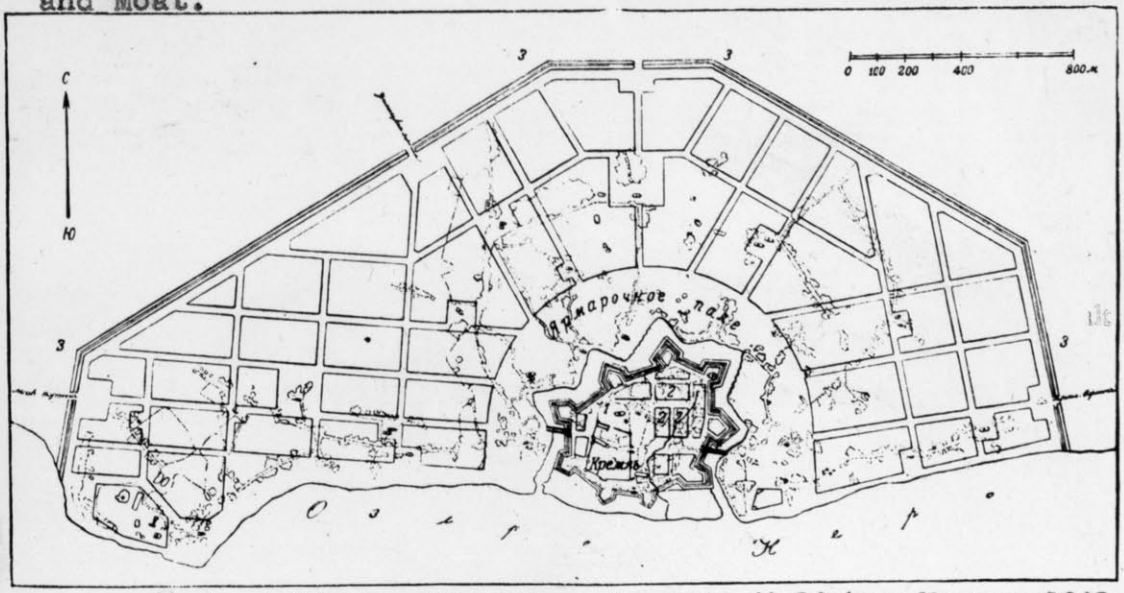
As drawn by Ivan Michurin, Architect



Bunin, Poliakov, Shkvarikov. Gradostroitel'stvo, Moscow, 1945.

FIGURE 4. BOGORODITSK, 1778

All radial streets are oriented to the palace. A - A -- Catherine II's Palace and Park; 1 -- Main Square; 2 -- Commercial Square; 3 -- Cloisters; 4 -- Parish; 5 -- Bank and Moat.



Bunin, Poliakov, Shkvarikov. Gradostroitel'stvo, Moscow, 1945.

FIGURE 5. ROSTOV-IAROSLAL', END OF XVIII CENTURY

Dotted lines show original layout. 1 - 2 -- Kremlin, including the Uspenskii Cloister and Market Square; 3 -- Outer banks and moats.

Engels and others served as the only theoretical guides:

> The elimination of the difference between the city and the village can be accomplished only through the elimination of capitalism itself . . . in order to unite them in one body, it is necessary to rebuild the roots of the agricultural economy, to transform it into a mechanized producer of agricultural products, and, on the other hand, eliminate different interests of economics and industry.[1]

The aim of Marx and Engels was to distribute heavy production over the entire country according to a single general plan.[2] This was emphasized by L. M. Kaganovich:

> We are moving towards the liquidation of the differences between the city and the village not on the basis of liquidating the cities, but on the basis of changing their appearance and of socialist rebuilding of the village and raising it to a level of the highest culture of the city.[3]

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[1] Engels, in Malaia Sovetskaia Entsiklopediia (The Small Soviet Encyclopedia), 2 ed., Vol. III, Moscow, Gosudarstvennyi Institut "Sovetskaia Entsiklopediia," OGIZ, R.S.F.S.R., 1935, p. 357. See also Aristova, P. Iz Vyskazyvanii Marksa i Engel'sa ob Arkhitekture i Gorode (From writings by Marx and Engels on Architecture and the City), in Arkhitektura S.S.S.R. (Architecture of the U.S.S.R.), Monthly Organ of the Union of Soviet Architects, No. 7, Moscow, Izdatel'stvo Akademii Arkhitektury S.S.S.R., 1936, pp. 4-9.

[2] Davidovich, V. G. op. cit., p. 23.

[3] Kaganovich, L. M. Za Sotsialisticheskuiu Rekonstruktsiiu Moskvy i Gorodov S.S.S.R. (For the Socialist Reconstruction of Moscow and the Cities of the U.S.S.R.), Moscow-Leningrad, OGIZ "Moskovskii Rabochii," 1931, p. 73. Speech before the June Plenum of the Central Executive Committee of the All-Union Communist Party. L. M. Kaganovich, an old-time Bolshevik and an able and efficient administrator of the government hierarchy, held many Party and government posts, was elected to the Politburo in 1930, and served as Secretary of the Moscow Regional and City Committees of the Party.

It soon became obvious, however, that to solve this problem changes must take place on both sides: a rational distribution of industry closer to raw materials and a mechanization and collectivization of agriculture.

The October Revolution (1917), transforming economic and socio-political conditions in Russia, soon evoked an interest in city planning, but still considered of secondary importance. Practical work did not get underway until after the Civil War and the end of intervention. A rational distribution of dwellings, transportation and zoning, developed only after 1921 following the early phase of industrialization.

B. Legal Aspects

The decrees of the Soviet government in 1917-1921 on land,[1] on nationalization of industry[2] and home ownership[3] formed the basis for socialist planning. The first decisive

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[1] R.S.F.S.R. Laws of 1917-1918, texts 3 and 346.

[2] Ibid., text 83, Section 3; R.S.F.S.R. Laws 1920, text 512, Sections 1, 2.

[3] R.S.F.S.R. Law of 1917-1918, text 674. For details see Chapters 8, IV, 1.

act was a municipalizing law of August 20, 1918,[1] which declared the entire real property of the town population to be state or municipal property, and which brought the building activity, steadily deteriorating since 1914, to an absolute standstill. With the expropriation of private property, the municipal authorities at the same time started the compulsory quartering of workers' families in the dwellings of the wealthier people, a step which improved the housing situation of the working population,[2] but which considerably accelerated the wear and tear of the houses concerned.

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[1] Lipetsker, M. S. Zhilishchnye Prava Grazhdan S.S.S.R. (Housing Laws of the Citizens of the U.S.S.R.) Moscow, Izdatel'stvo "Pravda," 1947, p. 5. See also R.S.F.S.R. Laws 1917-1918, text 674, Section 2. The Decree of August 20, 1918, abolished all private ownership of land in all cities and towns, but the nationalization of buildings was to a large extent left to the discretion of local authorities, resulting in a confusing situation especially regarding houses of small size and value. Often the local authorities, due either to political pressure or to lack of appraisal standards, municipalized the wrong kind of house. In other cases, the officials were extremely lax in executing the law. The decree gave blank discretionary power of confiscation of buildings to the local Soviets as follows: "In urban settlements with a population of over 10,000 private ownership of all buildings with their lots shall be abolished and the limit of their amount of either value or income to be determined by the local authorities." Thus, in 1928 in the R.S.F.S.R., 85 percent of urban buildings which occupied about one-half of the housing space was still in private ownership. (See Gsovski, Vladmir. Soviet Civil Law, Vol. 1, Ann Arbor, University of Michigan Law School, 1948, p. 287.)

[2] Schwan, Bruno, Ed. Town Planning and Housing Throughout the World, Verlag, Ernst Wasmuth, G.M.B.H., Berlin, 1935, p. 360. In 1923, of 100 inhabitants of Moscow 8.6 owned one or more living-rooms (1912, 7.6); 54.7 inhabitants, half a room or one room (1912, 31.2); and 36.7 inhabitants, less than half a living-room (1912, 61.7).

As a consequence of the 1918 law private property in land ceased to exist; the municipality became the administrative authority and could freely dispose of the entire land (except certain types of land held by the State and cooperatives) in the interest of its inhabitants. Thus, unhampered by land disposal, the Soviet planner had the advantage over his American confrere in the free utilization of large units of real estate property.

Furthermore, the Soviet planner was not obliged to modify a scheme in order to meet the interests of individual landowners. However, adjustments were none the less necessary to satisfy the requirements of ministries, industrial trusts and numerous other bodies which were consulted during the preparation of the plans.

House rent was fixed by law according to the number of square meters of the dwelling area,[1] adjusted to the earning power of the individual, and could not exceed by law one-tenth of a family's income.[2] The right to build one's own home was

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[1] Alekseev, T. D. Zhilishchnye Zakony (Housing Laws), Moscow-Leningrad, Izdatel'stvo Ministerstva Kommunal'nogo Khoziaistva R.S.F.S.R., 1947, p. 36; 155. A "sanitary norm" of eight to nine square meters per inhabitant was first established. Since 1925-1926, when the great rush of the population for the cities set in, housing construction lagged behind. Consequently, this norm was reduced to about six square meters. During 1926-1928, it was further decreased to five and seven-tenths square meters.

[2] Ibid., p. 39.

encouraged by the government and credits were granted to home builders by the State Bank.[1]

Legislation of other aspects of housing, land tenure, building control and so on have been evolved during the course of the administrative fiat in the three Phases of Soviet city planning.

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[1] Ibid., pp. 39-40; 40-48; 70-73. Such building loans amount to 5,000 to 10,000 rubles, at two percent per annum and an amortization period of from five to ten years, provided the home builder invests at least 30 percent of the total cost of the construction.

CHAPTER II

THE INITIAL PHASE -- 1922-1931

A. Restoration Period

In the early years following the Revolution, city planning activity was almost exclusively restricted to the restoration of industrial enterprizes and of the municipal economy. Before the establishment of the State Planning Commission (February 1921), there existed neither an institution in which general plans of development could be elaborated nor an apparatus for execution of plans.[1] The first attempt to plan for the country as a whole was the government's setting up of the STATE ELECTRIFICATION COMMISSION (Goerlo) for the utilization of U.S.S.R.'s power resources. Out of this plan arose the first planned settlements[2] which were built in the vicinity of electric stations.

Simultaneously, in large city centers, the first public dwelling houses began to appear in the workers' districts by mass construction methods. However, the old Russian

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[1] Baykov, Alexander. The Development of the Soviet Economic System, New York, the Macmillan Company, 1948, p. 46; p. 425.

[2] Poliakov, N. Kh., Ed. op. cit., p. 30. Volkhovsk, Shatursk, Kashirsk.

ground plan of three to four living-rooms per dwelling was employed. The most useful sizes of dwellings were at that time those with two small rooms for a family with one and two children, and with one living and bedroom for one couple without children. But in view of the higher building costs for these dwellings and with the socio-political disposition of the Soviet government, these small unit types of dwellings were not built. Consequently, the larger apartments were occupied by two, three and four families, which condition led to many discords and especially to a rapid wear and tear of the houses.

To alleviate this situation, and in spite of the ever increasing demand for the smallest dwellings, the government created the communal house as the most economic dwelling type. These "living combinats" consisted of 300 single rooms for couples as well as bachelors with nine to twelve square meters of dwelling-space per person with mutual housekeeping and service rooms. All rooms were accessible from the middle corridors at the ends of which were situated common toilets, wash-and-bathing-rooms, as well as a number of smaller cooking spaces. A nursery, kindergarten, club, library and restaurant were centrally located and administered by the tenants.[1] The development of the communal home was an attempt to solve the

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[1]Ginzburg, M. Ia. Zhilishche (Housing), Moscow, Gosstroiizdat. ONTI. S.S.S.R., 1934, pp. 72-74.

housing problem and labor shortage. Ideologically it fitted closely to the current trend in experiment communist living, and meant to disrupt the family. But the people were not ready to compromise the family to the state. It proved costly and hard to manage.[1] Though somewhat relieving the situation and releasing about 50 percent of the housekeepers for labor, the experiment failed and only a few communal homes were built.

In "concessions" made to capitalism during the New Economic Policy (1922-1928) more individual home construction was allowed as a result of the alterations of the municipalizing law of August 30, 1918, thus permitting private capital for building.[2]

In some industrial centers housing deficiences arising from the pre-Revolutionary period were removed, by the creation of new settlements. Only at the close of the Restoration period after 1926, when open spaces in urban centers were no longer available, sparsely settled suburbs were developing into new towns. Settlements emerged in the Baku and Groznyi oilfields, in the Donbass coalfields, in the Central Regions

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[1] Ancharova, M. Dom Kommuna (The Communal House), in Revoliutsiia i Kul'tura, No. 1, Moscow, Izdanie "Pravda," January 15, 1930, pp. 77-78.

[2] Gsovski, V. op. cit., pp. 21-22. According to the de-municipalizing law of December 28, 1921, only the most important communal undertakings and larger houses, which were entrusted to the tenant's cooperative societies for management up to 65 percent, remained in the possession of the towns.

and other large-scale industrial districts. Work also was proceeding on the planning and reconstruction of such old cities as Tbilisi, Baku, and Khar'kov.

The methods of planning and construction of these towns and settlements during the period followed the styles accepted in leading countries of Europe and America. The quality of this work was questionable. A general building plan was lacking. Detailed plans were not worked out on the basis of the national economic plan of the country, as the latter was only just beginning to take shape. Estimates of population and territory of the town were based on arbitrary statistical methods or on a continuation of past developments for an indefinite period. In existing cities, plans did not extend beyond the introduction of zoning. Actual work was confined to street improvement, housing, and some park construction. Recreational and cultural amenities received scant attention; no standards and norms were available for educational, sanitation and other services.[1] The overall effect was architecturally experimental and technically immature.

It was left to the Five-Year Plan with its forced industrialization program to rationalize Soviet city planning. About this time two distinct terms for two types of planning

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[1] Stamo, L. Stroitel'naia Tekhnika (Building Technique), in Arkhitektura S.S.S.R., No. 3, Moscow, 1934, p. 58.

came into usage: planirovaniia, or proektirovaniia, socio-economic planning, and planirovka, physical planning. In practice planirovka of a residential block or a city does not start before planirovaniia -- the planning of economic, and social life (as well as cultural activities, education, art, and science) of the district or city has been completed.

B. Five-Year Plans[1] and a National Program for Planning

During the Five-Year Plan periods the industrialization of the country followed a definite "general plan." For the first time the Soviet city planner based his plans not on forecasts but on a coordinated national socio-economic and cultural program that directed his activity in advance for 15 years with fairly detailed objectives.

The first two Five-Year Plans marked vast strides in industrialization; the enormous development of manufacture in the Ukraine; the rise of new giant coal-metallurgical basins (Kuzbas) and chemical industries in the East; the industrialization of Kazakhstan and the other republics of central Asia; the development of new oil bases in regions of the "Second Baku," spread out between the Volga and Urals; and the growth

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[1]The three Phases of Soviet city planning overlap with the Five-Year Plan periods of which the First lasted from 1928-33, the Second, 1933-37, and the Third, 1938-42. The Fourth was begun in 1946 to last until 1950.

of new industries in regions of Transcaucasia. All this could not have taken place without organized planning and supervision by the government on a national scale.

C. Urban Growth

At this time the growth and spread of cities, including construction of new city centers (Magnitogorsk, Komsomol'sk-on-Amur) and the replanning of old ones (Gor'kii, Stalingrad) formed part of the national plan (FIGURE 6).

During the 12-year period between the first and second All-Union Censuses (1926-1939) the urban population more than doubled.[1] For the same period, the population of the Urals, Siberia and the Far East increased by 33 percent; and Central Asia by 38 percent.[2]

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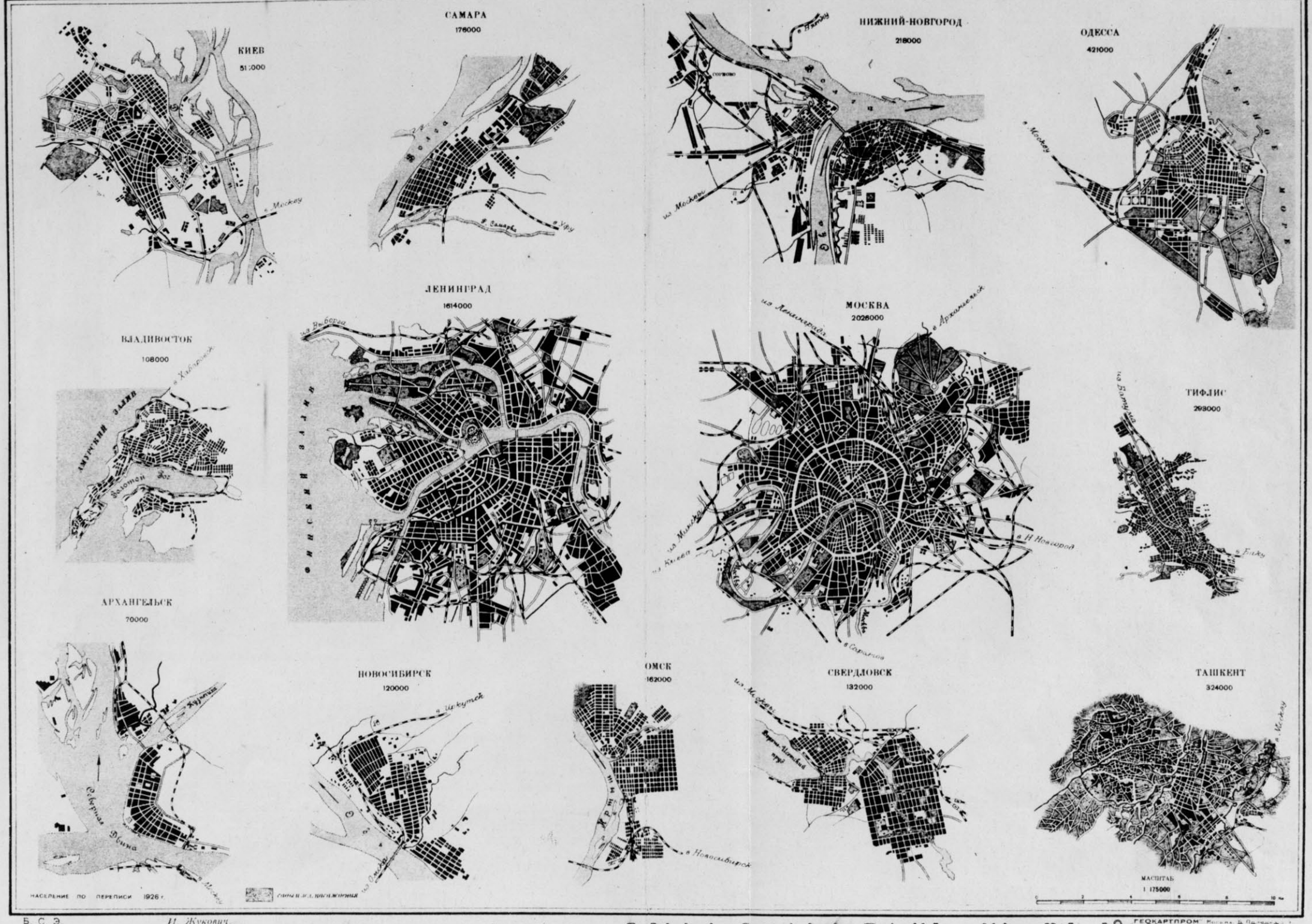
[1] Sotsialisticheskoe Stroitel'stvo Soiuza S.S.R., (1933-1938), Statisticheskii Sbornik (Socialist Construction of the Union of S.S.S.R. (1933-1938) Statistical Abstract), Moscow-Leningrad, 1929. See also N. Voznessenskii. K Itogam Perepisi Naseleniia S.S.S.R. v 1939 g. (On the Results of the Population Census of the U.S.S.R. in 1939), in Pravda, June 2, 1939. From December 17, 1926 and January 1, 1939, the urban population of the U.S.S.R. increased from 26.3 million, or 17.9 percent of the total population of 147 million, to 55.9 million, or 32.9 percent of the total of 170 million. The natural increase of urban population was 18.0 percent and the change of rural populated places to urban was 19.5 percent.

[2] Arkhitektura i Stroitel'stvo (Official Monthly Organ of the Committee of Architectural Affairs under the Council of Ministers of the R.S.F.S.R.): Sovetskaia Arkhitekturnaia Praktika i Teoriia (Soviet Architectural Practice and Theory), No. 12, Moscow, 1947, pp. 1-2.

CITIES OF THE SOVIET UNION



Bol'shaia Sovetskaia Entsiklopediia, Vol. 18, Moscow, 1930.

FIGURE 6. PLANS FOR SOVIET CITIES, 1926

Reading from left to right, top: Kiev, Samara (Kuibyshev), Nizhnii-Novgorod (Gor'kii), Odessa; middle: Vladivostok, Leningrad, Moscow, Tiflis (Tbilisi); bottom: Arkhangel'sk, Novosibirsk, Omsk, Sverdlovsk, Tashkent.

The growth of cities was largely accounted for by the organized mass migration from the overpopulated rural regions. In 1939 five of every eight urban dwellers had migrated from the countryside.[1] Many individual urban centers multiplied their population, in the 12-year period, several times over. Cities having extremely rapid growth were found both in the older European centers, especially around Moscow and in the Ukraine, and in new, formerly undeveloped regions.[2]

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[1] Davidovich, V. G. op. cit., p. 22.

[2] An idea might be gained of the recent growth of the twenty more important cities of the U.S.S.R. as given below:

CITIES WITH 50,000 OR MORE INHABITANTS IN 1939

No.	Name of City	Population 1926	Population 1939	Ratio 1939/1926
1	Moscow	2,029,000	4,137,000	2.04
2	Leningrad	1,690,000	3,191,000	1.89
3	Kiev	514,000	846,000	1.65
4	Khar'kov	417,000	833,000	2.00
5	Baku	453,000	809,000	1.79
6	Gor'kii	222,000	646,000	2.90
7	Odessa	421,000	604,000	1.44
8	Tashkent	324,000	585,000	1.81
9	Tbilisi	294,000	519,000	1.77
10	Rostov-on-Don	308,000	510,000	1.66
11	Dnepropetrovsk	237,000	501,000	2.12
12	Stalino	174,000	462,000	2.65
13	Stalingrad	151,000	445,000	2.94
14	Sverdlovsk	140,000	426,000	3.03
15	Novosibirsk	120,000	406,000	3.38
16	Kazan'	179,000	402,000	2.24
17	Kuibyshev	176,000	390,000	2.22
18	Saratov	220,000	376,000	1.71
19	Voronezh	122,000	327,000	2.69
20	Iaroslavl'	114,000	298,000	2.61

For a complete list of cities with 50,000 or more inhabitants in 1939, see Poliakov, N. Kh., Ed. op. cit., pp. 48-51.

By June 1, 1933, there were more than 65 cities with a population of 100,000 in each as compared with 31 at the end of 1926.[1] During the First-Five-Year Plan 30 large cities were being industrialized, and construction on 60 new cities had begun. The program for city building continued in the Second Five-Year Plan and included the reconstruction of more than 400 cities (among them a large number of nationally important centers).[2] By the beginning of the Third Five-Year Plan more than 300 cities and resorts were still either under construction or being planned.[3]

However, many of these cities were poorly planned and the plans were loosely executed. One Soviet authority observed, "The majority of the plans served as illustrations to projects rather than as blue prints."[4]

Plans for new cities were not related to the physical environment, to the natural conditions such as a river, sea or lake. The rivers Don and Dnepr were completely ignored in the plans for Rostov and Zaporozhye, respectively. Similarly disregarded were embankments, ravines and steep slopes within

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[1] Poliakov, N. Kh. op. cit., p. 20.

[2] Ibid.

[3] Ibid.

[4] Mostakov, A. Skhematism v Planirovke Gorodov (Schematic Approach to Planning Cities), in Arkhitektura S.S.S.R., No. 6, Moscow, 1936, p. 30.

the planned areas of Stalingrad.[1]

Characteristic of that period was the lack of architectural composition of the plans. While consideration was given to technical-economic and functional matters, the cities that were either built or reconstructed looked esthetically uninteresting (Rostov-on-Don). Magnitogorsk was described as a city "without a center, without squares, without streets, with endless monotonous rows of buildings."[2]

D. Housing

Only the more fundamental and common issues in the field of housing are within the scope of this study. Beneath the surface of general issues lie legal, economic and technical questions that depend for their answers upon detailed study of the entire building industry. Some of the broad aspects of housing of the First Five-Year Plan are presented here.

The Plan programmed 62 million square meters of new housing area at an estimated cost of five billion rubles.[3]

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[1] Ibid., p. 29.

[2] Bunin, A. V., Poliakov, N. Kh., Shkvarikov, Ed. op. cit., p. 289.

[3] Schwan, Bruno. op. cit., p. 361. Translated into dwelling units on the basis of 40 square meters per dwelling unit, which is roughly equivalent to a typical four-and-one-half room unit in American public housing projects, it is the equivalent of 1,550,000 dwelling units. Blumenfeld, Hans. Reconstruction: U.S.S.R., in Task Magazine, No. 7/8, Post Office Box 117, Cambridge 38, Mass., 1948, p. 27.

Though the figures indicate a substantial increase, they demonstrate that building conditions in the Soviet Union were still vastly underdeveloped. By 1932 the dwelling-space share per urban inhabitant sank to 5.45 square meters.[1] The distribution of the estimated cost of the housing is shown in TABLE I:

TABLE I DISTRIBUTION OF CAPITAL FOR HOUSING CONSTRUCTION FOR THE FIRST FIVE-YEAR PLAN[2]

Building Authority	Apportioned Share in %	Estimated Cost (in Million Rubles)
Industry	30.0	1,500
Housing Cooperatives	25.0	1,300
Transport Organization	8.0	420
Local Soviets	16.0	780
Individual Building	19.5	910

Actually four billion rubles were spent, but instead of the estimated 62 million square meters of new housing area only 23.5 million were built.[3] This relative failure, we are told, was chiefly caused by the deficiences in organization, a shortage in production, and insufficiency of transport facilities;[4] but there might have been others. Existing and

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[1] Ibid., p. 363.

[2] Ibid., p. 361.

[3] Arkhitektura i Stroitel'stvo, op. cit., p. 2. Translated into dwelling units on the basis of 40 square meters per dwelling unit, it is the equivalent of 587,000 dwelling units.

[4] Ibid.

newly constructed houses continued to be overcrowded, resulting in higher maintenance costs, which had to be deducted from the total amount of the building credits and thus indirectly reduced the amount of new construction.

E. Early Planning Theories and City Forms

Against this background of practical planning and housing problems stood the Soviet city planner, supplying designs for the physical framework of a planned socio-economic program for every region and every city; and to be realized within definite periods. He was ill-prepared and ill-equipped for the task; he theorized, experimented and made many mistakes.

In the Initial stage of city planning theories based on the writings of Marx and Engels and western-European experiences were combined in the planning and construction of new socialist cities. Two basic city forms were used: the linear type city and the satellite town; dispersion cities and gigantomaniac cities were also devised; occasionally these forms were used together.

The principle of the linear type city[1] was introduced into Russia during the first Five-Year Plan by the German

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[1]Gutkind, E. A. Revolution of Environment, Vol. I, London, Kegan Paul, Trench, et al, 1946, pp. 294-296. D. Arturo Soria y Mata had developed a "ciudad lineal" near Madrid in the 1880's. The town was planned for a length of 30 miles and a width of 550 yards, with the houses lined up along street car routes conveying the inhabitants to their work-places.

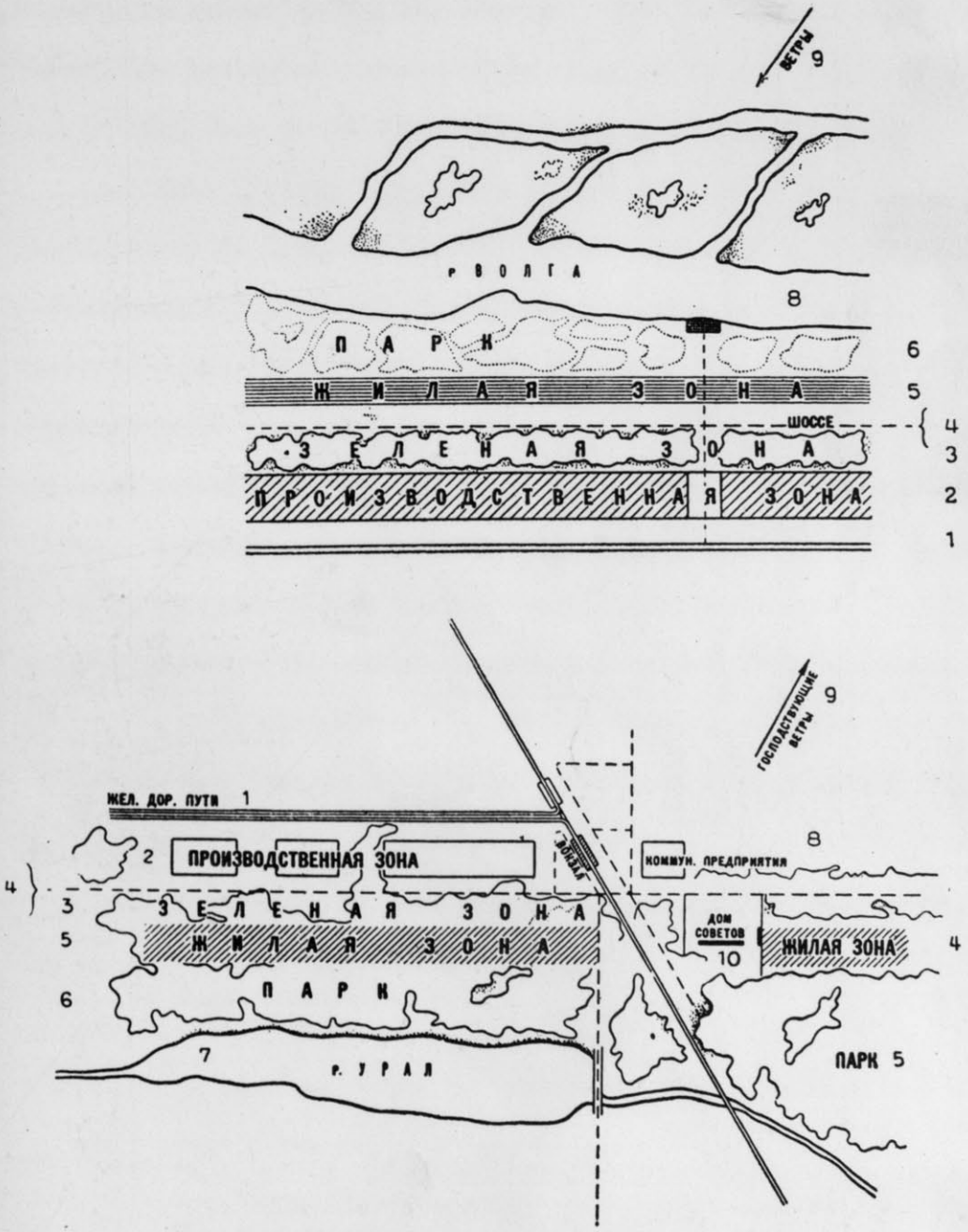

FIGURE 7. LINEAR TYPE CITY

Professor Miliutin's Proposal for Stalingrad (top), Magnitogorsk (bottom)

1.Railway, 2.Industrial Zone, 3.Green Zone, 4.Thoroughfare, 5.Residential Zone, 6.Park, 7.Ural River, 8.Volga River, 9.Prevailing Wind, 10.House of Soviets.

architect Ernst May[1] and championed by the Soviet planner Miliutin.[2] The theory was based on the development of city functions along parallel lines. A rational combination between the units of production, the means of transport, education and living was to be provided by six distinct zones (FIGURE 7).[3]

The linear type plan was considered appropriate for a population of 100,000 to 200,000. In one such town near Novosibirsk,[4] the industrial zone was separated from the residential zone by a green belt of about 800 meters. The residential area was composed of neighborhood units, alternated by park strips of about 500 meters wide, and included a school, shops, laundry and a bath-house. The number of inhabitants in each neighborhood ranged from 4,000 to 6,000 persons. Each neighborhood unit was composed of a group of four-story

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[1] May, Ernst. Villes Neuvelles en U.R.S.S. (New Cities in the U.S.S.R.), in La Cite, Vol. 9:11, Brussels, July 1931, pp. 229-291.

[2] Gutkind, E. A. op. cit., p. 294. The early plans of linear towns in western Europe should be regarded in a somewhat different light than that proposed for the U.S.S.R. Although they are also based on the close connection between houses and highways, they were purely residential towns.

[3] Ibid., p. 295. These zones are laid out as follows:
(1) The railway zone, behind the line of production.
(2) The industrial zone.
(3) The green zone, not less than 500 meters wide, with the main thoroughfare passing through it.
(4) The residential zone, with the following units in parallel formation: public institutions, dwelling houses, children's institutions, etc.
(5) The park zone, with recreational facilities.
(6) The agricultural zone.

[4] Ibid.

"residential combinats" of from 600 to 2,400 persons with sleeping cells for the single individuals and mutual housekeeping rooms, kindergartens, and restaurants. A group of neighborhood units joined to a residential district, which had a high school, a clubhouse, administrative buildings, recreational grounds, a hospital, central kitchen, and fire stations. The building coverage was about fifteen to twenty percent of the residential zone; the rest was reserved for gardens. Thirty percent of the whole area of the town was reserved for green open spaces. Fortunately, local geographic conditions of this town made the linear layout possible.

On the other hand, this preconceived plan was often superimposed over an unsuitable natural terrain, resulting in an absurdity, as is shown by the plan of Magnitogorsk.[1] The residential zone does not run parallel to the industry, but is joined with it by a narrow traffic road. Industry grew in a direction diametrically apart from that of the residential area, so that the distance between work and dwelling place was extended. (Certain aspects of the linear type city lie at the bases of actual city planning in Soviet Russia today, e.g. the building of structures along main highways.)

The principles of the satellite town, developed first in England, contemplated the development of the metropolitan

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[1] Ibid.

region by creating a number of relatively independent residential communities within easy reach of the city center. Each satellite town was to have its own industry, housing and community facilities to furnish optimum local community life for a maximum population of perhaps 50,000.

In practice the linear type plan was often joined with that of the satellite form as, for example, in Leninakan. Here, too, local topography was ignored. In an effort to develop in a parallel form industrial and residential groups, the lines of communication were extended, thus stretching the city into a long ribbon.

The theory of dispersion cities received warm sympathy from officials in the late 1920's and early 1930's because it more closely approximated Marx's idea of eliminating the differences between the city and the village. According to this theory,[1] it was suggested to build new centers of from 50,000 to 100,000 people. These urban agglomerates would be grouped around industrial combinats and surrounded by agricultural zones and truck farms. On the other hand, agricultural centers would be concentrated around central tractor and machine stations. In such a way,

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[1]Lubetkin, Berthold. Town and Landscape Planning in Soviet Russia, in Journal of the Town Planning Institute, Vol. XIX, No. 41, London, February, 1933, pp. 69-75.

> The differences between the industrial and agricultural areas would gradually disappear and a more rational distribution of population would take place without the drastic measure of dispersing the inhabitants all over the country along continuous strips running parallel to the roads.[1]

This form was also rejected as being economically inefficient at the given stage of development and as incompatible with the social and cultural life of the local community group. Although the theory of dispersion cities came closest to ideological conceptions, we know of only one example where it was put into practice: pre-World War II Stalingrad's five towns built around five industrial combinats (FIGURE 8). The reasons for lack of adoption of the theory are to be found in the economic and social situation. The country was too undeveloped to provide the necessary transportation, electric power and other municipal facilities in order to link the urban centers with the rural communities. Cooperative farms and machine tractor stations were still in the throes of organization. At this time, too, industrial combinats, the raison d'etre of this urban form, were operating inefficiently. Furthermore, in a dispersed city the socio-cultural importance of the city center was minimized. Thus, the abandonment of the dispersion type city furnished an excellent example of the

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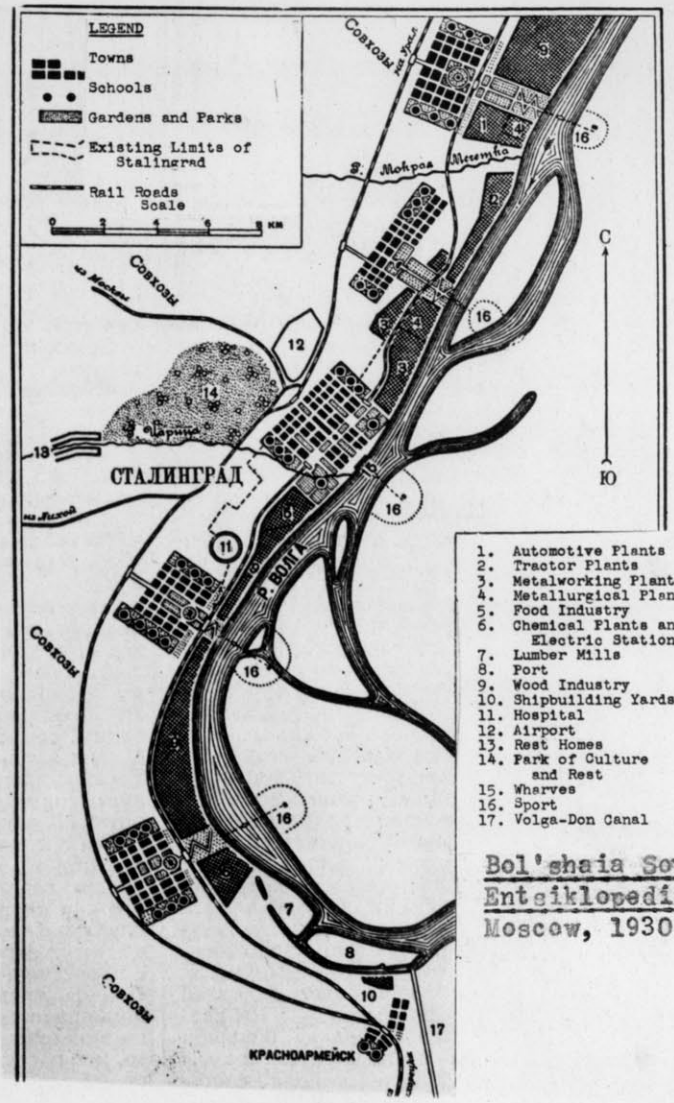
[1]Ginzburg, M. Sotsialisticheskaia Rekonstruktsiia Sushchestvuiushchikh Gorodov (Socialist Reconstruction of Existing Cities), in Revoliutsiia i Kul'tura, op. cit., pp. 50-51.



Bol'shaia Sovetskaia Entsiklopediia, Vol. 18, Moscow, 1930.

FIGURE 8. DISPERSION CITIES, STALINGRAD, circa 1930

Five communities grouped around five industrial combinats and surrounded by agricultural zones and truck farms.

accommodation of ideology to economic and social pressures, characteristic of the post-Revolutionary society still in flux.

Gigantomaniac cities[1] also found expression during the Initial phase. The philosophy of this form, strongly reflecting Le Corbusier's "Skyscraper City", was characterized by the mechanical stereotyped repetition of uniform superblocks, oriented only to the principles of sanitation and engineering. The city of Orsk, designed by Mart Stam of Holland, is a good example of this type.[2]

These somewhat utopian theories found many adherents among Soviet planners. However, after lengthy discussions at mass conferences and in the professional press,[3] in 1931 they were rejected as being impracticable.

F. Summary of the Initial Phase (1922-1931)

Very little actual city planning was accomplished in U.S.S.R. until 1922. The Initial Phase concentrated on the restoration and development of the national economy, the building of workers' settlements, and the laying out of new industrial cities. Typical projects completed during this period were

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[1]The Russian equivalent for megalopolitan cities.

[2]Sert, J. L. Can Our Cities Survive?, Cambridge, the Harvard University Press, 1947, p. 225.

[3]See Revoliutsiia i Kul'tura, op. cit., The entire issue is devoted to the discussion of this problem.

the creation of new cities like Magnitogorsk, Stalinsk, Komsomol'sk-on-Amur, and Balkhash, as well as the reconstruction of old centers like Baku and Kharkov. The early application of the land-use principle was seen in the reconstruction of Rostov-on-Don (FIGURE 9).

The planning work was accomplished by trial and error methods. Lacking a definite approach to the problem of populated areas, the Soviet architects and city planners naively adopted foreign theories. During the late twenties an attempt was made to shape architecture and city planning into a political mould. The radical layout, such as the gigantomaniac city, was rejected because it was "feudal"; the gridiron system was considered too "capitalistic." The one-time popularity of the ribbon development was again due to political considerations. It was Lenin's idea to eradicate that hard and fast line which existed between the country and the city, but more particularly, between the indifferent muzhik on the one hand and the politically conscious urban proletariat on the other. So the experts evolved the linear type city to act as "an artery along which the principles of Karl Marx could be pumped" to the reluctant peasant. But science stepped in, and ribbon development on a large-scale was officially denounced in 1931 as impractical and uneconomical in regard to both transportation and public services. And so, conurbation in the Soviet Union remained as planned concentrations of population.

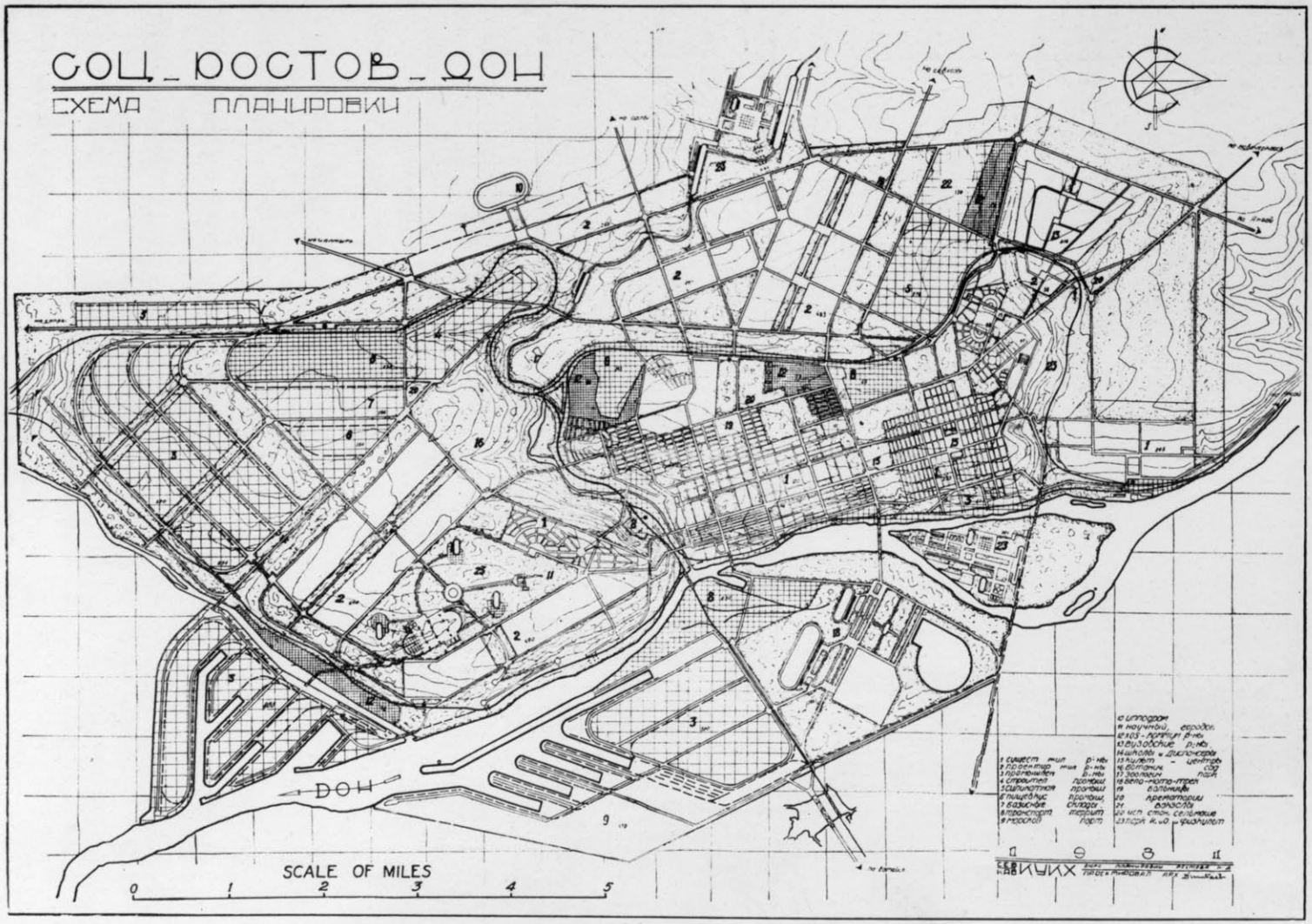

FIGURE 9. SCHEMATIC PLAN FOR THE DEVELOPMENT OF ROSTOV-ON-DON, 1931

FIGURE.9. SCHEMATIC PLAN FOR THE DEVELOPMENT OF ROSTOV-ON-DON

Key to the Development Plan

1. Existing Residential Areas
2. Proposed Residential Areas
3. Industrial Zones
4. Building Materials Industries
5. Pottery and Glass Industries
6. Food Industries
7. Principal Warehouses
8. Land Devoted to Transport Purposes
9. Seaport
10. Race Course
11. Scientific Institutions
12. Municipal Services Areas (garages, laundries, depots for roads and building works)
13. University
14. Schools and Dispensaries
15. Cultural Centers
16. Botanical Gardens
17. Zoological Park
18. Motorcycle Track
19. Hospitals
20. Cremotories
21. Railway Stations
22. Testing Stations for Agricultural Machinery
23. Park for Culture and Rest and Physical Education

The architectural planning solutions executed during this period had the stereotyped, box-like construction and geometric layout. Technico-economic and functional considerations came first. In practice little concern was shown to the architectural appearance of the city, to climate, natural factors and local conditions, or to socio-cultural accommodations of the inhabitants, although some of these features were often discussed in the planning stage.

In the field of housing, blocks of apartments were built first, then the streets were laid out and water and other utilities put in, sometimes at a much later date, with resulting inconveniences to the inhabitants.[1]

The communal house, acclaimed by certain groups, lost its importance and by the middle of 1932 the housing authorities gradually turned to the idea of the smallest one-family unit type of construction. Also at this time the preference for the one-and-two-family house became evident.

Undisputedly and in spite of criticism, an enormous amount of work was accomplished in urban planning. However, there was apparently very little rural planning during this period.[2]

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[1] Trestling, R. B. Rekonstruktsiia Dnepropetrovska (The Reconstruction of Dnepropetrovsk), in Arkhitektura S.S.S.R., No. 6, Moscow, 1936, p. 50. First indication of a new approach is seen in the effectuation of the general plan for Dnepropetrovsk in 1935. Here transportation lines and water supply mains were built before housing construction started.

[2] Source material on this aspect is largely unavailable.

From a professional planner's viewpoint these deficiencies in planning and building might be attributed mainly to a few basic reasons: the absence of a definite planning policy; the lack of planning principles; the insufficiency of technical planning skill; and inexperience in construction. The Soviets were beset with serious problems of restoration. There were only the beginnings of a planning structure which in organization was still inchoate. Considerable confusion existed as to the major socio-ideological concepts in planning, for examples whether or not to socialize the family, or what physical form should the socialist city take. Most of these issues were met and shortcomings eliminated during the preparation of the General Plan for the Reconstruction of Moscow in the next, or Transitional Phase.

CHAPTER III

THE SECOND OR TRANSITIONAL PHASE -- 1931-1944

The Second Phase of city planning differed from the First in the preferential emphasis on architecture, especially to architecture of separate buildings, or, in better instances, of individual ensembles or of streets. Progress was made in planning for streets, parks, and other features of the city. Some new cities were also planned, workers' settlements built and a few old cities were reconstructed, but in the main, planning during this period was marked by two serious deficiencies. First, in the absence of a comprehensive plan, individual projects were undertaken with no consideration of the overall objectives. Moreover, in numerous instances, features of important cities were crudely copied, thereby creating enormities out of scale with other elements and the city as a whole. Thus, the Central Office for City Planning of Leningrad (Lengorstroiproekt) designed for smaller cities[1] huge semi-circular squares in size similar to that of the very large cities. Or, housing projects for towns[2] included

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[1] Mostakov, A. op. cit., p. 31. Nizhnii Tagil and Bukhara (1939 population: 160,000 and 50,000 respectively, as compared with Moscow's 4,137,000 and Leningrad's 3,191,000 for the same year).

[2] Ibid., Balkhash (1939 population: 40,000).

apartment houses of the same size and height as for those of large cities.

The necessity of an integrated planning process was not officially recognized until June 1931 at a special Plenum of the All-Union Communist Party. The Plenum also renounced prevailing foreign theories on urbanism and disurbanism and proposals for cities in which every phase of human endeavor would be socialized: education of children, feeding, and living (with compulsory liquidation of individual kitchens, artificial living communes). It flatly rejected the plans of Le Corbusier for gigantic urban centers and Frank Lloyd Wright's proposed "Broad Acre Cities." The June Plenum recognized the inexpediency of concentrating industry in already established large city centers and proposed in the future to halt the development of new industrial enterprises in these cities, beginning with 1932 in Moscow and Leningrad.[1]

To curtail the immense growth of city population the Party and the government decided to discontinue construction of new industrial enterprises and to decentralize industries.

The difficulties arising from the uncontrolled growth of a city sprang from specific local conditions and were closely related to planning. Rational planning could lessen these difficulties or eliminate them. Thus, for example, the

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[1]Davidovich, V. G. op. cit., p. 23.

realization of the Moscow Plan (see below) was due to the rational distribution of residential and industrial zones, open green areas, the organization of intercity transport, creating healthy and comfortable living conditions, in spite of the large number of people of Moscow. On the other hand, local peculiarities might limit the planned development of a city.

The Soviet planners credit the June Plenum with helping develop the basic principles of city planning and giving them a practical program of work for the building of cities.[1] The Plenum also directed the Moscow Soviet to prepare plans for the reconstruction of Moscow, to be based on "serious, scientific research study." Kaganovich, who was put in charge of this task, in his report to the June Plenum presented not only a well-formulated discipline for the development of cities in the U.S.S.R., but also a set of particular directives for the planning profession to follow. The Soviets planned to reconstruct their cities on long-range national economic bases.

What are these principles that govern Soviet planning? How do they compare with those applied in American practice? For analysis we must turn to the General Plan for the Reconstruction of Moscow of 1935, the first single work of a comprehensive nature that came out of Russia, before of after the Revolution. It was the result of all good and bad past

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[1] Arkhitektura S.S.S.R.: Arkhitektura Strany Sotsializma (Architecture of the Land of Socialism), No. 17/18, Moscow, 1947, p. 4.

experience. It was based on analyses of existing or proposed plans of other cities in Russia and elsewhere. Almost all Soviet planners studied carefully the Moscow Plan, and applied its principles in the reconstruction and design of other cities. Without serious consideration of it no study of Soviet city planning is possible.

A. Reconstruction of Moscow

1. Background

Moscow is eight hundred years old and the city's architecture and layout provide a picturesque, variegated reflection of its past. The physical structure of Moscow in the second half of the 19th century was characterized by the development of radial routes. Suburbs (*slobody*) were founded, forming an unbroken extension of the city proper.[1] Workers' settlements arose around industrial enterprises. The center of the city -- *Kitai Gorod* (Chinatown) -- was overcrowded with market stalls, commercial office buildings and warehouses. The city retained the network of crooked narrow streets, blind

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[1] Bunin and others. *op. cit.*, p. 300.

alleys and small blocks,[1] where dilapidated wooden shacks stood among stone mansions and tall apartment houses.

Old Moscow, a city of merchants, was built of wood; housing was characterized by large numbers of worn out wooden structures. Only one house in three had masonry. Even in 1931 less than one-third of the houses were of brick, the remaining of wood or of mixed construction.[2] Most of the houses had only one or two stories, while only six percent were over three stories high.[3] By 1923 the percentage of persons living more than two to a room, which had been 61.7 in 1912, was down to 36.7.[4] Municipal services were poor and far too limited. Only thirteen percent of Moscow's homes had a central heating system, while more than 50 percent of the dwellings were without running water. In per capita electric power consumption, Moscow was last in line among the big cities of Europe.[5]

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[1] Gol'denberg, P. I. Kvartal v Novoi Moskve (The Residential Block in the New Moscow), in Arkhitektura S.S.S.R., No. 10-11, Moscow, October-November, 1935, pp. 59-63. Before 1917 Moscow's street system consisted of 393 streets, 1,031 lanes and side-streets and 87 blind alleys. Only about half of the roadways were paved, and of these 98 percent were cobblestone and only two percent had modern surfacing. In 1913 only ten miles of the city's main streets and squares were lighted by electricity. The entire midtown area was illuminated by gas. The outskirts of the town sported 13,000 kerosene street lamps.

[2] Ibid.

[3] Ibid.

[4] Sigerist, Henry E. Medicine and Health in the Soviet Union, New York, The Citadel Press, 1947, p. 153.

[5] Guide to the City of Moscow, Moscow, Co-operative Publishing Society of Foreign Workers in the U.S.S.R., 1937, pp. 44-45.

The advent of the Soviets found the city in a state of economic collapse like the rest of Russia. Through the period of World War I Moscow was drained by the fighting. Repair and construction work was almost at a standstill. In the following years (1917-1920), internal and external counter-revolution caused famine and tremendous privation; factories closed down for want of fuel and raw materials. There was little thought of reconstructing the capital. With the end of the Civil War restoring of economic life began. The idle factories and plants were reopened; the municipal economy gradually revived, first slowly. Attention was centered on industry and agriculture. With the successes of the First and Second Five-Year Plans the work of reconstructing the capital received tremendous impetus, especially after 1931. The importance of the capital as the administrative, political and cultural center of the Soviet Union was increasing; they envisioned it as the model city for the socialist state. The Soviets had now become aware of the impelling need for planning.

2. Preparation of Plan

In the preparation of the general plan for the reconstruction of Moscow (1933-1935) an All-Union competition was organized in which many foreign planners participated. The results submitted were both interesting and provocative, but all had one common failure: they ignored the historically

formed plan of Moscow. Some foreign architects, like Frank Lloyd Wright, contemplated razing the entire capital and building in its stead a gigantic garden city composed of cottages set on landscaped grounds, surrounded by orchards and meadows, scattered over a vast territory. Others, like Le Corbusier, proposed to build an imposing array of skyscrapers.[1]

The government rejected all such and similar foreign proposals and by themselves set out to rejuvenate and beautify Moscow on more practical and economical lines. In 1933 ten planning and project workshops were organized by the Moscow Soviet.[2] The best of the country's planners, architects, engineers, economists, and public health doctors were asked to collaborate in the preparation of the general plan. The workshops[3] undertook to draft the plans for the reconstruction of the various city features and districts[4] within the

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[1]Davidovich, V. G. op. cit., p. 23.

[2]Guide to the City of Moscow. op. cit., p. 51.

[3]Chernyshev, S. E., Prof. General'nyi Plan Rekonstruktsii Moskvy i Voprosy Planirovki Gorodov S.S.S.R. (The General Plan for the Reconstruction of Moscow and Questions of Planning Cities of the U.S.S.R.), Moscow, Orgkomitet Soiuza Sovetskikh Arkhitektorov S.S.S.R., 1937, p. 7. Each workshop was assigned to prepare detailed plans for specific projects. Thus, Workshop No. 1 (Director, Academician A. V. Shchusev) prepared projects for squares and major thoroughfares; Workshop No. 2 -- the Palace of the Soviets, the Red Square, public buildings and important streets; Workshop No. 3 (Architect G. P. Gol'ts in charge) -- Moscow Port and river fronts; etc.

[4]Moscow was divided into 23 planning districts.

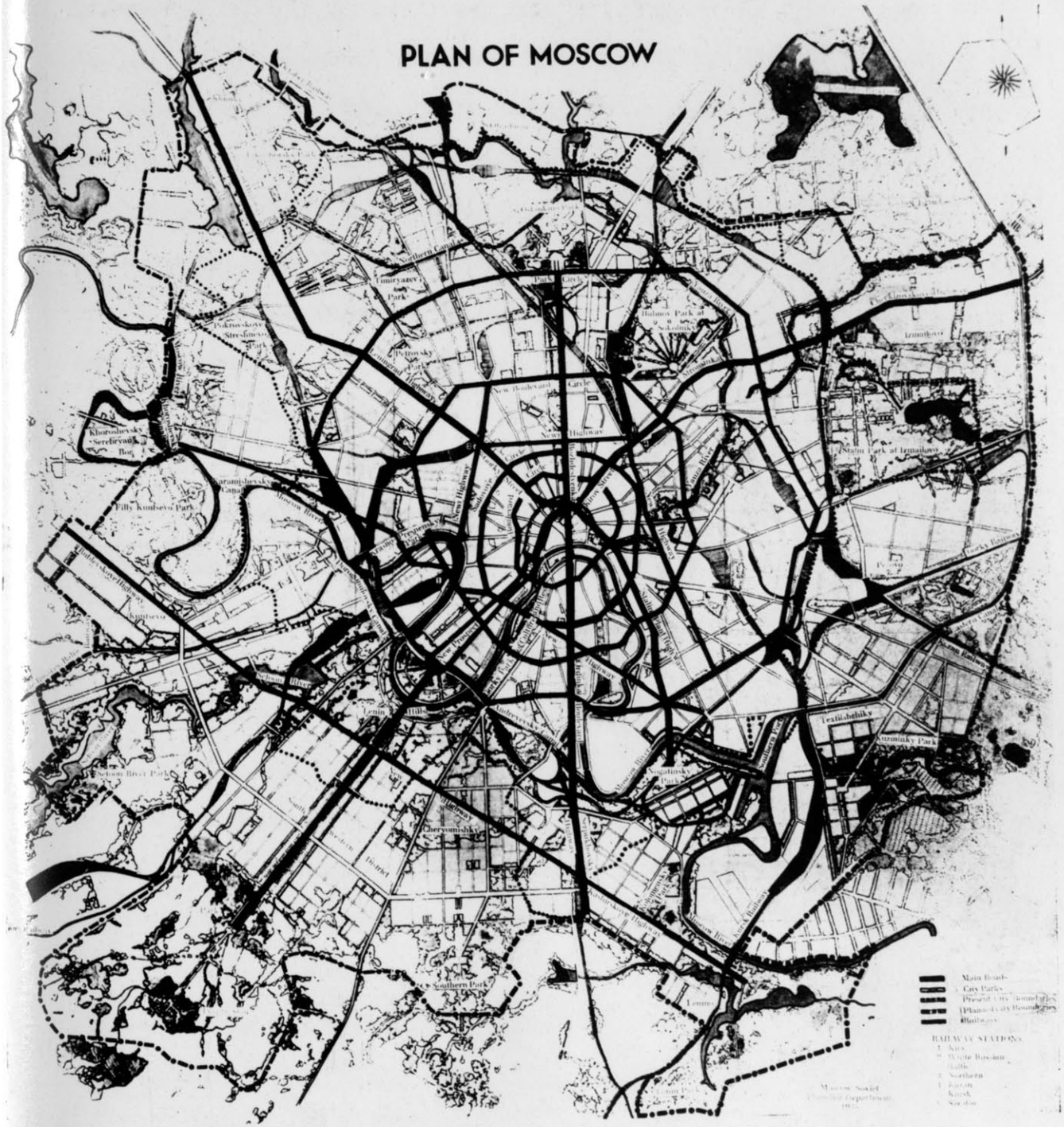

FIGURE 10. GENERAL PLAN FOR THE RECONSTRUCTION OF MOSCOW, 1935

framework of the general project for replanning the city. In July 1934 the general project for the socialist reconstruction of Moscow was submitted for consideration at a special session of the Central Executive Committee of the Communist Party, with the participation of Stalin, Kaganovich, and leading architects. On July 10, 1935, the General Plan for the Reconstruction of Moscow (FIGURE 10) was approved in its final form by the Council of People's Commissars of the U.S.S.R. and the Central Executive Committee of the All-Union Communist Party, making it a State law.[1] This plan, under the auspices of the Central Committee and the Moscow Committee of the Communist Party and the Soviet Government and under the direct supervision of the ace trouble-shooter, Kaganovich,[2] represents the first comprehensive plan for the reconstruction of the capital or of any other Soviet city.

The starting point of the accepted plan was the retention of Moscow as a single unit. The proposal to develop the new city as a series of small satellite towns was rejected. This decision answered both the advocates of retaining the city unchanged and turning it into a museum of the past while constructing a new city nearby, and those who favored completely razing the old city and creating a new one in its place.

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[1] Bunin and others. op. cit., p. 300.

[2] Arkin, D. Arkhitektura (Architecture) in Bol'shaia Sovetskaia Entsiklopediia, Moscow, 1947, p. 1543.

The joint decision by Party and government on the "General Plan for the Reconstruction of Moscow" formed an important guide for Soviet planners to achieve complete unity and coordination of physical city features (squares, streets, embankments, parks), "utilizing during construction of residential and public buildings the best examples of the classic and new architecture, as well as all the achievements of the architectural-construction techniques."[1] In the effectuation of the plan the Soviet Government claimed to be making available all the means of the socialist planned economy and the best achievements of a planned environment in the interests of health, comfortable living and working for the masses of the city's inhabitants.[2]

3. General Scope of the Plan

As its keynote the Plan called for a program of city remodeling with concern for the present and future welfare of the individual dweller. To the Soviets the Plan meant the rebuilding of the city into a new capital. Within its sphere were the extension of the present territory and the pressing problems of transportation, industry, housing, commercial structures, education, recreation, and municipal services.

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[1] Arkin, D. op. cit., p. 1544.

[2] Ibid.

The basic conditions of the general plan of Moscow were summarized by Professor S. E. Chernyshev in his report delivered at the First All-Union Congress of Soviet Architects held in Moscow in 1937:[1]

> 1. For the first time in the history of cities we are indicating a definite limit to the spread of the city, depending on the planned forecast of the number of population, the density of the inhabitants and the size of the zones. The selection of new sites for cities is based on the topographic and other natural conditions for living, working and the socio-cultural development of the population.
>
> 2. The socialist reconstruction of Moscow proposes an organic union of the city center with her new territories.
>
> 3. The socialist reconstruction of the city has for one of its objects the problem of creating unity and harmony within her architectural compositions. The problem of ensemble, architecturally integrated squares, streets, embankments and entire districts, is a practical task in the construction of the city.
>
> 4. In the socialist city there is removed the difference between the rich cneter and the poor outskirts with their slums.[2] In contrast to the capitalist city, where all the public and cultural buildings are concentrated in the center, in our Soviet cities

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[1] Chernyshev, S. E., Prof. op. cit., p. 3.

[2] This condition although true for large cities of pre-Revolutionary Russia, is not borne out by American experience. In most American cities the central areas are disintegrating, containing uneconomically productive land and the worst of the slums, while the outskirts contain a better and more healthful type of housing. The U. S. Census reports of 1930 and 1940 reveal the dispersion of population, business and industry from the declining city centers, while the suburban and fringe areas are growing in importance.

there follows a planned distribution of these buildings over the entire area with the aim of bringing them nearer to the population for convenience and service.

5. The new system of organization in the socialist city is determined not by accidental construction of individual districts, but by a rational organization of blocks in the organic unity of housing construction and socio-cultural amenities and depending on a density of construction conducive to health and welfare.

6. In the construction and reconstruction of the city there are realized the complex solutions to engineering-technical problems of the city (streets, transportation, public services, and landscaping).

4. Elements of the Plan

To carry out in practice these six basic conditions the following major elements of the Moscow Plan were specified:

Limiting Growth of Population. In determining the size of the city and her territories it was decided to limit the future growth of Moscow to five million people,[1] with the provision of satisfying fully all living and cultural demands of the total estimated population (housing, city transport, water supply and sewage disposal, schools, hospitals, shopping centers, etc.)

The Soviet planners who were responsible for estimating the future population of Moscow to remain at five million

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[1] Bunin and others. op. cit., p. 300; Poliakov, N. Kh. op. cit., p. 48. In 1860 the population of Moscow consisted of 360,000 people; in 1885, it grew to 800,000, and in 1917 -- to 1,700,000 people. The 1926 Census lists 2,029,000 people and by January 17, 1939, the population grew to 4,137,000, or an increase of 204 percent over the 1926 figure.

considered certain positive checks which they could employ to limit the number and density of population and to guide the development of the size and shape of the city territory. One of the means was already supplied them by the June Plenum of 1931, which decreed against new influxes of workers by limiting the spread of industries in already established industrial centers.[1] Other checks which the Moscow planners used were to ring the city with a ten mile green belt, and to zone the city territory for specific uses and activities best suited to the land and the people.

New Territories. The plan proposed to increase the territory of the city from 28.5 to 60.0 thousand hectares. Two-thirds of the newly acquired territory was located in the southwestern region. A dry healthy area, situated on Lenin's Heights on the windward side, along the banks of the Moscow River, occupied an area of 16,000 hectares, and formed an ideal setting for about one and one-half million people. A park would occupy the center; an approach to the river would open up a view of the city. In addition, the new territory would include all the settlements adjacent to the present city limits on the northeast, the southeast, the west and northwest.

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[1]This does not mean that the city's population might never exceed five million through material increase resulting from the rising birth rate, but that sudden influxes through the establishment of new industries were to be stopped.

Circulation System. While retaining the basic features of the historically formed radial-ring layout which has become an ineradicable aspect of the city in the course of centuries, the program specifically called for a radical reconstruction and replanning of the entire transportation network -- railways, water, air and street system -- for a rational movement of traffic. Three wide diagonals would dissect the entire length of the city, while three parkways would provide circumferential routes. To relieve pressure of the center from transit movement and to provide the shortest direct connection between the sections of the city, the plan proposed new straight routes, bypassing the center. The plan further called for the replanning of the entire railways system, the elimination of freight yards, classification stations and warehouses with railway approaches from the city; the electrification and tunneling of all trains entering the city; the construction of numerous bridges across the Moscow River; the building of new squares and the widening of Red Square -- center of the capital -- to twice its size.

Zoning. The General Plan set up a program of reconstruction of all facilities and construction work of the city; provided for a rational distribution of the city territory into zones for residences, industry, railways, water transport, open green spaces and socio-cultural facilities.

Residential Neighborhoods. The 1935 Plan provided for the reconstruction of old and the creation of a number of new residential districts (raiony) around Moscow. This was intended to decentralize the center of the city and increase the density of the population on the periphery. The city's population density would be reduced from 1,000-1,200 inhabitants per hectare (400-500 per acre) to 400-500 inhabitants per hectare (160-200 per acre).[1] Each residential district was to contain from 100,000 to 600,000 inhabitants[2] and would include socio-cultural and educational institutions, sport fields, a district park and an administrative center. The center of the city, the Kremlin and the Palace of the Soviets, was to remain the administrative center of the Soviet Union. Green strips or highways were to separate one district from another. The districts would be made up of a group of

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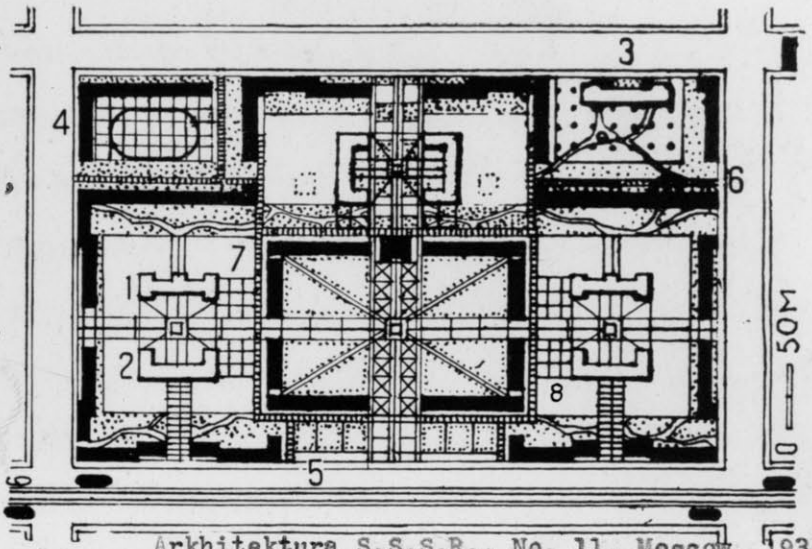
[1]Gol'denberg, P. I. op. cit., pp. 60-61. Density referred to is gross density and includes half of the public streets, large recreation, and the land covered by and associated with non-residential buildings.

[2]The standards for residential districts for cities outside of Moscow and Leningrad are: for large cities -- 50,000 to 100,000 inhabitants; for medium-sized cities -- 25,000 to 50,000 inhabitants.

1.Nurseries (3), 2.Kindergartens (3), 3.School, 4.Underground Garage, 5. Auto-Parking Area, 6.Street-Car Stop, 7.Road for Interior Traffic, 8.Private Yards.



Arkhitektura S.S.S.R., No. 11, Moscow, 1936.

FIGURE 11. PLAN OF A SUPERBLOCK
Moscow, 1936
Covering 15 hectares along a main thoroughfare and accommodating 6,000 people.

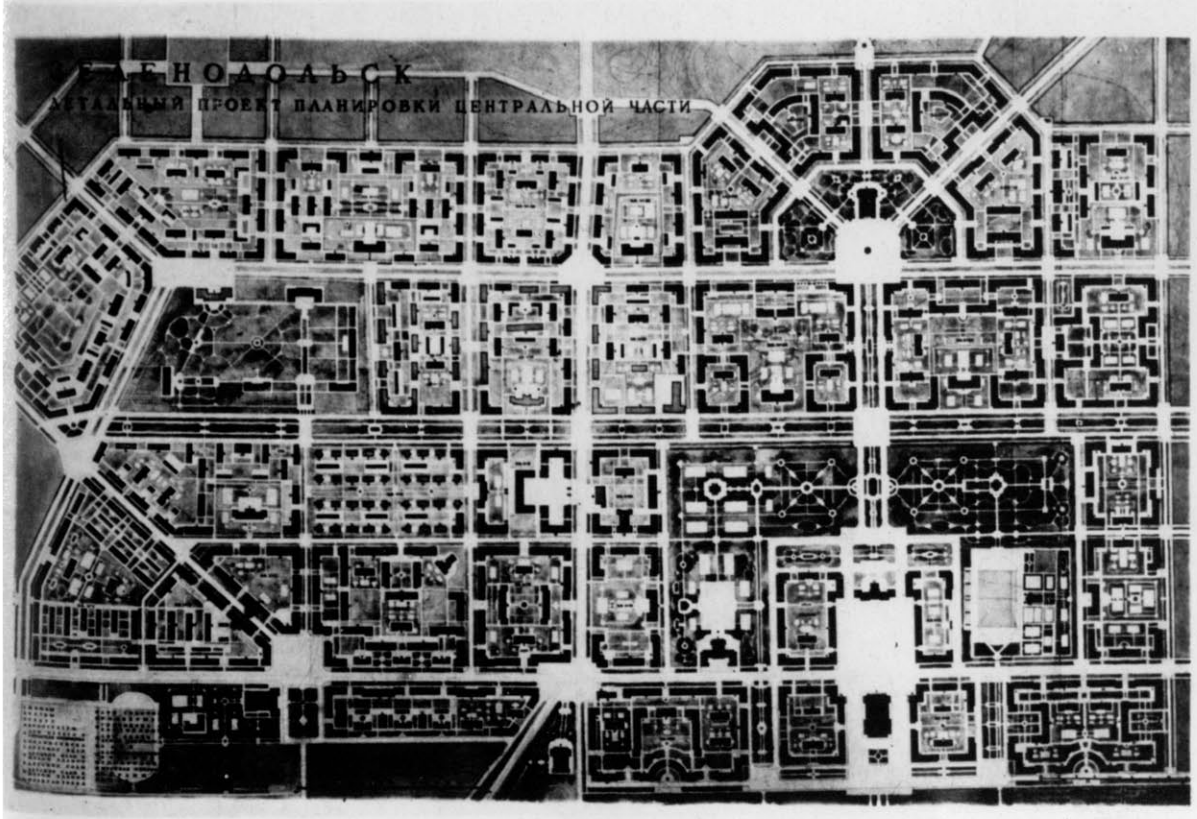


FIGURE 12. PLAN OF A GROUP OF SUPERBLOCKS
Felenodol'sk, Tatar A.S.S.R., 1929
Gaikovich and Mikuchanis, Architects

neighborhoods, or superblocks (kvartaly).[1]

Besides the dwellings, each superblock (FIGURE 11) was to maintain nurseries for children from two months to three years, kindergartens for 60 percent of the three to seven year olds, an elementary school, a community center, or club, shops, playgrounds, and a neighborhood park, all arranged by functional distances. Major streets and thoroughfares with wide protective green strips were to separate the superblocks and districts while inside road ways would serve as circulation for fire-wagon service and pedestrian traffic.

Housing. The proposed plan set its goal at 15 million square meters of living space[2] to be realized within a period

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[1]Gol'denberg, P. I. op. cit., pp. 59-61. The area of each superblock was to vary from 9-15 hectares, with convenient sizes of 300 meters by 300 meters, 300 by 100 and 300 by 500, calculated for six to eight minutes of walking distance to transportation facilities. The buildings within the superblock were to consist of elevator apartments of 100-200 dwelling units, and a coverage between 18 to 21 percent (existing building coverage was 50-60 percent). A typical 9-hectare superblock would house about 3,600 to 4,500 people in four to eight apartment houses not less than six stories high. The population of a 15-hectare superblock was not to exceed 7,500 persons, distributed in 7-15 apartments.

In other urban populated places the area of a superblock varies from 3 to 6-8 hectares (7.41 to 14.82 -- 17.29 acres), depending on the existing topography, wind direction and to a considerable extent on the street pattern. (The average block in most unplanned large Soviet cities is from one to two hectares). The height of apartment buildings was correspondingly lower -- 3 to 4 stories in the central districts and one and two-story buildings in the outskirts.

[2]"Living space," as defined in Soviet statistics, is always figured in square meters per person and includes the area of living and sleeping rooms. The floor space occupied by dining-kitchen, bathroom, halls, staircase, pantries, etc., is not counted. The goal was to furnish 15 square meters of living space for each person including a child. It was less than 9 square meters in 1936.

of ten years. The size of the program will be more clear if we remember that the total housing of Moscow, built over many years, did not exceed 15.5 million square meters of living space, of which almost half was in old, small wooden buildings.[1]

Even in 1931 small housing construction (one- or two-stories) averaged 87 percent of the total buildings. The construction of houses larger than four stories amounted to only 2.6 percent.[2]

Suburban Zone. A suburban zone having a 50 kilometer (31 miles) radius would surround the city, containing municipal, industrial and agricultural enterprises.

Landscaping. A single system of green areas would furnish sanitary health conditions for living, rest, and preservation of the natural landscape of the city and its suburbs. Industrial areas were to be protected by green zones. A green zone, 10 kilometers deep (6 miles) surrounding the city, would create a large reservoir of clean air; it would be connected with the Central City Park of Culture and Rest, named "Gor'kii" in the center of the city. A new system of parks -- city,

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[1] Gol'denberg, P. I. op. cit., pp. 59-60.

[2] Poliakov, N. Kh. op. cit., p. 112.

district, neighborhood was to permeate the city. In residential districts green spaces would occupy 30 percent of the area.

Ports. The plan called for the development of Moscow into a seaport. Through the building of a river canal Moscow would be connected by water highways with the White, Baltic, Caspian, and Black Seas (FIGURE 13). The quays of the Moscow River would be lined with granite to serve as attractive thoroughfares of the future Moscow.

Public Services. The plan was predicated upon the ultimate provision of public services and communal facilities for the entire Moscow population. All of the capital's pipes and wires were to be tucked away in a subterranean collector system which would run alongside the tunnels of the subway. The gas mains were to supply the factories, laboratories, offices and homes with 20 million cubic feet of gas a year; the water mains with 486 million gallons of water every day, in contrast with 129 million gallons in 1934.[1] Telephone wires

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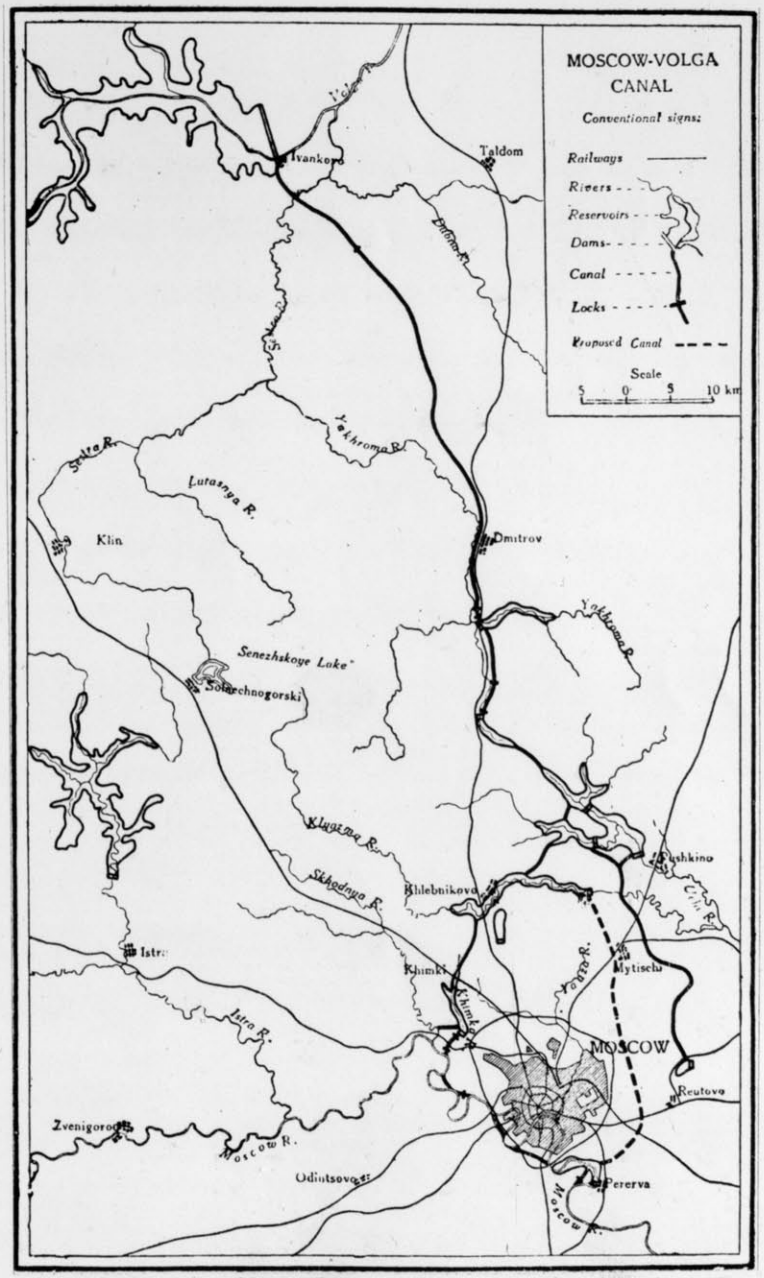
[1]Shchusev, A. V. Novoe Stalo Obyknovennym (The New Has Become the Usual), in Ogonek, Moscow, Auguat 1947. The water used to be taken from the shallow Moscow River, but the new Moscow-Volga Canal, completed several years before World War II, made unlimited quantities available. In 1931, only 42 percent of the houses were connected with the mains. Although the proposed consumption of water per person was to be doubled as compared with the 1934 figure, this was still slightly below the 1938 average daily consumption per person in American cities.



Guide to the City of Moscow, Moscow, 1937.

FIGURE 13. MOSCOW-VOLGA CANAL

128 kilometers long, constructed in 1937, which connects Moscow with the White, Baltic, and Caspian Seas.

and electric cables, sewage pipes and distant heating tubes conveying hot water, steam and heated air from central heat and power plants were also to be enclosed in these collectors.

Ten-Year Program.[1] The General Plan, stipulating a ten-year construction program, was divided into two stages: the first, encompassing priority projects which would last from two to five years; the second, including those of longer duration. Among the first objectives of the program were extensive housing developments along main arteries, the socio-cultural institutions, and various transportation and municipal facilities. Secondary objectives included electrification of railroads, development of outlying residential districts and the extensive park work inside and around the city.

5. Accomplishments and Shortcomings of the Moscow Plan

The General Plan for the Reconstruction of Moscow was no mere paper scheme, but a program of actual construction. John Steinbeck, when visiting the city in 1947 wrote:

> I had been in Moscow in 1936 for a few days and the changes since then are tremendous. In the first place, the city is much cleaner than it was. Many

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[1] On February 1, 1949, the Council of Ministers of the U.S.S.R. and the Central Executive Committee of the Party published the decision "On the development of a new general plan for the reconstruction of Moscow." The Academy of Architecture of the U.S.S.R. was assigned to prepare, to be finished by October 1949, a long-range 20-30 year plan. See Pravda, Moscow, February 1, 1949.

> streets are now paved which had been muddy and dirty. And the building in the eleven years is enormous. Hundreds of new tall apartment buildings, new bridges over the Moscow River, the streets widened and statues every place. Whole sections of the narrow, dirty districts of the old Moscow have disappeared and in their place were new living quarters and new public buildings.[1]

It appears that the problem of restricting the capital's growth was not successfully solved by the planners. In the first period from 1935 to 1940, the area of the city increased from 28.5 to 32.5 thousand hectares,[2] slightly more than half of the total area planned for 1945. On the other hand, the population increased at a much faster rate than anticipated. By 1939, the area contained 4,137,000 people,[3] more than 80 percent of the five-million limit for 1945. This rapid rate of growth occurred despite the positive checks established by the government, such as limiting migration,[4] curtailing further expansion of industries in Moscow and decentralizing the city. In addition, the housing managers were directed to receive no new tenants who were not employed in Moscow, and the managers of industrial enterprises were bound to hire no new employees

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[1]Freely quoted from Steinbeck, John, A Russian Journal, in Philadelphia Inquirer, Philadelphia, January 14, 1948. One might assume that all of the construction and improvement noted by this observer could not have taken place in 1945-47.

[2]Simonov, E. D. Moskva Stolitsa Nashei Rodiny (Moscow the Capital of Our Fatherland), Moscow, Goskul'tprosvetizdat, 1947, p. 35.

[3]Ibid.

[4]Chernyshev, S. E., Prof. op. cit., p. 40.

who could not prove that they were registered as tenants.[1] Still the Moscow population kept on increasing at almost the same rate as did the U.S.S.R. urban population.

It is evident (in this case at least) that restrictive measures were inadequate in checking the population growth of the national metropolis. The Moscow experience might warn over-zealous urbanists against restricting growth in metropolitan areas through the application of purely mechanical means.

The municipal transportation system was considerably improved. Numerous roads and squares were straightened, widened[2] and surfaced. By 1940, nearly three million square meters of roadway, or about 25 times the 1913 figure, were hard surfaced.[3] Trolley car lines were relegated to side streets. The suburbs were brought within easy reach of the center by the building of eleven bridges across the Moscow River,[4] the construction of new highways, streetcar lines,

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[1]Blumenfeld, Hans. Regional and City Planning in the Soviet Union, in Task Magazine, No. 3, Robinson Hall, Cambridge, Mass., 1942, p. 36.

[2]Bunin, A. V. and others. op. cit., p. 305. Mozhaisk Boulevard, for example, was widened from 12 meters to 50-70 meters.

[3]Ibid.

[4]Shchusev, Pavel. Novye Moskovskie Mosty (New Moscow Bridges), in Arkhitektura S.S.S.R., No. 8, Moscow, August 1936, p. 44. Forty-eight bridges were proposed to be built by 1939.

and the completing of the third line of the Moscow subway.[1] In 1938 the municipal transportation system carried an aggregate total of more than two billion passengers.[2] In summary then, the municipal transportation service, in spite of the improvements, was still overtaxes due to the tremendous growth of the population.

The planners greatly changed the Moscow River and its shoreline. By 1939, its embankment (51.9 kilometers) was lined with granite; a parkway, 50 meters wide, with monumental staircases leading down to the river was built. The Moscow-Volga Canal, 128 kilometers long, was constructed in 1937, increasing by twelve times the water volume of the river and linking Moscow by water with the White, Baltic and Caspian Seas. The bends of the river were straightened out and its water level inside the city limits raised to more than three meters.[3] This increased the municipal water supply from 60 liters per person per day in 1913 to 300 liters in 1939.[4]

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[1] Simonov, E. D. op. cit., p. 39. The three lines of the subway (25 miles long and 29 stations) have cut through the heart of the capital in all directions, providing for a daily capacity of two million passengers.

[2] Ibid. In 1913: 0.021 billion passengers.

[3] Kolli, N. Ia. Letopis' Sovetskoi Arkhitektury 1917-1947 (Chronicle of Soviet Architecture 1917-1947), in Arkhitektura S.S.S.R., No. 17-18, Moscow, 1947, p. 35.

[4] Simonov, E. D. op. cit., p. 33; p. 38.

Considerable success was achieved in improving municipal services. The daily consumption of drinking water amounted to 241 liters per inhabitant in 1946, as against 153 in 1935; and the number of gas consumers has trebled that of 1935.[1] Electric power consumption per inhabitant increased from 505 kilowatts in 1935 to 715 kilowatts in 1940.[2] In summary, these improved municipal services, though far below standard northwestern European capitals, nevertheless were important in boosting the Moscow inhabitant's morale.

Under the Moscow Plan up to 1940 hundreds of civic, educational and recreational institutions were constructed,[3] totalling several million cubic meters.[4] Among the outstanding

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[1] Simonov, E. D. op. cit., p. 36.

[2] Meyer, Hannes. The Soviet Architect, in Task Magazine, No. 3, Cambridge, Mass., 1942, p. 31.

[3] These included the office building of the Council of Ministers on Okhotneyi Riad (Architect A. Ia. Langman), the Lenin Library (Architects V. Gel'freikh and V. Shchuko), the Central Telegraph Office (Architect I. I. Rerberg), and the building of the Ministry of Light Industry, Trade and Agriculture; the Palace of Culture of the Stalin Auto Plant (Architects A. V. Vesnin and L. Vesnin), the Club of the Hammer and Sickle Plant, and the Palace of Culture at Fili.

[4] Bulyshev, A. Planirovka Moskvy Na Novoim Etape (A New Phase in the Planning of Moscow), in Arkhitektura S.S.S.R., No. 8, Moscow, 1936, p. 13. The total number of public buildings and children's institutions proposed in the Plan totaled 38.4 million cubic meters.

undertakings was the proposed Palace of the Soviets.[1]

Of the 380 proposed new secondary schools, accommodating 880 pupils each, 379 were erected in Moscow and in all new residential districts.[2] The site for each school plant occupied one hectare of ground; an additional hectare was devoted to recreation and gardens.[3]

In addition to the school buildings, many other children's institutions and recreational facilities were developed, including kindergartens, nurseries, playgrounds, parks and stadia.

Achievements in housing construction were not as notable as in the building of public and socio-cultural institutions. As compared with pre-Revolutionary days, housing construction improved considerably, but it did not keep pace with the requirements of the growing population. Five hundred blocks of apartments between seven and nine stories high were built with a total of 1,800,000 square meters of dwelling area (averaging 8.5 square meters per person).[4] About 50

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[1]The construction of the Palace of the Soviets, designed by B. M. Iofan, V. A. Shchuko and V. G. Gel'freikh, was an ambitious architectural undertaking. The project, bogged down by technical-engineering difficulties and lack of materials, called for a 315-meter structure towered by a 100-meter statue of Lenin.

[2]Ibid., p. 40.

[3]Ibid., p. 13.

[4]Meyer, Hannes. op. cit., p. 31.

percent of all the apartment buildings under construction lay on the thirteen major thoroughfares and on the three concentric boulevards. Each thoroughfare was under the direction of one architect or planner, responsible ultimately to the Chief Architect in charge of the Moscow Plan,[1] for all the building of a section up to two kilometers long. Some 220 existing tall buildings were moved to allow for the widening of main streets.[2]

In spite of the importance that the Party and the government attached to the execution of the Moscow Plan, housing construction still lagged behind proposed schedules by 40 percent for the first three years (1936-1938)[3] and by 80 percent for the first five-year period of the Plan (1935-1940).[4] In the absence of explicit information to explain this serious discrepancy, we may only conjecture. The scarcity of building materials or technical experts is not a sufficient reason, for much construction was going on during the same period in other spheres. On the contrary, it appears that

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[1]Academician D. N. Chechulin was in charge of the Moscow Plan since its inception. In spite of many criticisms Chechulin has remained in that position, according to latest information (October 1948).

[2]Babyshev, A. op. cit., p. 13.

[3]Simonov, E. D. op. cit., p. 36. Three million square meters of dwelling area were scheduled for this period.

[4]Babyshev, A. op. cit., p. 13. Eleven million square meters of dwelling area was proposed for the first period of the Plan.

preoccupation with other fields absorbed the available materials and human resources. The fulfillment or near fulfillment of the Plan in the construction of enormous public buildings, marble-lined stations of the Moscow subway; stadia and vast parks, boulevards and squares; granite-lined Moscow River embankments; and finally, hundreds of schools, theaters, clubs and other cultural institutions -- all of this activity bears out this conclusion.

The major reason for this emphasis on other fields to the exclusion of housing seems to be that since the Soviets could make only a small dent in the housing shortage with the available resources, they concentrated on projects which would produce an immediately favorable impression. Furthermore, the government seems to have calculated that at this stage of economic development, residential construction occupied a relatively low priority as compared with vital transportation and industrial projects. Thus, while housing lagged about 80 percent behind plan, such projects as the ideologically important Red Square and the economically critical Moscow-Volga Canal were completed on schedule.

A second reason for the housing failure was the disorganization of the building industry. Ministries, industrial enterprises and other governmental authorities had their own construction departments whose work was not coordinated by a single agency. The Ministries of Building Materials and of

Building were not established until 1938 and 1939 respectively.[1] Indeed until 1943 there was no centralized architectural-building coordination.

Along with their claimed accomplishments, the Soviets have admitted many deficiencies of the Moscow Plan:[2] their inability to check the rapid growth of the population in Moscow and their awareness of the failure to supply sufficient housing. In addition, several other shortcomings are typical not only of Moscow but of other cities where planning and reconstruction were taking place during this period:

a. Many projects along the main streets and squares were not finished according to plan. Along the Moscow River, which is the major residential apartment district, numerous individual buildings were put up, but no single complete ensemble was finished.[3]

b. Many completed plans for public buildings (clubs, hotels, stores) were awaiting a location plan. Often an accurate topographic map of a specific area was lacking, resulting in poor site plans.

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[1] Percival, David. The Building Industry in the U.S.S.R., London, Lawrence & Wishart Ltd., 1943, p. 26.

[2] See Chernyshev, S. E., Prof. op. cit., pp. 8-9; 18-22; 31-42; Arkhitektura i Stroitel'stvo, No. 4, Moscow, 1948, pp. 13-14.

[3] Arkhitektura i Stroitel'stvo, No. 4, Moscow, April, 1948, p. 13.

c. Instead of solving city planning problems in relation to the general plan the architects often limited themselves to facades of individual buildings, disregarding orientation to the interior plan, appearance of the streets and the background. Construction in most cases was spotty.

d. Tall buildings were built in the outskirts of the city, contrary to construction zoning rules.[1]

e. Specific problems (squares, streets) were often designed for 25 and more years in advance while current construction projects were ignored; many plans were inflexible and unrealistic as applied to the immediate tasks.

f. The city Soviet neglected to adhere to the General Plan. Temporary permits were often issued by the Moscow Soviet for the construction of industrial buildings in areas not intended by the General Plan. These temporary structures were soon expanded and made permanent.

g. The problem of automobile traffic and off-street parking was not altogether solved; at many street crossings new structures obstructed clear vision.[2]

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[1] Ibid.

[2] Obraztsov, V. Transport v Planirovke Zhilovokvartala (Transportation in the Planning of the Superblock), in Arkhitektura S.S.S.R., No. 11, Moscow, November, 1936, p. 58. Underground garage space for 600 automobiles was proposed in the Moscow Plan, but there is no indication that this was constructed.

h. In the main, little practical planning work was accomplished in the Moscow suburbs.[1]

i. Though not included in the General Scope or the Elements, reconstruction in Moscow during these years must also have included treatment of industrial zones[2] and industrial area planning; airport zoning and planning; and automobile parking, for instance.

In summary, the Moscow Plan greatly improved the physical and esthetic aspects of the city and created many socio-cultural and recreational institutions. However, in housing it fell far short of its goals. Economic demands in other quarters and insufficient organization of the building industry largely accounted for the failure. Other shortcomings were due to lack of overall administrative coordination and technical planning skill. The whole project might have been too ambitious in its scope. It is remarkable that with the available materials and technical resources of that period the Soviet planners were able to accomplish as much as they did.

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[1] Sovetskoe Iskusstvo, (Soviet Art), Organ of the Ministry of Cinematography of the U.S.S.R., the Committee on Art Affairs under the Council of Ministers of the U.S.S.R., Moscow, August 23, 1946.

[2] See discussion on post-war Moscow industrial reconstruction, Chapter V.

B. Third Five-Year Plan (1938-1942)

The architectural and planning experience gained during the Moscow Plan strongly influenced subsequent planning and reconstruction of large cities such as Kiev, Khar'kov, Baku, Tashkent, Sverdlovsk, Novosibirsk, and Iaroslavl'.[1] Even Leningrad, despite her planned architecture and peculiar natural conditions, was not an exception to this general influence.[2]

During the Third Five-Year Plan Soviet city planning forged ahead. In 1940 the planners undertook to prepare general plans for the reconstruction of 225 cities in the Russian Republic alone.[3] However, these plans did not reach completion on account of the German invasion.[4]

From 1939 to June 1941 there arose within the profession an organized campaign to eliminate mistakes and raise the quality of planning practice with particular emphasis

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[1]Bunin, A. Dostizheniia Sovetskogo Gradostroitel'stva (Achievements of Soviet City Planning), in Arkhitektura S.S.S.R., No. 17-18, Moscow, 1947, p. 52.

[2]Baranov, N. V. op. cit., pp. 70-73.

[3]Blumenfeld, Hans. Regional and City Planning in the Soviet Union, op. cit., p. 42.

[4]For a description of destruction by the Germans see: Voronin, N. N. The Destruction of Old Russian Cities, in VOKS Bulletin, No. 3-4, Moscow, U.S.S.R. Society for Cultural Relations with Foreign Countries, 1943, pp. 14-21; Rebuilding the Liberated Areas of the Soviet Union, London, Hutchinson and Co., 1944.

on increased realism in planning proposals. Serious attention was directed to questions of priority of construction and to liquidation of formalistic tendencies.[1] This campaign was officially pronounced by Molotov.[2]

In the Third Five-Year Plan Molotov stressed especially the further development of the national economy of the country through application of the theory of the distribution of production power.

> New construction in regions of the U.S.S.R. should be based on the principle of centering industries in locations most accessible to sources of raw materials and to regions of greatest demand, with the aim of liquidating irrational and lengthy transport, and further -- of raising the level of formerly economically backward regions of the U.S.S.R.[3]

The Plan set up a program for the development of the municipal economy and the building industry of the country. These guides,

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[1] Sovetskoe Iskusstvo, No. 13 (1101), Moscow, March 27, 1947. Examples of formalism in architectural practice are the city center of Krasnodar where the architecture was designed in the style of Catherine II's epoch, and the Moscow Central Theater. The five-pointed star-shaped plan of the latter proved costly to construct and impractical to operate.

[2] Davidovich, V. G. op. cit., p. 30. Speech by V. M. Molotov before the XVIII Congress (March 10-21, 1939) on the development of the municipal economy during the Third Five-Year Plan. See also The Land of Socialism Today and Tomorrow, Moscow, Foreign Languages Publishing House, 1939. Report of the XVIII Congress of the All-Union Communist Party. This volume contains the full text of speeches, reports and resolutions, in English, of Party government, defense, industry, agriculture, municipal economy, city planning, and foreign affairs.

[3] Ibid., p. 24.

plus specific directives by the Party, have had an impact on the practice of city planning. The Soviet planners in particular were told:[1]

> (1) Definitely to break with tendencies to gigantomania in construction; to plan individual features (public squares, streets) in scale with the city; to establish norms for green spaces and landscaping requirements; and to set up standards for administrative and other public buildings.
>
> (2) To further develop express methods of construction[2] of multi-storey apartments and to establish typical designs for small-storey housing.
>
> (3) . . . To pay more attention to problems of economy . . . .[3]

With the application of these measures, the city planning process changed for the better. In the field of construction, instead of building separate structures at random in different areas of a city, during these years the planners began to concentrate on complete projects for streets, waterfronts, and residential and public buildings in accordance with a general plan for a given area. Thus, the new superblocks in the Avtovo region in Leningrad, and the reconstructed Mozhaisk Boulevard in Moscow built during 1939-40

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[1] Davidovich, V. G. op. cit., p. 30.

[2] In 1939 the first residential apartments and other buildings which were built by express methods appeared in Moscow and Leningrad. Later entire superblocks were built by this method, first in Leningrad and then in other large cities.

[3] An important warning to Soviet planners who had not been giving sufficient thought to lowering the cost of construction and municipal services.

were examples of well-integrated planning projects. Furthermore, the content of the compositional plans of these projects showed closer adherence to scale and to housing details -- higher architectural and esthetic quality than ever before developed in Soviet Russia.

Because of the prohibition of new industrial construction in large cities, medium- and-small-sized enterprises began to be distributed over various economic regions of the country. This resulted in the growth of a number of new medium-and-small-sized cities and the further penetration of urban settlements into outlying territories, especially the Urals and Siberia. The organized resettling of the Far East had begun during this period.

Upon the outbreak of World War II hundreds of engineers, architects and planners were moved to areas wherever the evacuated plants were being located in the eastern regions and Central Asis. While factories were being set up, temporary housing facilities were provided for the new workers.

The erection of permanent workers' settlements, towns and small cities followed[1] -- with children's institutions,

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[1] U.S.S.R. Information Bulletin, Vol. IX, No. 4, Washington, D. C., February 25, 1949, p. 140. Four hundred and seventy-five new small cities and towns have been built since 1940, chiefly on the Volga Steppe, in Western Siberia and in Central Asis. The movement of entire factories from west to east during World War II accounted for many of these.

communal kitchens, public baths, and other public service facilities. This development was realized entirely under express methods of construction, utilizing new standards and local materials.[1]

At the same time, in the western part of the country, city planning work did not altogether stop. Planners were preparing blueprints for the reconstruction of Leningrad, Smolensk, Kiev and other ruined cities. Reconstruction of Moscow continued, but only on the most important features, namely, the Moscow subway and the Saratov-Moscow gas pipeline.[2]

C. Summary of Transitional Phase (1931-1944)

Prior to June 1931 Soviet city planning was extraordinarily haphazard, socio-ideologically confused and technically experimental.[3] The "sanitary-hygienic norm" was

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[1] Aref'ev, A. Stroitel'stvo Zhilogo Gorogka Bliz g. Gur'eva (The Construction of a Town Near the City of Gur'ev), In Arkhitektura S.S.S.R., No. 11, Moscow, 1945, pp. 12-20. The town near the city of Gur'ev on the Ural River was built by express methods and entirely out of local materials. These included earthen slabs, gypsum blocks and clay-cane sheeting manufactured on the site. In other areas waste materials, such as ashes from the electric power stations were used for building.

[2] U.S.S.R. Information Bulletin, Vol. VII, No. 15, Washington, D. C., September 24, 1947, p. 29. The Saratov-Moscow gas line, started in 1942, was completed in 1946, providing the capital with 45 million cubic feet of natural gas daily.

[3] It was not until 1943 that a national body, the Committee on Architectural Affairs, came into existence to direct planning in various communities. (See CHAPTER VI)

the only principle that guided the development of urban centers and residential blocks.[1]

The June Plenum of the Central Committee was significant for three reasons: It denounced many radical ideas on urbanism and disurbanism; it set a limit to the spread of large cities (Moscow and Leningrad) by controlling the expansion of industries; and it directed the Moscow Soviet to prepare a general plan for the reconstruction of the national capital.

The Moscow Plan was Soviet Russia's biggest event in city planning in the mid-thirties. It established the profession on a firmer scientific basis and set up fundamental planning principles. Since 1935 any new urban development had proceeded only under the authority of a general plan.

The two outstanding characteristics of the general plan are its status as a judicial act and its integration into the overall national economic plan. The importance of the Moscow Plan was that out of it emerged the basic principles which thereafter became the rule for Soviet planners. It is to these principles that we now turn.

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[1]Mostakov, A. Puti Sovetskogo Gradostroitel'stva (The Directions of Soviet City Planning), in Sovetskoe Iskusstvo, No. 50 (1086), Moscow, December 13, 1947.

CHAPTER IV

BASIC PRINCIPLES OF CITY PLANNING IN SOVIET RUSSIA (1944)

The principles emerging out of the Moscow Plan were set down and later elaborated into a code[1] of which the following points appear as the more significant:

1. The Planner as a Servant of the People. Above all, the Soviet architect-planner considers it his fundamental duty to provide the city inhabitants with the best conditions for living, work, and rest.

2. Land-Use Plan. All component city elements are rationally distributed into zones for industry, commerce, residences, transportation, public and socio-cultural buildings, and open green spaces.

3. Superblock as a Basic Unit for the City Neighborhood. The residential superblock (kvartal) (FIGURE 11) should be the center of the social life of the urban dweller.[2] Here

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[1] Semenov, Vladimir. Member of the Academy of Architecture of the U.S.S.R. and Director of the City Planning Institute. Printsipy Sovetskogo Gradostroitel'stva (Principles of Soviet City Planning), Moscow, Vsesoiuznoe Obshchestvo Kul'turnoi Sviazi s Zagranitsei, 1945, pp. 3-6.

[2] In composition and concept it resembles the American and British "neighborhood unit."

individual living facilities are combined with services of a communal and neighborhood character. The superblock should be organically related to the surrounding blocks, streets and squares. Each superblock should contain various socio-cultural institutions -- nurseries, schools, a post office, restaurants, and shops. A group of superblocks makes up a residential district (mikroraion) (FIGURE 12) which is served by a district park, athletic fields, hospitals, baths, telephone station, and other public buildings.

4. A Program for Community Services. Consideration of optimum municipal service facilities goes beyond technical construction of water mains and sewage disposal units to include as well the entire complex connected with the satisfying of political, industrial, living, and esthetic demands.

5. Individual Approach to Each City. The Soviet planners have learned from bitter experience during the Initial Phase that they could not apply a standard pattern for every city; that each city must have her own individual appearance, her silhouette, her architecture. The differences of climate, topography, architectural style (that exist in different cities) are organically related to the historical past of each city, to the regional behavior of the inhabitants, to the geographic conditions and to economics.

6. The Regard for National Tradition in Architecture and City Planning. The Soviet planner aimed to utilize the best examples of the national heritage in architecture and city planning, at the same time combining them with the latest achievements of world architectural and city planning science. Thus:

> Architectural monuments of ancient Russian cities of Novgorod and Kiev, of Vladimir and Suzdal', architectural compositions of Moscow and Petersburg, on which worked many great Russian and non-Russian architects, such as Raetrelli, Bazhenov, Kazakov, Rossi, Zakharov and others, provide examples of the best tradition of Russian national architecture. The Soviet architect-planner's aim is not to reproduce mechanically ancient principles of planning (although this tendency is still prevalent in some quarters), but to give further development to the national city planning tradition in the light of the new demands and a new content of life of the contemporary Soviet city.[1]

7. The City as a "Living Organism". The underlying theme of every plan is that the city is planned as a single tectonic and social organism so that all the features are subordinated to a single comprehensive idea.[2]

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[1] Semonov, V. op. cit., p. 5.

[2] This concept is not new to the American planner. He has been advocating for many years the soundness of a comprehensive plan for land use as one of the most important mechanisms that coordinates and directs the development of the city's structure. So far, however, city planning in this country of laissez-faire policies and free private enterprise has been retarded by the difficulties that stem from the "basic problem of reconciling community responsibilities with the institution of private enterprise." (See Local Planning Administration, 2 ed., Chicago, International City Manager's Association, 1948, p. 14).

(continued)

In addition, certain principles, perhaps less fundamental but also important included: 8. the (stated) priority for housing[1] and favorable living accommodations over all other considerations; 9. the utilization of standard designs for residential projects, employing local building resources and industrial methods of construction; 10. the development of the city center as a political, administrative and social core of the city; 11. uniting the suburbs with the city, especially with the city center; 12. reflecting the principles of "socialist realism";[2] and 13. the principle of

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The Soviets appear to be more successful in carrying out the principle of the city as a living organism (Tvorchskie Oshibki Planirovshchika (Mistakes of the City Planner), in Sovetskoe Iskusstvo, Moscow, December 13, 1947.) now than before the war. On the other hand, the full realization of this problem is possible in the Soviet Union, because the government there is both the builder and the owner of all building resources.

[1]See discussion on housing in the Third or Reconstruction Phase, explaining their poor accomplishments in spite of policy.

[3]The Soviet planners frankly admitted they were confused as to the concreteness of the meaning of "socialist realism" in city planning. (See chapter "Criticism and Self-Criticism.) As late as 1948 several sources described certain aspects of it as "Utilizing the unlimited ideological wealth of a freed people and her culture. . . ." (Arkhitektura S.S.S.R., No. 17-18, Moscow, 1947, p. 5); representing the "best traditions of the national culture and the best progressive traditions of world culture"; (Ibid., p. 13) and "expressing material and spiritual needs of the people." (Arkhitektura i Stroitel'stvo, No. 4, Moscow, April, 1948, p. 12).

recognizing the value of criticism and self-criticism.[1]

By way of evaluation, these city planning principles provide for the Soviets a compact working guide to action. In contrast, in the United States:

> A number of so-called "principles of community planning" or "neighborhood design" . . . are too often expressed in such broad terms that their validity in a specific case depends almost entirely on the imagination and sound judgment of the person applying them. . . . What we get are not "standards of neighborhood design" but a statement of general objectives and a check list of items to be considered in the working out of a planning problem.[2]

Though Soviet principles strikingly resemble ours, the difference lies chiefly in the fact that in the United States these principles have largely remained buried in texts and trade journals. With few exceptions, beyond the stage of municipal organization planning is either lacking or ineffectual.

A second characteristic of Soviet planning principles is that they reflect changing trends and ideologies of the government and the Party. For example, out of World War II there emerged strong feelings of nationalism and utilization

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[1]In almost every professional and non-professional work dealing with city planning a section was devoted to "criticism and self-criticism." See for example, Chernyshev, S.E., Prof. op. cit.; Za Industrializatsiiu (For Industrialization), Organ of the Commissariat of Heavy Industry (renamed Industria), Moscow, June 14, 1937; Izvestiia, Organ of the Central Executive Committee of the U.S.S.R. and the All-Russian Central Executive Committee, Moscow, February 14, 1941.

[2]Adams, Frederick J. Technical Standards for Planning (Editorial), in Journal of the American Institute of Planners, Vol. XII, No. 1, Cambridge, Mass., Winter, 1947, p. 27.

of old Russian cultural themes. Now interest in the national heritage has received official sanction, and consequently has figured in city planning.

Finally, where planning and reconstruction are being done on a vast scale and where skilled technicians are still scarce, the Soviets are too pragmatic to allow possibly impracticable experiments by individual planners.[1] The code of principles applied over the country guides the novice and keeps the experienced planner working within the realm of feasibility.

The first Phase had developed some understanding of the content of a socialist city. Up to 1935 the Soviet planners were groping for basic techniques and a defined policy. The Moscow Plan supplied both the direction and the process, and was a dynamic force in the development of city planning as an art and science. The second Phase evolved the concepts of the general Plan and a code of principles. With this equipment the Soviet city planners undertook to reconstruct hundreds of cities during and after World War II.

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[1]Not to be confused with innovations of techniques which are officially encouraged. The Soviet professional bodies are most desirous of learning American and British practices and offer to exchange news of their own activities. See Soviet Architecture Chronicle, No. 6-7, Moscow, VOKS, June-July, 1944, pp. 29-31.

CHAPTER V

THE THIRD OR RECONSTRUCTION PHASE -- 1944-1949

The dominant feature of Soviet city planning in the Third Phase was the reconstruction of urban and rural centers laid waste during the war. Compared with reconstruction demands in other countries the Russian planners were confronted with the most complete destruction of cities and villages.[1] Rehabilitation work could not wait until the fighting ceased.

The war has undone much that had been accomplished by the first three Five-Year Plans, and the national economy was set back by a decade. However, the new Five-Year Plan (1946-1950) proposed not only to compensate for this loss but to surpass previous planning accomplishments. The government appealed to all Soviet planners, architects, engineers, and technicians to take an active part in the problems of reconstruction

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[1] Voronin, N. N. The Destruction of Old Russian Cities, in VOKS Bulletin, No. 3-4, Moscow, 1943, pp. 14-21. The German occupation forces fully or partially destroyed 1,710 cities and towns and more than 70,000 urban settlements and villages; burned or destroyed more than six million buildings and deprived 25 million people of shelter. The losses from direct destruction of Soviet property alone amounted to 679 billion rubles. (U.S.S.R. Information Bulletin, Vol. VII, No. 18, Washington, D. C., November 5, 1947, p. 23).

[2] Architectural Chronicle, No. 5, Moscow, VOKS, May, 1947, p. 1. On Victory Day at a mass meeting held at the Moscow Architects House, Stalin's appeal was read; a pledge was taken to dedicate themselves to the work of restoration and reconstruction of cities and villages.

A. Reconstruction Process

Actually, reconstruction is a resumption, with revisions based on war-time changes, of the planning process[1] commenced long before the war. Even during the early days of the war, members of the architectural-planning profession, who were not engaged in actual war work, were preparing general plans for the restoration of ruined cities. However, only a small part was accomplished.

As a general rule, the rebirth of ruined cities started as soon as the invading forces were driven out of an area.[2] The people, with the aid of the Red Army, cleared the debris, restored or laid out new roads and railroads; provided water and power; and built public bakeries and other living and communal facilities.

Prior to any civilian reconstruction, temporary barracks of the most primitive type were put up for construction workers (about four and a half square meters floor space per person), using natural, unprocessed local building materials. Then, along with the restoration of factories, schools, hospitals,

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[1] Even during restoration, planning principles were applied in the building of city features. (See CHAPTER VI.)

[2] Shchusev, A. V., Academician. Letter from Russia, in Architectual Forum, Vol. 81:5, New York, November, 1944, p. 198; Hersey, John. Report from Russia, in Architectural Forum, Vol. 81:4, New York, October, 1944, p. 77.

and health centers, simplified or transitory prefabricated wooden barracks were built; these barracks housed 300 persons (about six square meters of floor space per person). Absolutely necessary facilities were provided: communal kitchens, laundries, grocery stores, clubs, libraries, and kindergartens.

Then followed repair, improving of living standards,[1] and building of civilian permanent housing. Dwellings were built by the housing industry utilizing local materials processed into high quality plywood, panels, and plaster boards. Eight to nine square meters of floor space per person were provided. Reasonably adequate[2] community facilities were included with each housing project. Factories for production of building materials and prefabricated units were set up. The restoration and reconstruction of administrative and other public buildings forming the center of the city came next. In the rural areas, improvised huts of stabilized earth and of other immediately available local materials were the main makeshifts. But, while pushing these expedients, Soviet city planners simultaneously developed the long-range plan for overall reconstruction.

Thus, the restoration process followed a definite program of priority, according to a preconceived plan and

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[1] Ibid.

[2] Ibid.

included not only industrial and residential districts, city centers, and suburbs, but also public amenities and landscaping.

B. The Fourth Five-Year Plan (1946-1950).

The Fourth Five-Year Plan, more so than any previous plan, called specifically for raising the material standards of living by creating a vast building program. In the field of housing alone, 43.3 billion rubles will be invested in housing projects, about one-seventh of all investments. Nearly six million urban and rural dwelling units will be built.[1]

The greater stress on housing in the current building program points up the distressing need for dwelling space that exists in Soviet Russia today. This condition may be due to the cumulative effect of several deducible factors: an inadequate housing supply before the war, the loss of millions of houses during the war, the rapid growth in urban population, and the insufficiency of building materials and of skilled workers due to their absorption into essential industrial construction.

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[1] Voznessenskii, N. A. Report on the Fourth Five-Year Plan, U.S.S.R. Information Bulletin, Washington, D. C., April 1946. This sum almost trebles that provided for housing in the Third Five-Year Plan. Nearly 72.4 million square meters (about 800 million square feet) of State-owned and 12 million square meters (about 130 million square feet) or 14.2 percent of the total 84.4 million square meters, of privately owned dwellings will be built in cities, towns and workers' settlements. This amounts to a total of about 2.3 million urban dwelling units; in Soviet villages, 3.4 million houses will be built.

C. Characteristic Features of the Reconstruction Program

In order to carry out the vast task of the building program, the government realized the need for setting down directives for the planning profession to follow. These were implied in the Law of the Fourth Five-Year Plan and characterized to a large measure the nature of the work:[1]

1. Design and building activities are to be carried out in the immediate vicinity of the building site. This new attitude came as a result of the usual practice in the past when most of the plans for construction projects, whether for a new town or for a group of houses, were prepared by planning institutes or workshops in the central offices located in Moscow and Leningrad. Many such plans were drawn up without a study of local conditions, topography, climate, available building materials and the needs of the people of the area planned. The Russians have finally realized that in order to take advantage of the natural features of an area to be reconstructed or newly built up -- rivers, seashore, uneven topography and green masses -- good planning practice demands that the planner must be thoroughly familiar with the locality. In order to avoid any more "paper schemes" he is now directed to do

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[1] Architectural Chronicle, No. 5, op. cit., pp. 2-3.

his designing on the site in consultation with local planners and authorities.[1]

2. The urgency of the work and the speed with which it must be accomplished call for wide use of industrialized speed building methods. In the approach to the mechanization and speed of construction, technical improvement and a high quality of design and building were heavily stressed. The government called for not only speed but for economy, comfort and beauty. However, there are numerous instances where quality was sacrificed for quantity and time schedules.[2]

3. Planning should be standardized. Standardization of multi-story housing and of public buildings played an important part in speeding up the construction of superblocks and workers' settlements. Leningrad and other cities followed the Moscow examples. The prewar output of standardized housing and public buildings was negligible compared with the present construction tempo. Now, along with the introduction of new methods of prefabrication, the perfection of insulation and the use of new construction materials, the industrialization of the building industry has assumed the most important role in the reconstruction of cities and towns.

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[1] Arkhitektura i Stroitel'stvo, No. 4, Moscow, April 1948, p. 25.

[2] Literaturnaia Gazeta (Literary Newspaper), organ of the Administration of Soviet Writers of the U.S.S.R., Moscow, February 2, 1949.

Mass construction of housing during the first post-war years has achieved only modest results. In 1947, according to the ministries and the Committee on Architecture,[1] of the total housing construction only 25 percent of large scale housing was carried out according to standard designs.

Every effort is being made by means of standardization to increase the industrialization industry. In the first half of 1948 the amount of construction that was standardized rose to 60 percent.[2] But this was still 40 percent short of their goal. Even in the field of private building of individual houses, standard plans are used. In the Soviet East, for example, there were built 17,000 government approved standard type dwelling units.[3]

A new approach to the problem of typification of residential and public buildings has been developed in 1948, resulting in a series of standard plans. The organizational structure for planning, building, inspection and supervision has been further strengthened by a special decree of 1948, issued by the Council of Ministers of the Russian Federation

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[1] Arkhitektura i Stroitel'stvo, No. 4, Moscow, April, 1948, pp. 1-2.

[2] Rubanenko, B. R. Osnovnye Voprosy Bor'by za Kachestvo Zhilishchno-Crazhdanskogo Stroitel'stva (Basic Questions of the Fight for Quality of Residential-Public Construction), in Arkhitektura i Stroitel'stvo, No. 4, Moscow, April, 1948, p. 1.

(R.S.F.S.R.).[1] According to an order of the Committee on Architectural Affairs (Order No. 193, 1948),[2] all new housing construction must be built according to standardized designs.

The Academy of Architecture of the U.S.S.R. has prepared a series of standard designs for Multi-and-small-story residential construction, with technical specifications carefully worked out and improved process of building. These plans vary with the number of stones, the type of walling material and the standard of sanitary and other equipment provided. Types and variations in size of beams, partitions, windows, doors, stairs, plumbing, bends, and kitchen equipment, etc., are reduced to a minimum. The Committee on Architectural Affairs has approved 50 series of residential housing and 200 type projects for municipal buildings, educational institutions, clubs, etc., for mass circulation in 1948.[3] The series have been varied to take into account the differences in climate, living conditions, and peculiarities in the building industry in the five main regions: (1) Central R.S.F.S.R., Belorussia, Karelo-Finnish S.S.R. and the Baltic Republics; (2) Southern R.S.F.S.R. and the Ukraine; (3) the Urals and

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[1] Shkvarikov, V. op. cit., p. 3.

[2] Arkhitektura i Stroitel'stvo, No. 8, Moscow, August 1948, p. 2.

[3] Ibid., p. 1.

Siberia; (4) the Central Asian Republics; and (5) Trans-Caucasia.[1]

4. Most of the new housing is to be comprised of one-and-two-story dwellings. Contrasted with prewar years when multi-story apartments were pretty much the rule, there is now a definite trend towards one-and-two-story construction and a growing demand for individual houses with gardens. In the totally destroyed city of Istra, the new plan calls for only eight percent of two-and-three-story apartments to be located in the center, while one-and-two-story houses will occupy 45 percent and individual construction 47 percent of the total.[2] In the cities of Central Asia, all new housing will be of one-and-two-story dwellings.[3]

As a general rule, postwar housing, which constitutes 40 percent of all municipal building, is divided into two classes:[4] apartments up to six stories, located in central districts of cities and along principal thoroughfares, will comprise 25-30 percent of the total; and individual houses

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[1] Ibid.

[2] Shchusev, A. V. Proekt Vosstanovleniia Goroda Istry (Reconstruction Project of the City of Istra), Moscow, Izd-vo Akademii Arkhitektury S.S.S.R., 1946, p. 20.

[3] Arkhitektura i Stroitel'stvo, No. 8, Moscow, August 1948, p. 3.

[4] Poliakov, N. Kh., Ed. op. cit., p. 112.

of one-and two-stories, distributed in the outskirts and in workers' settlements about one-third of the total. The trend is now definitely toward one-and two-story houses. Although during the prewar years the multi-story apartment was popular, the present trend is more in keeping with the traditional Russian urban structure.[1] Before the Revolution, nine-tenths of all houses were one story high; even in 1936 more than 70 percent of all urban dwelling units were in one- or two-story houses.[2]

The basic type is the one- or two-story multiple dwelling apartment containing the following types of units:[3]

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[1] Ibid. A 1937 survey of the existing housing found in Soviet cities (except Moscow and Leningrad), revealed the distribution of the total housing by the number of stories not very different from that found in American cities.

Distribution of Houses According to Number of Stories

	In Thousand sq. m.	One	Two	Three	Four	Five and Higher
Cities of the R.S.F.S.R. (except Moscow and Leningrad)	124,277.3	56%	21.4%	5.5%	6.5%	10.5%
Moscow and Leningrad	30,810.3	8.5%	23.6%	11.5%	17.2%	39.2%

In the United States, of all housing built in large cities in 1942, 83.8 percent were of single-dwellings one- and two-story type, 5.3 percent of two- and three-dwelling one to three-story type, and 10.9 percent of multi-dwelling (more than three units) three- and higher-story type.

[2] Ibid.

[3] Rubanenko, R. R. op. cit., p. 2.

a two-room (not including dining-kitchen, bath, halls, etc.) dwelling unit of 24-32 square meters (260 to 350 square feet) and three-room dwelling unit of 33 to 45 square meters (360 to 490 square feet). Two-room dwelling units to be not less than 50 percent. Single-room and four-room dwelling units are also planned, but not included in these projects.

In contrast to prewar practice, it is admitted that the number and the size of the rooms have been reduced. Previous practice was based on the sanitary norm of 9 square meters (98 square feet) of housing space per person and of four, five, and six persons per family. However, as the available space was way below the requirements, most dwelling units were occupied by two and three families. Now the problem is faced more realistically. On the basis of 6 square meters of living space (about 64 square feet) per capita, the dwelling units are designed for small families, which is in preponderance in Soviet urban areas.[1]

An important place in the housing construction is taken by single story duplexes with individual garden plots found on the periphery of large cities, and forms the basic type for all small settlements. The size of the plot for each family does not exceed 600 to 800 square meters (about 6,000 to 8,000 square feet) in the city, and up to 1,500 square meters (about

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[1]Poliakov, N. Kh., Ed. op. cit., p. 47.

16,000 square feet) in the country. The density does not exceed eight dwelling units per hectare, and the building coverage is from 5 to 20 percent.[1]

5. Individual home building should be encouraged. Many Russians are building their own houses as part of the reconstruction program. The government authorized the Central Municipal Bank of the U.S.S.R. to grant loans of up to 10,000 rubles to enable people to build houses for themselves.[2]

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[1] Rubanenko, B. R. op. cit., pp. 1-3; Shass, Iu. Sovetskii Zhiloi Dom (The Soviet Dwelling House) in Arkhitektura i Stroitel'stvo, No. 11, Moscow, November, 1948, pp. 11-19.

[2] Alekseev, T. D. op. cit., p. 69. Law of the Economic Council of the Council of Ministers of the U.S.S.R. of April 26, 1939. Collected Laws U.S.S.R. 1939, No. 28, Art. 188. A recent decree of the Presidium of the Council of Ministers of the U.S.S.R. of August 26, 1948, clarified the legislation regulating the right of citizens to buy and build individual houses in accordance with Section 10 of the U.S.S.R. Constitution. This act stated that every U.S.S.R. citizen has the right to buy or build for himself in personal ownership a house of one or two stories with a number of rooms from one to five inclusive in a city as well as outside the city, and that land lots, for the erection of individual houses, shall be assigned for use without a time limit and houses erected on these lots shall be in personal ownership of the tenants. The decree stipulates definite restrictions on the size of the lots: in cities from 300 to 600 square meters; outside of cities, from 700 to 1,200 square meters. The individual house owner must pay a rent for the use of the land and must abide by the rules and regulation of the general plan for the rebuilding of cities, suburbs and settlements in areas suitable for this purpose. He must build according to approved standard designs and must provide a sidewalk within the lot, landscape the grounds and maintain the property in good order (Izvestiia, Moscow, August 31, 1948). Evidently, a building tenancy still is less attractive for a Soviet citizen than private ownership. The strict limitations under the new law as to the size of lots, the maximum number of rooms and maintenance are subjected to strict control by the local authorities without any recourse to court.

In the same decree the government instructed the local Soviets to provide the home builders with plots of land for their houses, to help them obtain building materials and issue technical advice. Small houses built by the state will be sold to occupants on a ten-year credit basis.[1] Each individual may do the actual construction with the assistance of specialists such as bricklayers or stone fitters who will be provided by his factory or organization, or he may pay to have some or all of the work done.

The Committee on Architectural Affairs issued a number of standard designs for individual dwellings. These designs take into consideration the climatic conditions of different regions and the various types of building materials available. With the aid of loans issued by branches of the Municipal Bank alone, over 70,000 houses were built in 1947.[2] Large numbers of individual houses are being built in big industrial areas in the Eastern part of the U.S.S.R. About 40 percent of those receiving state aid are ex-servicemen.[3]

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[1]There are several types of loans. Loans are granted through enterprise or other government body in which the prospective house builder is employed. Each enterprise receives from its Ministry yearly allocations of money out of which loans are granted to individual home builders. Another type of loan has become common in 1947. Industrial enterprises receive from the Municipal Bank loans for individual house building, erect these dwellings themselves, and then sell them to their employees.

[2]Soviet News, London, January 16, 1948.

[3]Ibid.

6. Planning and construction should be economical. Various means are tried to reduce expenditures in the preparation of plans and in the construction of buildings. The Academy of Architecture and the Ministry of Municipal Economy has issued several text books for planners, architects and builders[1] in which they stressed the problem of economics. Various institutes are conducting research on new inexpensive building materials and labor saving devices. But thus far, it has been an uphill fight. Many building organizations in the attempt race for quantity in order to fulfill the required control figures are neglecting both quality and economics.[2]

7. Liveability and human scale should be emphasized in planning. The emphasis is now definitely on liveability instead of on false monumentality frequently to be observed in prewar architecture. Prewar architects often designed an apartment house with the monumental forms suitable for a large public edifice. The same tall structures built in the Renaissance or Baroque styles appeared in big cities and in little towns, with no regard for the differences in their natural, climatic and other local conditions. Another defect of previous planning

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[1]Davidovich, V. G. op. cit.; Levchenko, Ia. P. Planirovka Gorodov; Tekhniko-Ekonomicheskie Pokazateli i Raschety (The Planning of Cities; Technical-Economic Indices and Considerations), Moscow, Izd-vo. Akademii Arkhitektury S.S.S.R., 1947.

[2]Litetarnaia Gazeta, op. cit.

practice was the inability of the planner to have the "feel of the city" as an integral living organism. He did not subordinate the planning of the individual parts of the city to the composition as a whole.

Now, planning is more geared in scale with human needs -- more comfortable interiors of housing, intimate interior courts combined with greenery, more practical dimensions of streets, squares and public parks. Attention is now directed towards the esthetic appearance of city and of such "imperceptible" forms of street furniture as the edges of sidewalks, street lamps and boulevard enclosures.

8. Artistic heritage and national tradition are to be preserved. The war has caused an increased interest in the national heritage. But the stated policy is not to copy blindly nor to disregard traditional national architecture but to supplement it with modern improved forms.[1] In reconstructing old cities the Soviet planner is told to keep in mind the "great innovation of modern times and the memory of the great past." In rebuilding the almost completely destroyed Sevastopol', the ancient city must "live again in the new Sevastopol' not only

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[1]The architecture in an oil workers' settlement near the city of Gur'ev, built in 1943, reflects the indigenous Kazakh tradition; the planning was based on modern principles. On a large scale, when the city of Erevan in Armenian S.S.R. was reconstructed along the latest planning practices the national flavor was deliberately preserved.

in special memorial structures and monuments but also in the very character of the city landscape."[1] Special research has been conducted by the Academy of Architecture, investigating even plans of Russian individual cities (Kerch), in order to learn how these centers were formed and apply this data in plans for reconstruction.

9. Improvement in communal services of cities is concomitant with the housing and city planning program. The Russian word blagoustroistvo has become synonymous with planning and construction; it means providing communal services to the people. By communal services is implied not only the supply of water, electricity, gas, sewage disposal and public transportation, but also the concern for the welfare of the people and favorable living conditions. The extent of blagoustroistvo applied depends on the importance of the project, the interest of the authority in charge and the competency of planning and building control agencies. A recent inspection of reconstructed cities in the R.S.F.S.R. by the Administration of Architectural Affairs[2] disclosed that, while in such cities

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[1]Arkin, D., Prof. The Art of City Building, in Soviet Architecture Chronicle, No. 11, Moscow, VOKS, November 1944, p. 11.

[2]Shkvarikov, V. Bor'ba za Kachestvo Stroitel'stva i Zadachi Organov po Delam Arkhitektury (The Fight for Quality of Construction and Problems of Architectural Organs), in Arkhitektura i Stroitel'stvo, No. 10, Moscow, October 1949, p. 2.

as Rostov-on-Don, Voronezh, and Briansk communal services and landscaping were amply provided, there were many cities where entire new housing projects were let before even the fundamental public services were built or other amenities provided.

10. The construction of each project is determined by priority. The effectuation of general plans follows a definite program of priority. The first period of construction is scheduled for completion within two to five years, while the remainder of the construction program is included in the prospective period of from 15 to 20 years. The character of the program depends on the capital budget of the Five-Year Plan for housing, communal services and public utilities. The scope of the new housing construction is based on the prospective economic development of the city, the corresponding growth of population and the future housing facilities and communal services. Since the economic development of a city depends on the national economic plan and on its own economic potential, each city has its individual stages of development.[1]

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[1]Davidovich, V. G. op. cit., p. 257. For example, for a given city of a 100 thousand people and a housing supply of 500 thousand square meters of floor area, the following program of priorities for building is set up, with estimates of population, housing requirements and norms for the first and prospective stages:

Stages of Construction	No. Population	Housing Norms sq. m./pers.	Housing Supply in sq. m.	Coef. of Growth of Housing	Necessary New Housing in sq. m.
Existing Conditions	100,000	5	500,000	1	
First Stage	120,000	6	720,000	1.44	250,000
Prospective Stage	200,000	9	1,800,000	3.60#	1,475,000#

#Including Construction in the First Stage.

The general plan, besides showing a detailed construction program for the general areas (industry, housing, etc.) of the first stage, must indicate the progressive planned development of separate elements of the city (a city center, socio-cultural building, transport, etc.).

11. Residential areas are zoned for building. The classification of residential areas into building zones, depending on the type of construction, kind of building materials used and density of population, has assumed an important aspect of post-war city planning in the U.S.S.R. Thus, starting with the center, where only multi-story stone or brick structures are built and ending with the single-story frame, garden type of housing, practically each reconstructed city assumes the same kind of skyline.[1]

The system of construction by zones has many adherents among Soviet planners. At first sight such a method of zoning is entirely logical, but the Soviets have already found that

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[1] Davidovich, V. G. op. cit., p. 226. For a city of 100,000 people the residential areas would usually consist of the following building zones (depending, of course, on the site and significance of the city, local building materials, etc.): (1) Zone of four-story stone construction; (2) Zone of three-story stone construction; (3) Zone of two-story stone construction, without individual plots; (4) Zone of one-and two-story frame construction (multiple dwelling units with individual plots, 300 to 400 square meters per dwelling unit); and (5) Zone of one-story frame garden-type construction (single and duplexes, with individual plots of 400 to 1,000 meters per dwelling unit).

it is inelastic and difficult to execute in practice. Thus, it appears to them highly impractical to construct all buildings in the central area of a city, whether on side streets or main thoroughfares of the same height. In particular instances, low blocks in central areas would improve the composition of the center. For instance, if a plan called for the construction of eight- to ten-story apartments on the main Moscow Street in Gor'kii, then it does not follow that in the neighboring Briusovskii Way, the same type of construction should be built. It is evident that the architecture on unimportant streets, ways and culs-de-sacs should be more modest than the architecture on principal streets, they argue.[1] Much of what they say is true. The Soviet planners who criticize this system recognize zoning as a useful element of city planning, but call for a more rational and flexible approach to the organization and content of individual zoned areas. However, the Soviets approach this problem from the purely architectural viewpoint. Third dimension and skyline are not of primary concern. The plan of a city and the location and distribution of the elements depend more on the physical and social needs of the

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[1]Mostakov, A. O Nekotorykh Shtampakh i Zastroike Gorodov (Some Characteristics in the Building of Cities), in Sovetskoe Iskusstvo, Moscow, July 24, 1948.

people and on the areas serving them than on form, shape and esthetics; though important, they should be considered after others have been satisfied. Two reasons claimed why the outskirts of cities are being built up at the expense of centers is the high cost of construction and the lack of the type of building materials necessary for multi-story structures.[1]

12. City centers are to be constructed first. The city centers receive special emphasis in programming priority stages of effectuation of a general plan.[2] As an administrative, political and social core of the city the center has assumed even greater importance now than before the war.

The characteristic center in reconstructed cities has a large square designed to provide a large open space for movements of parading troops and for throngs of people on holidays and important occasions. Secondly, the center serves as a setting for principal public buildings and monuments. The architecture of the city center is grandiose, severe and monumental and dominates all other construction of the city.

13. Rural areas are to be reconstructed and developed. The present capital reconstruction program in the countryside

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[1] Ibid.

[2] Shkvarikov, V. op. cit., p. 2. The government decree of August 22, 1945 placed the reconstruction of city centers on top of the preference list.

is being carried out according to approved architectural plans. Indeed, the planner has become as important a personage in the Soviet village today as the doctor or the teacher. A large number of villages are now being rebuilt according to standard architectural projects prepared by government planning workshops under the auspices of the Committee on Architectural Affairs.[1] All plans must be approved by the villagers before they are put into effect. In many instances where villagers rejected a standard type design, individual projects were drawn up at the request of rural Soviets and collective farm boards. These included war-wrecked villages as well as rural areas in the central, eastern and southeastern regions of the country untouched by the war. In any case, the general village plans provide modern improvements in both housing and public utilities. Paved streets, water supply, electricity, radio and greenery are essential features of the new villages (FIGURES 14-18).

According to the plan for the reconstructed village of Nekrasovo in the Kalinin region[2] (FIGURE 19) the village

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[1] Arkhitektura i Planirovka Kolkhoznogo Sela (Architecture and Planning of the Kolkhoz Village), in Arkhitektura i Stroitel'stvo, No. 7, Moscow, 1949, p. 1. Most of the planning work for standard village designs, houses, clubs, and farm buildings were finished by the end of 1947.

[2] Selo Nekrasovo (The Village of Nekrasovo), in Arkhitektura S.S.S.R., No. 14, Moscow, 1947, p. 21.

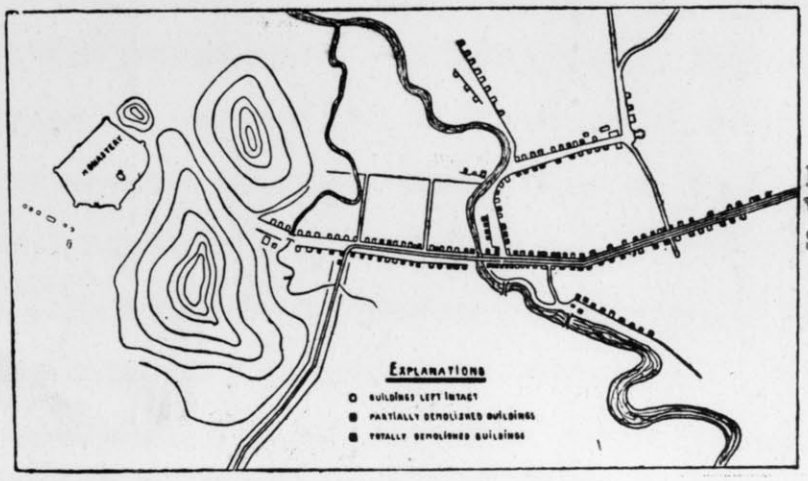
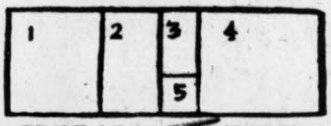


FIGURE 14.
PLAN OF COLLECTIVE VILLAGE, TERIAEVA SLOBODA, circa 1940

FIGURE 16.
SCHEMATIC SKETCH OF OLD FARMHOUSE PLAN, TERIAEVA



SLOBODA, PREWAR
1)Living quarters 2)Hallway 3)Storage 4)Barn 5)Entrance Foyer

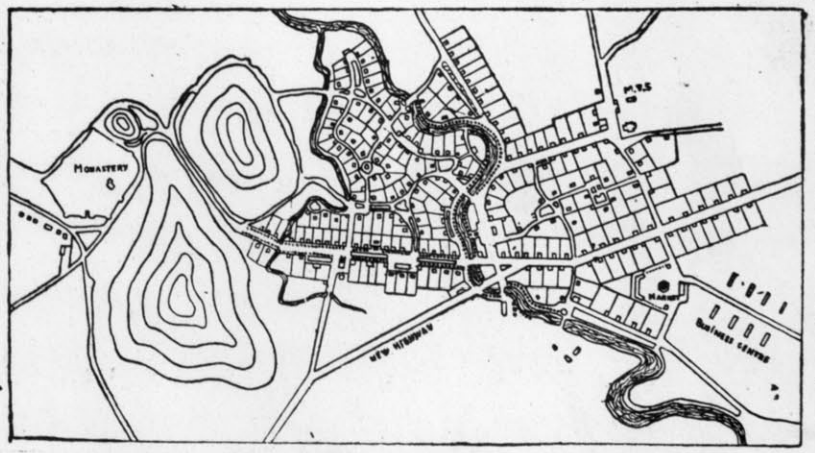
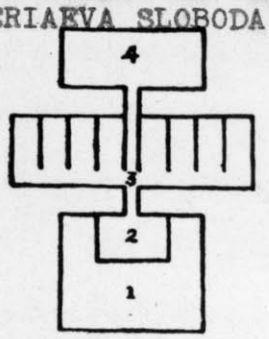


FIGURE 15. PLAN OF RESTORATION, TERIAEVA SLOBODA, circa 1943
L. Rudnev, Architect

FIGURE 17.
SCHEMATIC SKETCH OF NEW FARMHOUSE PLAN, TERIAEVA SLOBODA,



POSTWAR
1)Living quarters 2)Kitchen 3)Animals 4)Compost

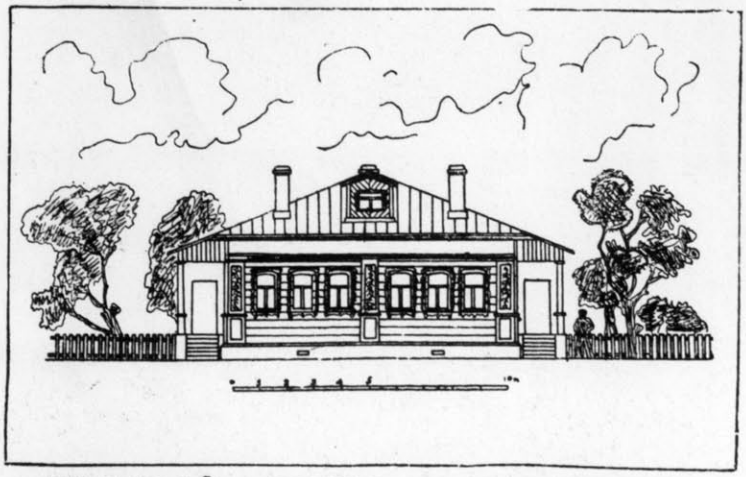


FIGURE 18. ELEVATION OF FARMER'S HOUSE, TERIAEVA SLOBODA, circa 1943

*Arkhitektura S.S.S.R., No. 2, Moscow, 1943.

was laid out on one side of the highway which formerly cut through the center. An arch and a roadside inn to serve motorists was built at the entrance of the village. The main street leads to a central square on which the village Soviet, club, post office and savings bank, department store, medical aid station and kindergarten are located. Other public buildings were distributed closer to the center of their service areas: the collective farm administrative office near the agricultural fields. A hotel was located on the main road and a seven-grade school house was placed nearer to the houses. Running radically out from the square are streets of farmers' houses -- two, three, or four-room brick cottages, 50 in all, with gardens, vegetable plots, sheds and barns (FIGURES 20, 21). The barns and stables, warehouses, garages and repair shops were located at the end of the village where the fields and meadows begin. The plan calls for a park and sports field, a large collective farm fruit orchard and a power station. This was a model plan, prepared by the Institute of City Planning of the Academy of Architecture of the U.S.S.R., and special effort and expense was put in to show what form the future Soviet collective village should take and serve as an example to the development of other collective farms.

On the other hand, many plans for reconstructed villages prepared by other agencies have been criticized for failing to understand the basic principles of the design of this model

Arkhitektura S.S.S.R., No. 14, Moscow, 1947.

FIGURE 19. PERSPECTIVE VIEW OF VILLAGE CENTER, NEKRASOVO, KALININ REGION, 1946

Experimental Project for a Model Collective Village prepared by the Institute of City Planning of the Academy of Architecture of the U.S.S.R. under the direction of V. N. Semenov, V. S. Riazanov, Architect.

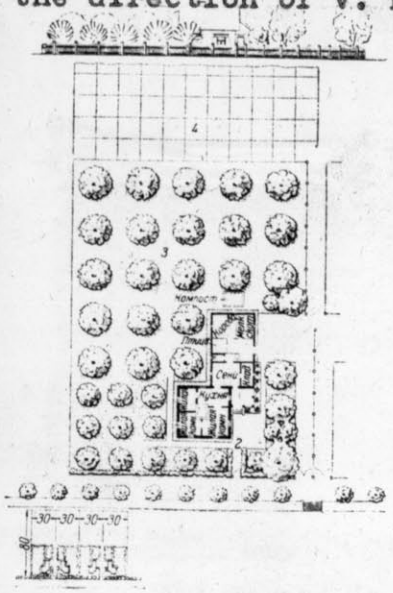


FIGURE 20. PLOT PLAN
Individual farmstead

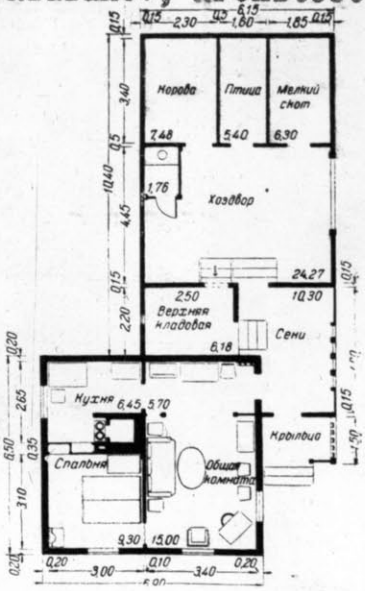


FIGURE 21. DETAILED PLAN
Kolkhoznik's house, barns and service yard

village. While rural housing construction has increased considerably within the last year, planned reconstruction of villages has been generally slow.[1] A great deal depends on the collective farms themselves, since they provide funds and the labor for housing and reconstruction. Practically all rural housing is built either by individuals with the aid of the collective farm organization, or by the farm for the individual, with payments spread over many years. Traditional house building techniques are used. Frequently lack of hardware and other building materials forces recourse to improvised substitutes and native building ingenuity.

14. City reconstruction plans may be typed. Among several types of postwar city building in the U.S.S.R., the following can be differentiated: (1). Cities, not destroyed by the war, in which the prewar plans are carried out usually with minor modifications -- Moscow. (2). Damaged cities, whose plans for reconstruction were prepared during the war and based on previous plans -- Leningrad. (3). Ruined cities, in which plans were prepared after hostilities ceased and were based on the idea of preserving the historical value of the city and subordinating the plan to it -- Pskov. (4). Obliterated cities, whose plans were prepared after the war in which some

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[1] Arkhitektura i Planivovka Kolkhoznogo Sela, op. cit., p. 2.

great local battle is commemorated along with vast reconstruction of industry -- Stalingrad.

In Moscow (FIGURE 10), except for greater emphasis on two-story house construction, the 1935 Plan has been used without noticeable modifications. Because of the predominantly westerly winds, factories are gradually being moved to the east to keep smoke as far away from the center as possible. Extension of the city was taking place chiefly in the southwest and northwest, with the southwest being devoted mostly to large-scale cottage developments and parks.[1]

In Leningrad (FIGURE 22), a comprehensive plan of reconstruction, based on a 1935 plan, was prepared during the war which recognized the basic principles of Soviet city planning developed in the Moscow Plan. This city is to include broad avenues and many large new squares and parks. Outstanding features of the plan involved:[2] (1), equalizing the density of the population by organizing large superblocks of five- and six-story apartments facing main streets with open public green areas for parks and playgrounds in the center of each; (2), removing harmful industries to the city's outskirts;

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[1]The park system was being extended to include six forest parks, 15 city parks, 20 sport-parks, 40 residential district parks and 80 children's parks.

[2]Baranov, N. V. op. cit., pp. 67-84. In redeveloping the center of the city, the planners admit that the new plan strongly reflects the plans of Paris and Washington.

Baranov. Leningrad, Leningrad, 1943.

FIGURE 22. GENERAL PLAN FOR THE RECONSTRUCTION OF LENINGRAD, 1943
N. V. Baranov, Architect in Charge

(3), building a subway; (4), reconstruction of the canal system; and (5) improving communal and public services. Some parts of the city will have a central heating system within the first five-years' construction program, while the long-range plan proposed the eventual extension of the system for the entire city.

In Pskov (FIGURE 24), as in Rostov-on-Don and Novgorod, the plan of the 18th century city, famous for historical monuments, was carefully preserved. The old diagonal routes fanning out from the Kremlin were incorporated in the new street network, while the monotonous gridiron pattern was to be improved by enlarging the blocks, eliminating unnecessary streets and introducing additional squares along the main arteries; the banks of the River Pskov are being reclaimed for a central park. The architecture of this city will be subordinated to the historic monuments and will consist mainly of two- and three-story buildings, with occasional four-story structures in areas removed from the monuments. Industrial enterprises (the power station, cordage factory and tanning yards), which formerly occupied residential districts, were proposed to be relocated to a special industrial zone in the northern part of the city. The center of Pskov will be greatly enlarged, improved and landscaped. The perspective view of the new center (FIGURE 23), typical of many other Russian old or new centers, appears huge, and bare. It is only during holidays

Arkhitektura S.S.S.R., No. 13, Moscow, 1946.

FIGURE 23. PERSPECTIVE VIEW OF THE CENTRAL SQUARE, PSKOV, 1946

Arkhitektura S.S.S.R., No. 13, Moscow, 1946.

FIGURE 24. GENERAL PLAN FOR THE RECONSTRUCTION OF PSKOV, 1946
N. Baranov and A. Naumov, Architects.

and on special occasions that the city center becomes alive with people and parading throngs.

In reviewing the plans and text of proposed designs for such cities as Pskov, Novgorod, Kalinin and others, the author gets the impression that in some cases the Soviet planners are designing cities as museums in which to reestablish and preserve the old Russian heritage and not as places in which to live. They speak of monuments, streets and squares, parks and buildings and hardly mention the people who are going to occupy them. Very little is being discussed on the composition and the needs of the inhabitants, their social and economic problems, their preferences and dislikes. One gets the impression that city planning in Soviet Russia at least in this instance is approached from the purely architectural-engineering viewpoint and not from a city planner's concept as we know it in America. The socialogist plays an insignificant role, if any, in this picture.

The principal aims of the general plan for the reconstruction of Stalingrad (FIGURE 26) were (1) to reestablish the city as a great industrial center; (2) to express the historic and national significance -- the defense of Stalingrad -- in monumental forms; and (3) to correct defects in the formerly existing city. The only physical features the new plan had to adhere to were the foundations of buildings and the undamaged underground system of public services, which in a measure affected the future street pattern.

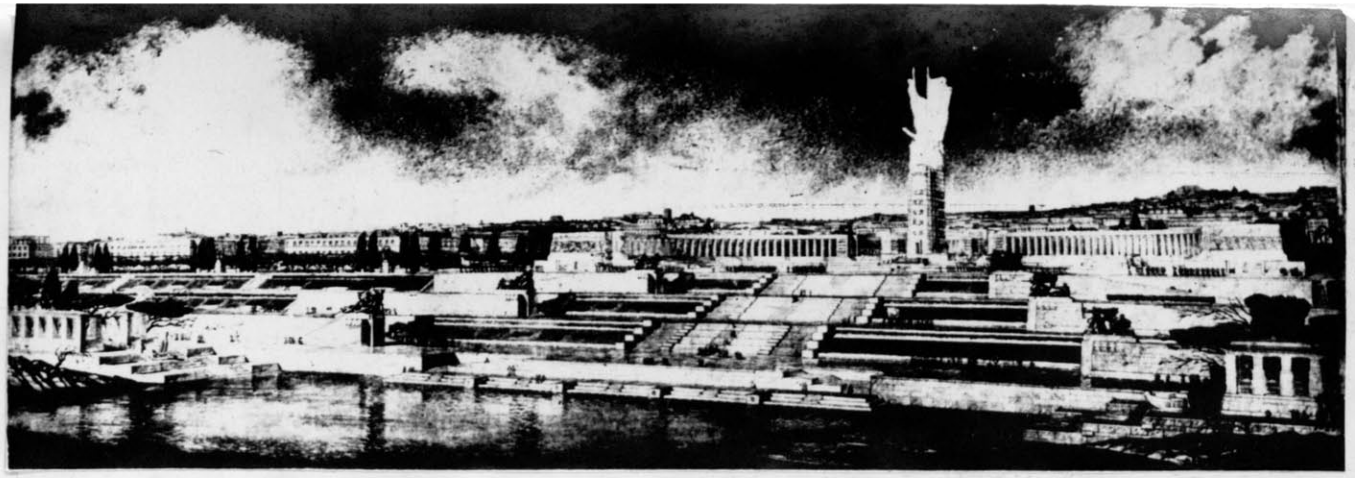


FIGURE 25. PERSPECTIVE VIEW OF CENTER, STALINGRAD, 194 Showing Monument to the Defenders of Stalingrad (as of 1944)
Academician B. M. Iofan, Architect

Courtesy Sovfoto, N. Y.

Davidovich. Planirovka Gorodov, Moscow-Leningrad, 1947

FIGURE 26. SCHEMATIC PLAN FOR THE RECONSTRUCTION OF STALINGRAD, 1944

Academicians K. S. Alabian, A. V. Shchusev, N. Kh. Poliakov, D. M. Sobolev, A. A. Dzherzhkovich, A. E. Pozharskii, Architects; V. A. Butiagin, Engineer.

Former Stalingrad had been laid out in the early 1930's on a gridiron street pattern unrelated to existing topography. It consisted of a number of separate industrial communities strung out over a length of 40 miles on the slopes which descend from the plateau to the banks of the Volga River. The city was cut off from the water by a freight railway line and a conglomeration of industries and warehouses. Numerous railroad tracks intersected the city.

The new plan proposed to clear the water front of all encroachments and develop the entire river bank as parks. Each industrial settlement is to have the character of a small or medium-sized town, with a central square on the top of the plateau. Principal circulation routes are to skirt these communities. Three major thoroughfares will run through the entire length of the city paralleling the river. The first will directly connect the industries with the main railroad station through the waterfront park. The middle one, running on a higher terrace, will connect the residential districts with the city center. The third, or upper one, will serve as a peripheral express highway. These three longitudinal arteries will be intersected by major crosstown streets.

In the central section of the city, the middle artery assumes the character of the main street with public buildings and squares. It is crossed at right angles by a 300 foot wide boulevard leading from the Volga embankment up to the main

square of the city which is crowned by a huge memorial (FIGURE 25). The plan proposed that all freight lines bypass the city, that freight stations be separated from passenger stations and that the railway lines run through the city via tunnels.

A green belt will surround the land side of the city and a large city park will be developed in the ravine which cuts the city in half. All gullies and ravines are to be landscaped and left as park land. Residential districts (FIGURE 27) will have controlled building heights, mostly two-story high, with some three- to five-story apartments in the center and a few higher buildings along the waterfront.

This project embraced the latest Soviet principles and primary elements of an ideal Soviet city as visualized by the government and the planners.

15. Certain cities and projects are planned for specialized functions. Planning of areas for specialized purposes goes on. The city of Istra, near Moscow (FIGURE 28), for example, was completely replanned after the war as a garden city and resort place for the capital. The location of a workers' settlement near Gur'ev (FIGURE 29) was chosen in order to provide housing for labor at a new oil plant. A well-organized community was created in an almost uninhabitable area because industry so demanded. Settlements beyond the Arctic Circle were likewise built, utilizing local building materials.

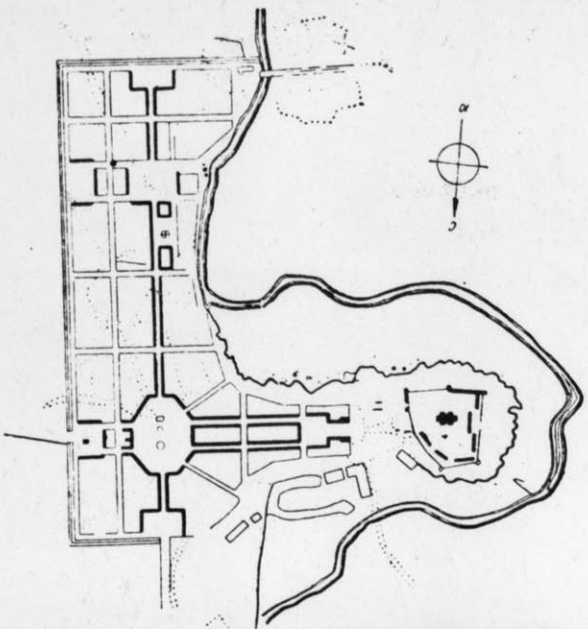
Courtesy Sovfoto, N. Y.

FIGURE 27. A PROJECT PLAN FOR A RESIDENTIAL DISTRICT, STALINGRAD, 1944
I. S. Sobolev, Architect

This microraion includes a group of six superblocks surrounded by two major streets and a district park. Besides one- and two-story cottages, the residential district includes the following public buildings: three kindergartens, three nurseries, a school, a restaurant, a clinic, a bath and a water supply station. The building coverage is from 18 to 25 percent.

Shchusev. Proekt Vosstanovleniia Goroda Istry, Moscow, 1946.

FIGURE 28. GENERAL PLAN FOR THE RECONSTRUCTION OF A GARDEN CITY, ISTRA, 1946
Academician A. V. Shchusev, Architect-Planner



Shchusev. Proekt Vosstanovleniia Goroda Istry, Moscow, 1946.

FIGURE 29. PLAN OF ISTRA (formerly Voskresensk), 1787

Arkhitektura S.S.S.R., No. 11, Moscow, 1945.

FIGURE 30. AN OIL WORKERS' SETTLEMENT NEAR GUR'EV, KAZAKH S.S.R., BUILT IN 1943

I. M. Romanovskii, A. V. Aref'ev, Architects.

No information has been found in the planning of prisoner camps and army contonements.

D. Accomplishments and Shortcomings

Achievements in housing during the first three years of the new plan were modest, although considerable progress already had been made. In the Russian Federated Republic alone, during the years from 1941 to 1945, about one million dwelling units were built, of which 400,000, evenly divided between apartments and single family houses, were in cities.[1] In the liberated areas, over one million dwelling units were restored or built by the spring of 1946.[2] By the end of the same year, housing construction for the country as a whole doubled the 1945 figure, while repairs increased by 50 percent.[3] Housing construction has been lagging behind schedule. The professional press lays the blame for poor results not only in the quantity of output but also in the quality of construction on the Ministries and the large industrial enterprises which are the basic builders of large cities and industrial centers of the country.[4] From the total proposed housing

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[1] Rubanenko, B. R. op. cit., p. 1.

[2] Blumenfeld, Hans. op. cit., p. 27.

[3] Rubanenko, B. R. op. cit., p. 2.

[4] Za Vysokuiu Kul'turu Zhilishchno-Grazhdanskogo Stroitel'stva (For High Quality of Residential-Public Construction) (Editorial), in Arkhitektura i Stroitel'stvo, No. 5, Moscow, May 1948, p. 2. The Karaganda coal trust was claimed to have failed to provide public facilities and municipal services to her newly built apartment houses. Magnitogoresk has only fulfilled 50 percent of her housing construction program by the end of 1947. (Ibid., p. 3).

program of 72.4 million square meters of dwelling area the ministries and enterprises must for the period of the Fourth Five-Year Plan build and put into use 65 million square meters, or 89.8 percent.[1] Some ministries, such as the Ministry of Oil Production in the East and the Ministry of Aviation have not only failed to fulfill their plans in housing output but have not even come up to pre-war levels.[2]

What are the basic reasons for the poor successes in housing construction? Rubanenko, Deputy President of the Committee on Architectural Affairs, in an editorial in the official organ, advanced the following reasons:

> First, low quality of architectural work, an unrealistic approach of the architects to problems of construction and lack of building control by organs of the Committee and local soviets. Second, undervalued city planning demands and a negligence in supplying public facilities to housing projects. Third, low technical level of the building organizations, especially, in the spheres of industrialization and mechanization, as well as a lack of qualified building brigades. Finally, the lag in production of building materials and the inefficiency of the building industry.[3]

In rural areas, on the other hand, reconstruction has been more rapid; in the regions and districts of the R.S.F.S.R. alone about one million houses, 300,000 farm buildings, more

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[1] Rubanenko, B. R. op. cit., p. 2.

[2] Ibid.

[3] Ibid.

than 2,000 socio-cultural institutions and clubs, 8,000 public baths, and 260 brick factories were reconstructed or built by the end of 1947.[1] During the same period, in Belorussia, 8,000 villages were reconstructed, containing 330,000 houses, 6,000 public buildings and 30,000 industrial structures. For the first nine months of 1948, again in the R.S.F.S.R., 80,000 houses, 66,000 agricultural buildings and 8,000 socio-cultural structures were put up. At the same time, 1,000 collective village enterprises producing local building materials were opened. In villages, over 20,000 construction brigades were operating.

The greater building activity in the countryside than in urban areas appears to be due to some of the following reasons: To begin with, until now the rural areas had been neglected. While only about 15 percent of urban housing is individually constructed, most of the rural housing is built by individual farmers. The villagers are supplied with free lumber, building materials and long-term loans.[2] The city dweller, on the other hand, who wants to build his own house does not receive as much inducement. Although he is guaranteed by law the necessary building materials, he must invest

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[1] Arkhitektura i Planirovka Kolkhoznogo Sela (The Architecture and Planning of the Kolkhoz Village), in Arkhitektura i Stroitel'stvo, No. 7, Moscow, July 1948, p. 1.

[2] Ibid.

a minimum of 30 percent of the total cost of the building, and the government building loan carries only a seven-year amortization period.[1]

In architecture there persists the tendencies to formalistic planning, over-facadism, unnecessary embelishments and gigantomania. Low quality of production, it is claimed,[2] is due first to low quality of architectural plans and poor control by state architectural organs and local Soviets; second, to disregard of some city planning principles.

Along with the restoration and construction of residential houses and public buildings, work is now going on the preparation of general plans for the reconstruction of 300 ruined cities.[3] By a special government decision, fifteen large cities were to take precedence in the reconstruction plan over all others in the country.[4] From 1945 to 1948, plans for 200 citi have been completed, the Council of Minister of R.S.F.S.R. approved general plans for the reconstruction of 30 large industrail cities. By the end of 1949, general plans for 40 more large cities are scheduled for approval by local and central

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[1]Alekseev, T. D. op. cit., pp. 39-40.

[2]Literaturnaia Gazeta, op. cit.

[3]Bunin, A. op. cit., p. 53.

[4]Ibid., These are: Stalingrad, Rostov-on-Don, Novgorod, Pskov, Smolensk, Voronezh, Kalinin, Novorossiisk, Sevastopol', Kursk, Orel, Velikie Luki, Murmansk and Viaz'ma.

authorities, among them Gor'kii, Kuibyshev, Molotov, Sverdlovsk, and others.[1] In cities of greatest industrial building activity, where general plans have already been approved, detailed plans were worked out for the first stage of construction of industry, residences and public buildings. In at least 65 such cities, construction of new enterprises, housing projects, entire residential districts and workers' settlements followed approved detailed plans.

E. Inspection Commission on City Planning in R.S.F.S.R.

The Administration of Architectural Affairs of the Russian Republic (R.S.F.S.R.) made an inspection of planning and building activities in the eastern regions of the Republic at the end of 1948. The results of this investigation, published in the official planning and building journal,[2] throw some interesting sidelights on the general nature of activities in the field of planning and reconstruction. There was evidence of high quality work going on as well as of incompetency. There is no reason to doubt that the findings of the Inspection Commission were underplayed; knowing the Russian characteristic of self-criticism, they were perhaps

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[1] Shkvarikov, V. op. cit., p. 1.

[2] Shkvarikov, V. Bor'ba za Kachestvo Stroitel'stva i Zadachi Organov po Delam Arkhitektury (The Fight for Quality of Construction and Problems of Architectural Organs), op. cit., pp. 2-4.

hypercritical of shortcomings which they uncovered and ruthless in their castigation of individual planners, building trusts and even the very leaders of the powerful Committee on Architectural Affairs whom they hold responsible. The findings of the Inspection Commission are summarized below:

1. Most planning projects that were studied by the Commission had lacked a practical approach to the problems being solved. For instance there was evidence of lack of scale -- a characteristic prevalent in the planning practice of the late twenties and early thirties: extra wide streets and oversized squares and public buildings for the purpose they were supposed to serve. In Novorossiisk the main residential street of a newly built residential district of two-story construction and an eighteen percent building coverage was 60 meters wide -- entirely out of proportion to its use, they claimed.

2. The authors of some plans repeated the mistakes of the First Phase. They ignored the historically formed characteristics of the cities, their economic base, topography and other important factors.

3. Many chief city architects have not carried out their duties properly, having especially failed to prepare detailed plans for the first stage of construction. This was especially true in all the cities of the Kamerovsk region. As a result there was a great deal of building activity going on not according to the general plan.

4. Very little has actually been accomplished in the removal of industries from the residential districts where the general plans specified this for reconstructed cities. On the other hand, in Cheliabinsk, one large plant has been taken out of the residential area, and in Stalingrad, the inspection party found no instances of reconstruction of factories formerly located among residences.

5. In a number of reconstructed cities -- Stalingrad, Sevastopol', Smolensk, Sverdlovsk, Novgorod and others -- construction was going on according to the general plan. Residential blocks that once occupied one and two hectares were being increased to five and six hectares. A better distribution of housing and city circulation was possible with the larger type of superblock. Housing projects were landscaped and fully supplied with communal services and public utilities.

6. In spite of a general government decree to concentrate the first stage of construction in the central zone of cities,[1] many reconstructed cities continued to neglect this law and the building industries of the various ministries and industrial enterprises, which are the basic builders of cities, have continued to build settlements on the periphery. As a result, a number of cities appeared as conglomerates of scattered

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[1]Decree of the Council of People's Ministers of the U.S.S.R. of August 22, 1945.

settlements, lacking public utilities and landscaping; the centers remained untouched. In Nizhnii Tagil, Sverdlovsk, Kaluga, Omsk and Novosibirsk, where considerable construction is going on, there was not a single fully completed superblock or major thoroughfare.

7. Another major shortcoming was found in such towns as Korkino and Kopeisk in the Cheliabinsk region. Here the newly built residential districts of one- and two-story houses lacked such socio-cultural institutions as schools, kindergartens and nurseries, public baths, restaurants, and laundries. This great disproportion of residential to public buildings was especially noticeable in areas of individual dwelling construction.

8. The reconstruction of Stalingrad was not proceeding according to schedule. The general plan for the reconstruction of the heroic city was prepared by the best talent in the country, and the approved plan was hailed in Russia and abroad as a model of modern city planning. The Soviet government and the people have been following the development of this plan. Yet, the present phase of its fulfillment, both quantitatively and qualitatively fell short of expectation.[1] Many building trusts ignored or tried to "improve on" the plan. The

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[1]In at least three issues of the Arkhitektura i Stroitel'stvo, the planning profession has criticized the poor quality and slow rate of construction activities in Stalingrad.

inspection commission blames not only the chief architect of Stalingrad for his laxity in control, but the Committee on Architectural Affairs for its lack of interest in seeing that their representatives -- the chief city architect and the building inspectors -- carry out their duties.

9. Although the number of planning specialists has increased by five times since 1944, there was still a dearth of personnel qualified to direct, supervise and control the reconstruction process.

10. The Soviets realized that the quality of city planning work depends to a large degree on the work of the basic architectural offices, planning organizations, architectural commissions that approve the plans and state architectural-building control departments that supervise construction. Much of the planning work was hampered by the multiplicity of planning organizations. Early in 1948, the Council of Ministers of the R.S.F.S.R. issued a decree "On the taking of measures for the improvement of work of the planning organizations."[1] This decree automatically liquidated hundreds of republican and local small organizations and prohibited specialized organizations and project-estimating bureaus from preparing plans for residential and public building construction. However, by October of the same year, this commission

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[1] Shkvarikov, V. op. cit., p. 3.

reported that in the Russian Federation, 140 planning organizations under the Administration of Architectural Affairs and Ministry of Communal Economy and hundreds of planning organizations under the union ministries and enterprises were still operating. The commission asked if it was necessary to have so many local planning organizations. Why, for instance, does the city of Rostov-on-Don need 26 planning organizations, Sverdlovsk -- 23, and Krasnodar -- 15?

F. Summary of the Reconstruction Phase

The Third Phase of Soviet city planning concentrated on the restoration of numerous cities and thousands of villages destroyed during World War II. The reconstruction process, begun as soon as invading forces were driven out of an area, is a resumption of the planning process established during the Initial Phase and continued even during the war period.

General plans have been prepared for the rebuilding of 300 cities; most of these plans were approved by the government. In at least 65 cities reconstruction proceeds according to planned projects. The first stages for rehabilitation in the general plans of many cities have been effectuated.

Typical post war city plans follow the generally accepted principles of Soviet city planning developed in the Moscow Plan in 1935: separation of the area into industrial, residential and commercial districts, with a strongly developed

city center; the central zone of the city has groupings of four- and five-story buildings with construction leveling off gradually to the periphery; and orientation of the city to the natural features such as utilizing lake and river fronts for public purposes.

The reconstruction process implements the Fourth Five-Year Plan which is marked by increased industrialization; this is manifested in the mechanization of the building industry, especially in the use of express methods of construction and in new techniques such as prefabrication. Research was advanced in mass construction techniques, labor saving devices, and use of new types of building materials.

Inadequate production of building materials and of construction due to continued poor organization of the building industry, besides other factors, contributed to the low quality and quantity of housing. Achievements in urban housing during the first three years of the new Plan were modest; one- and two-story housing was stressed.

Rural housing construction has proceeded more rapidly although little actual work was done in the rebuilding of entire villages according to prepared plans. Reconstruction and new planning have been concentrated in urban areas.

There has developed a more realistic approach to the preparation of planning projects. For instance, instead of designing plans in central offices hundreds of miles from the

building sites, the planning brigades have been sent to the areas being planned in order to study local conditions and consult with local (planning) authorities. The concept of planning as an integrated tool of administration, involving coordination of projects with a carefully conceived capital budget program, has become accepted.

Greater consideration of liveability and human scale has been taken more into account.

The war increased the interest in national culture and artistic heritage and influenced the reconstruction of old cities (Novgorod, Pskov).

A commission of inspection of city planning progress in R.S.F.S.R. in 1948 was the first complete government-initiated investigation on the activities of the profession. It disclosed significant points, good and bad: in a number of reconstructed cities restoration was going on according to the general plan; in a number of others, building activities had been carried on contrary to established laws and planning principles.

Plans for workers' settlements, superblocks, collective villages, and housing and public buildings projects including individual house construction, schools and hospitals were standardized. Planning rules and building norms were developed. The working out of communal services as part of the city planning program was further improved.

Training facilities for new technicians, architects and planners were expanded. However, though competent people have produced excellent examples of city planning practice,[1] there were still lacking qualified technicians and planning directors in large numbers. The inexperience of a chief city architect often causes failure or delay. Still evidenced was failure of administration to adhere to general plans in the effectuation process.

The Third Phase saw the organization of the planning structure and process take definite form.

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[1] Shchusev at Istra, Alabian at Stalingrad, Baranov at Leningrad and Ginzburg at Sevastopol'.

CHAPTER VI

PLANNING STRUCTURE AND PROCESS

The reader ought not to assume that Soviet city planning process is being followed exactly as here described. Deviations occur in actual practice, especially in an organization frought with ever changing ministries and agencies and wherein personalities are involved. However, the general line being followed is discernible.

Soviet practices are backed up by a vast legislative framework on housing, city planning and municipal economy. Attention has been focused on these items, but to present this information in detail would require considerable extension of this paper. (See BIBLIOGRAPHY.)

A. Structure

The administrative structure of city planning, like other governing branches in Soviet Russia, has assumed a pyramidal form. At first it was multiferous and highly disorganized. With the maturing of city planning as a science and the creation of the Committee on Architectural Affairs, the structure has been centralized. At the top is the Central Executive Committee of the All-Union Communist Party of the U.S.S.R. which sets the ideological pattern and watches developments. The

base of the planning pyramid is formed by numerous planning, architectural, and housing organs. Every trust, enterprise, and cooperative has its planning or housing department, bureau or committee; there is a planning agency in every republic, region, district and city Soviet.

1. The State Planning Commission -- Gosplan.[1] The State Planning Commission (Gosplan) (See CHARTS 1 and 2), created in February 1921, is the highest expert central planning body. It has its roots in every region, city, government authority, trust, cooperative, and state and collective farm throughout the U.S.S.R. It is guided by directives which it receives from the Central Executive Committee of the All-Union Communist Party and the Party Congress, which are formally approved by the Council of People's Ministers of the U.S.S.R., the highest executive, administrative and legislative power of the Union Republics.

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[1]For a detailed description of general planning and structure of the State Planning Commissions, see Baykov, Alexander. op. cit.

The State Planning Commission under the Council of People's Commissars of the U.S.S.R. (as approved on April 13, 1940), contains in its multi-departmental structure a Department of Housing and Municipal Services with three sections: Section of Municipal Services, Section of Housing, and Section of City Planning. The State Planning Commission attached to the Council of People's Commissars of the R.S.F.S.R. has a Department of Municipal and Housing Economy with a Section of Housing and Administration and a branch of City Planning.

CHART 1. STRUCTURE OF THE STATE ARCHITECTURAL PLANNING ORGANIZATIONS OF THE U.S.S.R.

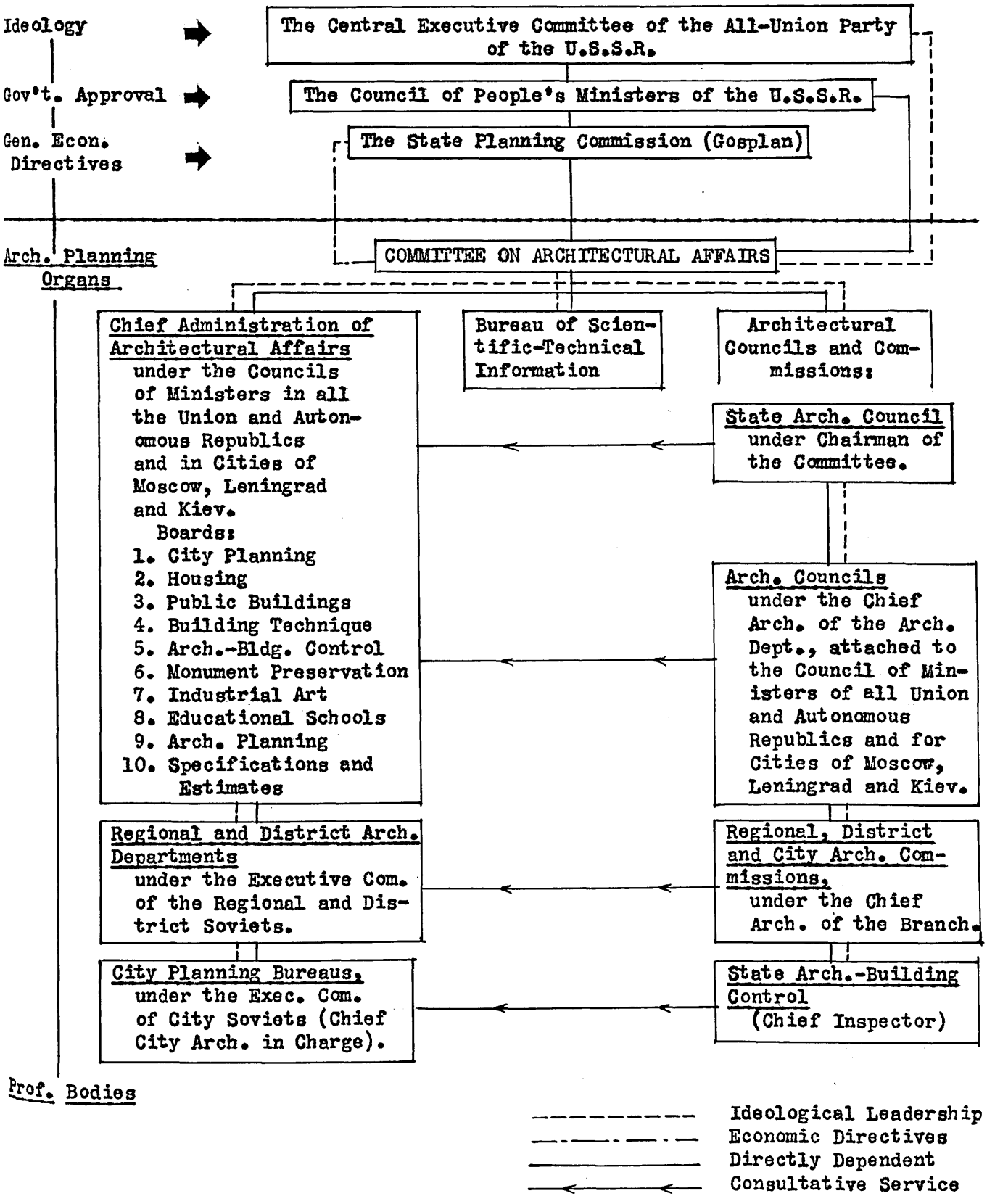
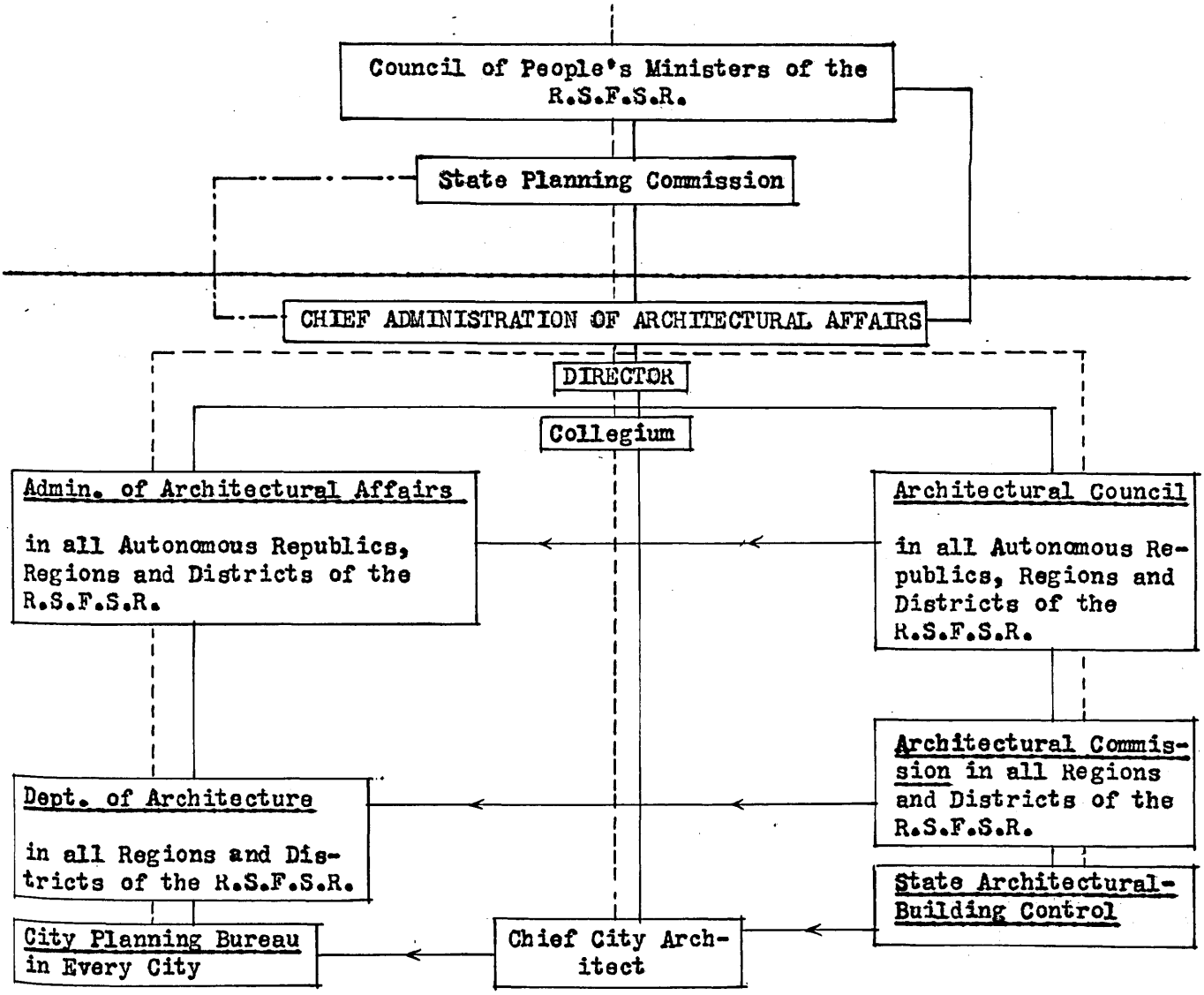


CHART 2. STRUCTURE OF THE DEPARTMENT OF ARCHITECTURE OF THE R.S.F.S.R.



On these directives Gosplan works out a general control plan to coordinate the entire industrial and cultural activity of the Union toward the carrying out of a long-term program of industrialization and socialization, its Five-Year, Annual, and Quarterly Plans. It draws up plans for the various interrelated sections of economic life such as building industry, transport, housing and city planning, which are broken down on a territorial basis. Its "annual control figures," after receiving the approval of the all-powerful Political Bureau of the Communist Party and the formal approval of the Council of People's Ministers, become the goal for all Soviet enterprises. The Gosplan does not concern itself with details, methods, or administration; it has no executive functions.

The general planning directives of Gosplan are carried out by the various Ministries, the Glavks, which are planning coordinating units below the Ministries,[1] the combines and the trusts. These in turn have their subordinate planning departments. In this way each branch of industry and combine has its own plan, which of course is more detailed than the general plans developed by Gosplan.

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[1] A new Ministry for Municipal and Housing Construction was set up in 1946 to take charge of all building work in the R.S.F.S.R.

> In preparing the estimates for the housing construction which is required during each year, the Ministries, down to the individual large plants, district cooperatives and municipalities, are guided by the general economic directives issued by the government through Gosplan. After considering the general principles upon which the year's economy will be based, they submit their estimates to individual departments of Gosplan which in turn correlate the information and make general estimates of housing requirements for the whole country. On the basis of the figures submitted by Gosplan, the Council of Labor and Defense determine the size of budget appropriation to be devoted to the development of the various branches of the Soviet economy, including housing. They make allocations, or set limits, which are passed back until, eventually, they reach the bottom of the pyramid -- trusts, combines, individual plants, district housing cooperatives, and municipalities. Detailed plans of construction are prepared by these local organizations within the limits set by the Council of Ministers and are passed up again to the higher echelons until they reach the Gosplan which coordinates them and submits the general plan thus achieved to the Council of Ministers for final approval. When approved the plans finally pass downward again to the individual organizations which then proceed to put them into execution.[1]

2. The Committee on Architectural Affairs. State management of architectural and city planning work in the U.S.S.R. is effected by a special department, the Committee on Architectural Affairs,[2] directly responsible to the Council of People's

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[1]Parkins, Maurice F. Reconstruction in U.S.S.R. -- Housing and City Planning, 1948, pp. 13-14. (unpublished paper)

[2]CHART 2 of the administrative and consultative organs dealing with architecture and planning in the R.S.F.S.R. shows a similar set-up to CHART 1 for the Committee on Architectural Affairs, except that instead of a Bureau of Information there is a Collegium which acts as an advisory body, assisting the Director in administrative matters.

Ministers of the U.S.S.R. This committee, created by a Federal decree of September 30, 1943,[1] has its local bodies of Administration and Consultation. Under its administrative organs are included the Chief Administration of Architectural Affairs under the Council of Ministers of all the union and autonomous republics and in cities of Moscow, Leningrad and Kiev, Regional and District Architectural Departments under the Executive Committee of the regional and district Soviets; and City Planning Bureaus attached to the city Soviets. In its consultative councils and commissions are included the State Architectural Council, Republican Architectural Councils, Regional and District Architectural Commissions and the State Architectural-Building Control.

The Committee's main province being the planning and restoration of cities and other populated places, and include the following main functions:

(1) Supervises, coordinates and controls the activities of the various organizations and institutions in the field of architecture and city planning;

(2) Approves project plans and constructions;

(3) Exercises government architectural control over the more important projects for new structures and city planning practices;

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[1]Davidovich, V. G. op. cit., p. 32.

(4) Develops and approves norms and standards for socio-economic physical planning of cities;

(5) Prepares for approval by the Council of People's Ministers of the U.S.S.R.:

a. Project rules and measures for city planning practices and for mass construction of housing and public buildings,

b. Project planning and construction of large cities and capital projects;

(6) Has jurisdiction over the preservation of architectural monuments.

Through its consultative councils and commissions and representatives, it advises local architectural authorities on all planning and construction activities. Without the Committee's approval no building can go into construction in the central districts of large cities, regional centers or the capitals of the constituent republics.

a. Administrative Units.

Through various boards and project design offices the Committee embraces the entire range of problems under its authority. Their names and functions follow:

(1) Board of Planning and Construction of Towns and Settlements works out measures for coordinating activities in this field, organizes important projects, exercises control over work in progress;

(2) Board of Housing and Board of Public Buildings are vested with the same functions in their respective fields; in addition they conduct experimental construction and arrange competitions;

(3) Board of Building Techniques is concerned with the introduction of new materials and building methods in housing and public practice; this board also is in charge of experimental construction, as well as the development of standards jointly with other boards;

(4) Board of Architectural-Building Control (Gosarkhstroikontrol') keeps a check on the quality of building in towns and other populated places, housing and civic construction;

(5) Board of Monument Preservation has charge of the registration, protection, and restoration of architectural monuments, paintings, sculpture, and decorative art connected with such monuments;

(6) Board of Industrial Arts deals with all problems concerning the manufacture of furnishings and equipment for housing and public buildings, also supervising experimental workshops of the industrial arts is under the Committee's jurisdiction;

(7) Board of Educational Schools directs the activities of all the Committee's organizations engaged in training architects, experts in the applied arts, specialists, technicians, etc.; this board is also commissioned to supervise the compiling

of manuals and educational aids on architecture and the industrial arts;

(8) Board of Architectural Planning directs the work of architectural project-planning organizations irrespective of the department to which such organizations are subordinated and deals with all questions relating to labor and remuneration of architects; and

(9) Board of Specifications and Estimates prepares standards for building specifications.

b. Consultative and Supervisory Units.

(1) State Architectural Council under the auspices of the Chairman of the Committee on Architecture; this consultative body considers projects for large cities, type-plans for mass construction, multiple housing, public buildings and other structures;

(2) Republic Architectural Council under the Chief Architect of the Architectural Department, attached to the Council of Ministers of All-Union and autonomous republics and for cities of Moscow, Leningrad and Kiev; the duties of these councils are similar to that of the architectural Council;

(3) Regional, District and City Architectural Commission under the Chief Architect of the respective branch;

(4) Bureau of Scientific-Technical Information The jurisdiction of this bureau includes everything connected with inventions and experiments in the building field;

(5) State Architectural-Building Control (Gosarkhstroi-proekt), headed by a city planner, an architect or a building engineer, represents the State in the field; the duties of this department include supervision, inspection and approval of plans of local organs; checking specifications, quality of work and completion of projects.

c. The Chief City Architect.

He has become an important person in the organizational framework of Soviet city planning. His is a relatively new position whose duties were established by a federal decree in 1944.[1] His functions are closely watched by the Committee; his successes praised and his failures publicly castigated. The principal duties of the Chief City Architect include:[2] (a) Review, criticism and approval of all general plans and projects prepared by central and local planning agencies for the city or territory under his jurisdiction. The Chief City Architect's Office is the local branch of the Committee on Architecture; (b) Preparation and control of necessary

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[1]Aleckseev, T. D. op. cit., p. 33. The position of Chief City Architect was created at the same time the Committee on Architecture was organized (1943), but his duties were not formulated till a year later -- in a special decree.

[2]Evtikhiev, I. I., Vlasov, V. A. Administrativnoe Pravo S.S.S.R. (Administrative Law of the U.S.S.R.), Moscow, Iuridicheskoe Izdatel'stvo Ministerstva Iustitsii S.S.S.R., 1946, pp. 358-359.

administrative machinery for programming stages of priority for effecturation of planning projects. This is his chief government concern and responsibility. In programming the first stage of construction, the Chief City Architect assigns the preparation of details and working drawings to different architectural and engineering brigades, coordinates their activities and supervises construction; (3) Holds accountable all offices and organizations who delay the schedule of construction.

d. Collegium.

(Under Chief Administration of Architectural Affairs, R.S.F.S.R.) holds regular meetings, reviews questions of supervision and checks planning and building accomplishments; selects "brigades," checks accounts of heads of different planning branches, as well as decrees and instructions. Its decisions are in forms of edicts of a Ministry.

3. Professional Planning Bodies. Prior to the Committee, various professional bodies were founded during the early period of city planning: the Academy of Architecture of the U.S.S.R. (1933), the Academy of Municipal Economy of the R.S.F.S.R., an administrative technical institute for city architects, special architectural and city planning institutes, located in large cities, and the Union of Soviet Architects.[1]

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[1]The Union's first active conference took place in Leningrad in 1935.

These organizations through their various institutes and laboratories further developed the art and science of architecture, city planning and building.

The Republican Governments have their own Planning Institutes: Giprogor in Moscow, for the R.S.F.S.R.; Giprograd in Khar'kov (later Kiev), for the Ukraine; and Belprogor in Minsk, for Belorussia. Regional Planning Offices Oblprogory were founded in the leading Soviet cities.[1]

In 1939, Architectural Boards were set up under the Ministry of Communal Economy[2] with departments and project offices under each regional and city Soviet,[3] dealing with planning and construction of municipal services, public utilities and landscaping.

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[1]The Moscow Regional Office, Mosoblproekt, for example, prepares plans for cities, towns and rural settlements for the Moscow region.

[2]In the union republics, under regional Soviets, there are departments of Municipal Economy which are in charge of planning projects, building organizations, supervision of construction work and the management of the housing and municipal economy. The regional and district departments of municipal economy supervise and control this work in cities through the city department.

The basic local organs of municipal economy is the city Department of Municipal Economy (Gorkomkhoz) -- a branch of the city Soviet. The duties of this department include: physical planning, geodetic work, land subdivision, supervision of local housing, construction, reconstruction and use of municipal facilities and enterprises; landscaping and municipal services.

[3]Alekseev, T. D. op. cit., p. 30.

The planning of housing projects, public buildings and industrial structures is carried out by many Central Planning Institutes, Gosstroiproekt and other project organizations, which can be classified in three groups:

1. Project Offices of the local or regional Soviets, which plan all kinds of dwellings and public buildings of local importance;

2. Project Offices of the People's Ministries, which plan specific types of areas and buildings required by the corresponding Glavks and industrial combines of the ministries;[1]

3. Project Offices directly under the Committee on Architectural Affairs, which develop standard plans for housing and public buildings including prefabricated housing units. They also work on plans for the more important cities.

The scope of activities for all these planning organizations was clearly defined on the basis of requirements

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[1]For example, the project office of the Department of Machine Tools plans factories and related building for the machine tool industry; the project office of the Department of Trade plans department stores, and warehouses; the project office of the Department of Education plans schools, kindergartens and institutes; the project office of the Department of Health plans hospitals, sanatoria and health centers. The Ministry of Building Industry has the largest Project Office, Gorstroiproekt, with central offices, republican, district and provincial branches, and charged with the planning of workers' settlements in connection with new enterprises. Another institution of this kind is Sel'khozproekt, the Agricultural Building Department, under the Ministry of Agriculture, engaged in the planning of collective farms (kolkhozy) state farms (sovkhozy), and machine tractor stations (M.T.S.). Standard projects worked out by these offices must be approved by the Committee on Architectural Affairs.

and control figures provided by the State Planning Commission and by special legislation. Thus, Giprogor plans for cities up to a million population, while Gorstroiproekt for 50,000 to half a million.

4. Research Organization. Along with the training of architects and planners goes the special study of building. Of the research organizations, the most important is the Academy of Architecture of the U.S.S.R., composed of the following institutes:

(1) Institute of Mass Construction (housing, schools);

(2) Institute of Public Building (theaters, movie houses, sports stadia);

(3) Institute of City Planning;

(4) Institute of Building Technique (new construction methods, prefabrication, new materials), and

(5) Institute of Theory and History of Architecture.

Research on the planning of industrial buildings is done by the Central Research Institute of Industrial Construction, which specializes in the technical problems of factories and mines. The Academy of Municipal Economy, under the Ministry of Municipal Economy, deals with sewage, water supply, city transport and sanitation.

B. Process and Project Planning

1. Reconstruction. The rebuilding of cities destroyed during World War II and the redevelopment of existing cities were both determined by the economic plan formulated by the State Planning Commission of the U.S.S.R. (Gosplan) and the State Planning Commission of the Soviet Republics. On the eve of the war, Gosplan had projected a Fifteen-Year Plan for the construction of new cities and the reconstruction of old ones. Before all hostilities ceased Gosplan was working out a Master Plan of Reconstruction[1] for the entire country as well as for individual areas, including industrial cities, transportation centers and health resorts. Problems concerning the reconstruction of the Donets coal basin, with all its cities, villages, mines and transport facilities, had been discussed by government officials and experts before this region was liberated from the Germans in August, 1943.[2] Existing planning and building laws and regulations were examined in relation to the needs of reconstruction and new rules and standards were prepared.[3] To provide state supervision of

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[1] Architects' Committee, National Council of American-Soviet Friendship, Inc. News Bulletin No. 7. New York, November 20, 1944, p. 1.

[2] Ibid.

[3] The Academy of Architecture of the U.S.S.R. issued two volumes in 1944: Rules and Standards for the Planning of Populated Places and Rules and Standards for Housing Design. Izdatel'stvo Akademii Arkhitektury S.S.S.R.

architectural and planning work of the reconstruction process the Council of People's Ministers established the Committee on Architectural Affairs (see above). Plans for areas not affected by the war were also projected but at a lower priority. Most of the cities to be reconstructed now have the necessary general plans worked out.

The process for reconstruction of a city starts with a survey of the area to determine the extent and character of the destruction. A socio-economic plan (planirovaniia) showing perspectives of the economic development of the city and of the number of inhabitants is submitted for examination of the State Planning Commission. The physical plan (planirovka) is then prepared on the basis of the approved socio-economic plan.

The original city plan of the city is studied and if it has some historical or practical significance is usually retained. Also foundations of important ruined buildings and underground utilities left intact are considered in the new scheme and often dictate for economic reasons the arrangement of the street pattern.[1]

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[1] Komitet po Delam Arkhitectury pri Sovete Ministrov S.S.S.R. Sbornik Postanovlenii, Prikazov i Instruktsii po Voprosam Planirovki Naselennykh Mest i Arkhitekturnogo Proektirovaniia (Collection of Decrees, Edicts, and Instructions on Questions of Planning Settled Areas and Architectural Physical Planning), Moscow, Gosudarstvennoe Arkhitekturnoe Izdatel'stvo, 1948, p. 48. Decree of the Council of Ministers of the R.S.F.S.R., No. 488, of August 9, 1945, "On the Planning of Cities and Settlements of the R.S.F.S.R."

2. The General Plan. The general plan is set usually for fifteen years but detailed plans of the first stage of construction include the period from two to five years. The first stage of construction is considered the most urgent and is worked out in accord with the Five-Year Plan for the development of the national economy of the U.S.S.R. and of the particular region in which the plans are prepared.

In the content of the general plan for the reconstruction of an existing or the construction of a new city or settlement belong the following documents for approval:

a. basic drawings of the general plan;

b. supporting material regulating construction and land use of the territory;

c. plan of the region in which the territory is located;

d. plan of building zones; and

e. basic conditions of the general plan.

3. The Client. The client is usually a ministry, a city soviet, an industrial trust, or an agricultural development authority. The form of agreement drawn up between the client and the planning authority specifies the work to be done (type and scale of drawings), the costs (all determined by decrees), the amount of help from outside consultants, the amount of research and planning to be covered in the investigation, and the inspection of the work in process.

As a general rule, plans for most cities and villages are worked out by two special state project offices: the State Planning Institute (Giprogor), and the Project Office for Cities and Industrial Settlements (Gorstroiproekt). However, because of the urgency of the reconstruction program, special planning workshops and "project brigades" directly under the Committee on Architectural Affairs were formed for the largest cities. These workshops and groups are headed by members of the Academy of Architecture.[1]

4. The Planning Brigade. City planning in Soviet Russia is essentially a team responsibility, requiring the collaboration of experts in various professions. In order to obtain professional help the client goes either to the Committee on Architectural Affairs or to one of the State Planning Institutes or he finds assistance through its own planning and building agencies. If help is sought from outside then the particular planning authority selects a chief or a leader to head a group or a "brigade" to prepare plans for the project. The chief might be a city planner, an architect, an engineer or an agricultural expert. The responsible leader selects

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[1] Blumenfeld, Hans. op. cit., p. 40. The brigade organized in 1932 by the State City Planning Institute (Giprogor) to prepare plans for Baku was led by a young architect and included: three economists, three transportation engineers, two agricultural engineers, four architect-city planners, six draftsmen, one consultant on city planning, and one consultant on transportation.

his team according to the nature and extent of the project. Often the project is assigned to a workshop under the Academy of Architecture. Directorship of the project is usually vested in architects or planners.

5. Approval of Plans and Projects. The completed general plans of the project (reconstruction, construction) of a city or a region has to be approved by the chief architect of the city or region and by the municipal and regional Soviet executive committees. The lay public of the city is invited to take part in discussions of the general plan; before examining the project the city Soviet ordinarily organizes an exhibition and a public discussion of the project, while the local press takes an active part. Often plans and models are shown in museums and public places. Hereafter, the project plans go to the Committee on Architectural Affairs for review. They are approved, provided that their technical and economic aspects conform with the requirements of the State Planning Commission. Projects for the larger cities are submitted by the Committee to the Council of Ministers of the Republic for their final approval. Project plans for the twenty largest cities of the R.S.F.S.R. must receive final approval from the Council of Ministers of the U.S.S.R. All the competent persons of the city are consulted at the place. Before it is approved the project is submitted for examination to specialists. If

the plan meets disapproval or needs revisions the vertical process is reversed and repeated. The plan once thus approved becomes legally binding.

6. Detailed Plans for the First Stage of Construction. The Chief City Architect is charged with developing the detailed plans for the first stage of construction. This work is done under his supervision with the aid of specialists in the city planning bureau. Approval of these plans follows a similar order as for general plans. Approvals in any instances are followed by approvals of corresponding government organs of sanitation and municipal economy.

On the basis of approved detailed plans, schemes are worked out for the construction of engineering -- technical facilities and communal services (water supply, drainage, sanitation, power, transportation and landscaping). These plans are approved in order by the Republican Administration of Architectural Affairs and the Ministry of Municipal Economy.

The approved plans for the first stage of construction are considered basic documents used in the effectuation of the general plans.

7. Effectuation and Control. The client proceeds with the construction, either through his building agencies or on contract with others (Ministry of Building, Ministry of Municipal Economy, the city's own construction trust).

Responsibility for effectuation of projects in accordance with approved plans lies in the local Soviets,[1] the local planning organs of the State Architectural-Building Control of the Administration of Architectural Affairs, and in the Chief City Architect.

Special banks which finance capital construction regulate the financing of the project according to the time allotted, and control the quantity and the quality of the completed work.

Sanitary measures as laid down by law[2] are enforced by the State Sanitary Inspector on the building sites; similarly fire precautions are enforced by the local fire-control officers.

In addition to the above-mentioned organizations, building inspectors representing various Ministries on whose behalf the work is being done also control the time-schedule of building.

After the construction project has been completed and passed an inspection commission, the Committee on Architectural Affairs issues permit of occupancy.

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[1] Two municipal agencies are responsible for enforcement of projects: the city land department which holds all the land within the city limits, and the municipal building control which issues building permits.

[2] Malaia Sovetskaia Entsiklopediia, 2 ed., Vol. 4, Moscow, 1946, p. 344. The decree of the Central Executive Committee of the U.S.S.R. of June 26, 1935 established supervision of sanitary conditions of housing by State Sanitary Inspectors, including inspection of plans of buildings, projects, selection of sites, and period inspection of sanitary and hygienic conditions of housing.

C. Architectural and Planning Profession

1. Training. There are two types of architectural-planning schools in the U.S.S.R., the architectural-art school, which produces architects with special training in city planning, and the architectural school, which trains architects with special emphasis on construction. Examples of the first type are the Architectural Faculty of the Leningrad Academy of Art and the Moscow Architectural Institute[1] (established in 1920). The latter, producing 150 specialists per year, is considered the leading school of its type. Of the second category, architectural faculties are found in the building departments of principal Soviet cities.[2]

The curricula of these two types of schools are similar, the course lasting six years. Upon completion the young architects are given immediate employment by the state planning and building organizations.

Post-graduate courses for architects and planners are offered at the All-Union Academy of Architecture at Moscow and at the Moscow Architectural Institute.

In addition to special courses mentioned above, almost all the planning organizations train their own planners and

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[1] Similar institutes are located in Kharkov, Kiev, Odessa, and other cities of the Soviet Union.

[2] In 1944, the total number of schools of both types mentioned above was about 20.

technicians and send them out to places of construction in the provinces and cities for practical experience. Practically all training is given within the U.S.S.R.

All architectural schools and faculties also train instructors and research workers in the field of architecture and city planning. For a doctor's degree in architecture three years of study are required at the Institute of Candidates for doctorates in architecture or at the post-graduate faculties.

2. Working Conditions. The working conditions of the architectural and planning profession are regulated by the general labor laws, dealing with the length of the working day, guaranteeing monthly salaries, annual monthly leaves-with-pay, and so on. The members of the profession enjoy all the benefits of the State social service. Retirement pensions are allotted according to the average salary received immediately previous to retirement, and depend on personal service and merit.

The remuneration of planners is based on the government's scale for each particular job.

3. Leading Personalities in City Planning. The city planning profession in Soviet Russia has drawn most of its members from the architectural field, and prefer to call themselves "architects" rather than "planners," engineers and economists are also included. Only a few of the outstanding members are here listed: Academician A. V. Shchusev (born 1873),

distinguished for his design of the Lenin Mausoleum, Moscow, and a number of other buildings, and for general plans for the reconstruction of Istra and Stalingrad; Academician A. Mordvinov (born 1896), Chairman of the Committee on Architectural Affairs, author of a number of public buildings and one of the initiators of express method of construction; Academician V. Vesnin (born 1882), President of the Academy of Architecture of the U.S.S.R., was Chief Architect of Dneprostroi (Dneper Hydro-Power Station); and Academician K. Alabian (born 1897), Vice-President (recently removed) of the Academy of Architecture, Secretary of the Union of Soviet Architects, editor of the leading architectural magazine, Arkhitektura S.S.S.R.[1], and Fellow of the Royal Institute of British Architects. In collaboration with Academician Iofan, Alabian designed the Soviet Pavillion at the World's Fair in New York and was in charge of the planning brigade for the reconstruction of Stalingrad.

D. Observations

Under the process described above much planning and construction are being accomplished. However, in terms of quality, a highly centralized structure often imposes rules

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[1]Superseded by Arkhitektura i Stroitel'stvo in 1947.

and policies that are too rigid and impractical in execution.

Because most of the organization was set up and put into operation hurriedly, under emergency, many weaknesses now appear in practice (rigid building zones, cumbersome approval procedure). Rationalization of the process has taken a long time to evolve. The whole organization is constantly being modified and improved, with too long intervals between changes.

After revisions are made from the top and filtered down to the lower levels much time might have elapsed during which considerable faulty work might have been done on a wide scale. Since this system permits little flexibility and personal initiative on the part of the lowest planning official in the field, its efficiency depends to a large degree on the comprehensive skill of the individual planner.

A word might be said about the professional career of the individual planner. He may advance through various methods: by marked and steady performance of his duties; his entrance is open and closed competitions; his selection to office in various local and national planning organizations and institutes (Union of Soviet Architects, Academy of Architecture of the U.S.S.R.). If a man is talented recognition might come swiftly. On the other hand, if a planner is inefficient technically. or does not follow the ideological line, his demotion may also be just as quick.

As a result he might be timorous to revise, if in disagreeing with a particular set practice he might run the wrath of the Committee.[1]

Revisions in organization policy occur, but only after the Committee has through lengthy discussions and criticism convinced itself of the need. Adoption of policy usually starts with discussions of the Presidiums of the Union of Soviet Architects and the Committee on Architectural Affairs, followed by review in the professional press, and agrees with expressed views of the Party.

When the government is the sole city planner, as in the Soviet Union, all rules and policy emenate from the top. There is an apparent historical linkage to the time of Catherine II when planning work was carried on through a centralized body[2] even as today planning does not start from the grass roots. There seems to be a lack of citizens' participation in planning policy -- a characteristic gaining momentum in the United States.

Resistance to particular planning policy and practices is expressed by the citizens themselves and the profession through discussions and the press. There are countless examples

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[1] Unlike in a democracy wherein city planning is practiced not from the top down as much as from the lowest level up, the rights of the planner to make changes and use his own initiative is not interfered with; in fact, corrections may be made all along the line. However, few democratic countries have national planning policies.

[2] Poliakov, N. Kh. op. cit., p. 158. In 1762 a planning commission was organized for the purpose of preparing plans of all Russian cities; 416 plans were completed.

of complaints of inefficient handling by bureaucratic machinery.[1]

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[1] Vechernaia Moskva, No. 287/4, Moscow, Dec. 9, 1948. The following signed letter which appeared in a newspaper is interesting in that it illustrates the still existing housing distress. "Four years ago, while the writer was on the front, his apartment was broken into by employees of the District Housing Department (Raizhilotdel) and assigned the rooms to another family. The writer and his wife were living in a passageway room of nine square meters of floor area. . . . The affair was taken to different court jurisdictions fifteen times in the last four years. More than a year ago, the Chairmen of the Supreme Court of the U.S.S.R. pointed out the unlawfulness of action of Raizhilotdel and ordered the family to be moved out and the rooms returned to the writer. But nothing happened. The Director of the Administration of the Ministry of Jurisprudence under the Moscow Soviet Executive Committee called attention of his subordinates to the matter of executing the decision, who in turn called up the Executive Committee of the District Soviet (Raiispolkom) to carry it out. They sent the order to the director of Raizhilotdel who marked it 'unfinished business -- as soon as the (other) family can be found quarters.' Months passed; still nothing was done." The writer asks, 'Will I have to wait for a new Raiispolkom to put an end to the bureaucratic style of work of its predecessor?'"

CHAPTER VII

BUILDING INDUSTRY (IN RELATION TO CITY PLANNING)

The building industry was technically one of the most backward of enterprises in Russia. However, with the Second Five-Year Plan (1933-1937) the government began to master a new technique in building, particularly in mechanization of operations and prefabrication. New large-scale building organizations and building trusts were formed that operated with particular industries or with special construction projects. New labor saving devices such as the conveyer belts, and "stakhanovism" were introduced.[1] The Third Five-Year Plan (1938-1943) initiated a program aimed at modernizing the building industry. Ministries for building materials and for the building industry were established in 1938 and 1939 respectively. They were charged with increasing production particularly of standard and prefabricated parts. Emphasis was placed on high speed express methods of building.[2] This method of

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[1] "Stakhanovism" is the name of a movement started by Alexei Stakhanov, a miner in the Donets coalfield. By studying his technique and organizing his work he was able to establish a national record for coal output per shift. Thousands of workers of other industries studied his methods and applied them to their own jobs.

[2] Molotov's speech before the XVIII Congress, March 10-21, 1939.

building is based on:

> Complex mechanization, conveyer methods of work, standardization of building types and designs of details, factory production of details and structures, and comprehensive time and program schedules.[1]

Up to World War II, there was still great confusion in the building industry which resulted from the multiplicity of organizations and an absence of effective coordination and control. In addition to the Ministry of Building Industry with its own trusts, plants and permanent labor force, other Ministries had their own building departments, and their separate system of building organization, some specializing in specific construction, others operating in specific regions. In addition, the regional and city Soviets had their own works departments and housing bureaus.

Labor discipline in building was not so good as in other industries, and fluctuation of labor even greater. Many of the bottlenecks which resulted from a multiplicity of organizations -- to which must be added others -- have been partially overcome by the creation of the Committee on Architecture in 1943, with various institutes, departments and research laboratories, directly responsible to the Council of Ministers.[2]

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[1] The Building Industry in the U.S.S.R., London, Marx House, 1942, p. 26.

[2] Davidovich, V. G. op. cit., p. 32.

The coordinating effect of the Committee on all architectural, planning, and building activity, plus the powerful influence of the Communist Party has accomplished much in streamlining the planning profession and in relieving friction in the building industry. Then,as now, lack of building materials continues to be a most serious handicap.

The current Five-Year Plan provides for a doubling of building materials such as cement and glass, and for mass production of many materials previously not widely used.[1]

The end of the war increased production of prefabricated houses.[2] Now more than 60 plants are turning out prefabricated houses,[3] but production is still slow and as late as the winter of 1948, many of the prefabricated houses used in the Soviet Union in the post-war reconstruction came from Finland.[4]

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[1] Literaturnaia Gazeta, Moscow, February 2, 1949. These include ceramic tile, fiber slabs, asbo-cement and new types of sanitary equipment. Brick rubble, tamped earth, clay, reed, slag and gypsum, as substitutes for lumber and brick are being used more extensively.

[2] Prefabrication of housing was first tried in the U.S.S.R. during the period of 1925-1935 in the form of "standard houses." Several large sawmills supplied many houses of this type. However, they were not too successful. The main reason for the failure was that at that time they used unfinished boards or ordinary plywood with albumin or casein glues which could not withstand moisture. The insulation used was mostly peat, wood chips and gypsum, which proved unsatisfactory for prefabrication.

[3] U.S.S.R. Information Bulletin, Vol. VIII, No. 23, Washington, D. C., December 8, 1949, p. 741.

[4] This information came from personal conversation with a noted Finnish architect.

The Plan indicates the main lines on which the problems will be solved: the further development of the building industry; the introduction of new methods and the mechanization of building; and the extensive use of prefabricated houses. The plants engaged in this work were directed to produce some 30 million square feet of housing area annually by 1950.

The Academy of Architecture (created in 1939) and the state organizations under the Committee of Architecture participating in reconstruction have to direct all these forces in the aim of utmost economy of building materials and manpower on the basis of increased labor efficiency.

In summary, then, during the last fifteen or twenty years construction technique has made considerable progress. However, even today two to three times more manpower and material are expended than is necessary. Housing construction continues to remain the least organized branch of the Soviet economy. The scientific institutes of architecture and construction have not yet revolutionized the building industry. The urgent task of the Academy today is the attraction of a large number of builders.

CHAPTER VIII

CRITICISM AND SELF-CRITICISM[1]

Considerable freedom of expression in theory and design of architecture and city planning has been enjoyed in the Soviet Union. As early as 1930 there was healthy intercourse of ideas with Western architects and planners.[2] Other countries' architectural and city plans were presented graphically and analyzed in Soviet textbooks; notably German, Austrian, French, British and American practices were studied and criticized. In the planning of Leningrad (1943),for instance, the Soviets were influenced by designs for Paris and Washington.

Through analysis, discourses and articles the Soviets sought to improve their approach to problems of reconstruction and new planning.

However, since the early thirties, foreign ideologies of "functionalism" and "constructivism" have been under attack,

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[1] In this CHAPTER we are referring not to foreign criticisms of Soviet city planning, nor to evaluation of the quality of the work; instead we are concerned with what Soviet planners themselves think, what their government outlines, and the reactions of the profession.

[2] Sovremennaia Arkhitektura (Contemporary Architecture), organ of the Chief Administration of Scientific Institutions, Moscow, Gosudarstvennoe Izdatel'stvo, 1930, pp. 60-62. Contains an exchange of letters between Ginzburg and Le Corbusier on city planning problems.

resulting in a natural swing of the stylistic pendulum to formalism and neo-classicism.

The Russians are now reexamining their past and present achievements in city planning[1] with a view of finding an expression that would suit the present socialistic way of living. The architect-planner is told to create within the sphere of "socialist realism," whatever that means.[2] Although still lacking definitive ideology, "slavish copying" of historic forms in architecture are rejected as poor expressions of true socialism. His schemes must not reflect "bourgeois" tendencies of formalism or of other influences of Western art and culture.

Important to bear in mind is that whatever is the present Party-sanctioned trend towards "socialist realism," the overall government policy is not static, but subject to periodic reinterpretation. The architectural style that was to have expressed Marxian living in the thirties is considered "bourgeois"

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[1]The recent findings of the Inspection Commission, for example, was one avenue of methodological examination of present planning practices.

[2]The Soviet planners frankly admit that they are still (1948) confused as to the concreteness of the meaning of "socialist realism." Professor N. Kolli, Chairman of the Moscow Council of the Union of Architects, one of the first Russian representatives of the "International Style" and Le Corbusier's partner in the construction of the building of the Commissariat of Light Industry in Moscow, defined architecture expressing "socialist realism" as the "architecture that is called upon to satisfy the material and spiritual needs of the people." Arkhitektura i Stroitel'stvo, No. 4, op. cit., p. 12.

and marasmic. Future economic and social changes may bring about new dialectical interpretations of architectural and city planning expression.

Early self-criticism was carried on among the members of the profession, with the government actually encouraging free expression of opinions yet taking no direct stand. It is only recently that city planners and architects, along with artists, musicians, and writers, have come under close scrutiny of the Central Executive Committee of the Communist Party.[1] After purging Russian cultural life, the Party has been attacking the architectural profession for its pro-Western, pro-American and general cosmopolitan outlook as followed by leading Soviet architects and planners. As a result, the Academy of Architecture and the newspaper Sovetskoe Iskusstvo (Soviet Art) are being thoroughly reorganized. Alabian, acting vice-president of the Academy, formerly one of the principal critics of formalism and Western attitudes, has been removed from his post because he did not safeguard the official line regarding the "development of the study of architecture." Alabian was further charged with having supported the harmful activities of "cosmopolitanism" for many years. Also attacked was Ginzburg, chief organizer of the Soviet "society of modern

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[1] Alabian, K. Arkhitekturnaia Praktika v Svete Reshenii Tsk VKP(b) o Literature i Iskusstve (Architectural Practice in the Light of the Decision of the Central Committee of the All-Union Communist Party on Literature and Art), in Arkhitektura S.S.S.R., No. 14, Moscow, 1947, pp. 1-4.

architecture" and designer of many monumental Soviet buildings and reconstructed cities. Gabrichevskii, a professor at the Moscow Institute of Architecture, was said to be guilty of spreading "formalistic theories among the new generation of architects."[1] In spite of the profession's complete subordination to the prevailing Party line, some courageous souls continue to express themselves. This is evidenced by the variety of frowned-on architectural forms that they continue to produce, and in some cases, by the open challenge to those who thwart creative effort. Thus the so-called Zholtovskii School, named after an old Classicist and highly respected architect, in spite of repeated criticism, continues to instruct young architects in the theory of Classicism. When the school was asked to participate in the post-war reconstruction of Minsk, the instructors demanded that neither the Committee on Architectural Affairs nor the Party interfere in or in any way control the work of the architects.[2]

Moreover, the Committee on Architectural Affairs and the Party have been continually criticized by the profession. The process of review and approval of plans and projects vested in the authority of a few upper-drawer experts of the Committee, is amost recent subject of criticism.[3]

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[1] New York Times, May 1, 1949.

[2] Sovetskoe Iskusstvo, op. cit., No. 13 (1101), Mar. 27, 194

[3] Ibid.

On one occasion at least, criticism has been extended to Party interference in the work of established architects. Thus, at a meeting of the Presidium of the Board of the Union of Soviet Architects and the Moscow Section held on August 3, 1948, Academician Lev Rudnev, member of the Board and Chairman of the Council of the Moscow Architectural House, reacted to a critical article that had appeared[1] in the Soviet Press: "In the creative work of master-architects there must not be any place for criticism, and I deny the right of those not actively engaged in planning or construction to criticize the work of architects."[2] Sovetskoe Iskusstvo reporting on this meeting expressed amazement at the existence of such a "strange 'theory' in the Soviet architectural profession." The reaction of the remaining members of the meeting and invited guests was significant by its complete silence. It is significant that Rudnev was later awarded first prize of 100,000 rubles for designing the new 26-story Moscow University building.[3] In spite of his defiance of the policy, his status was not lessened.

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[1] Sovetskoe Iskusstvo, op. cit., July 31, 1948. The article severely criticized the indifference and irresponsibility of the architectural profession.

[2] Sovetskoe Iskusstvo, op. cit., August 14, 1948.

[3] U.S.S.R. Information Bulletin, Washington, D. C., Vol. IX, No. 10, May 27, 1949, p. 311.

There is also evidence of criticism by members of the profession of certain recent practices. Thus objection to standardization of plans and projects was reported on the ground it would reduce architects and planners not actually preparing typical designs to filling out details.[1] The mechanical technique of assembly construction subordinated the architect; he lost his initiative and creative talent, they claimed.[2]

The process of criticism may take the following order. The chain may start from the very top, by a decision of the Communist Party; with a report or planted article by a high official, or by an anonymous writer in an official publication, criticising a certain aspect of work or member of the profession; at conferences and meetings of the various planning organizations, where discussions are carried out in light of current Party decisions; and finally through reviews of books, judging of competitions and daily assessing of work.

The individuals coming under attack might fight back, but more often would blame the Committee on Architectural Affairs and the Academy of Architecture for insufficient education on Marxism and "Socialist realism."

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[1] Shaposhnikov, Ia. Protiv Lozhnogo Istorizma v Nauchnykh Issledovaniiakh (Against False Historicity in Scientific Research), in Arkhitektura i Stroitel'stvo, Moscow, No. 2, February 1949, p. 12.

[2] Ibid.

It is difficult to appriase the effect of Party criticism and ideological dogma on the planning profession. To some extent, self-criticism has been helpful in eliminating inefficiency and poor practices. On the other hand, criticism of an ideological nature has often thwarted creative work.

The government has yet to reconcile the fact that man, even in a society like the U.S.S.R., is only a human being, and that the success of any undertaking does not depend so much on rigid bureaucratic carrying out of orders and decrees, but on the talent, initiative and personal interest of the individual.

Development of city planning is a continuous process. The Soviets realize they have still much to learn; they have hope in what might be accomplished in the future. In spite of their rejection of Western ideology, however, they want to use the latest achievements and techniques of the world in planning and architecture; not copy, but incorporate new meaning to suit socialist (living) expression.

The West might benefit from the development of Soviet city planning through the way its self-criticism operates with intention to improve the quality of city planning work in the U.S.S.R. and through study of their principles, ingenuity, and methodology.

NOTES ON TERMINOLOGY AND GLOSSARY

Belprogor: Giprogor (which see), for Belorussian S.S.R.

Blagoustroistvo: the providing of all necessary public utilities, communal services and landscaping along with the planning of a city, town, settlement or housing project; public welfare.

Brigade: a group of architects, planners, economists, industrial and transportation technicians and public health doctors employed by a clinet (Ministry, Glavk, trust, plant or city Soviet) to do the research, survey and the preparation of a planning project.

Donbass -- Donetskii Kamennougol'nyi Bassein: Don Coal Basin.

Five-Year Plan: a comprehensive national plan drawn up periodically for the development of the U.S.S.R.'s economy, as well as other phases, including city planning.

Giprogor -- Gosudarstvennyi Institut Proektirovaniia Gorodov: State Institute for the Planning of Cities.

Giprograd: Giprogor (which see), for Ukrainian S.S.R.

Glavk -- Glavnyi Komitet: Main Industrial Board or Committee; sub-department of the department of the Supreme Economic Council or boards; unit of State industrial administration just below the Narkomat, to administer an industry or a branch of industry. The planning department of a Glavk functions analogously to a People's Commissariat planning department.

Glavproekt -- Glavnoe Upravlenie Proektirovaniia: Central Board for Planning Organizations; Chief Project Office under the Ministry of Communal Economy of the R.S.F.S.R., which is under the Council of People's Commissars of the U.S.S.R. and the Council of People's Commissars of the R.S.F.S.R.

GOERLO -- Gosudarstvennaia Komissiia po Electrifikatsii: State Commission for Electrification.

Gorod: enclosure; city.

Gorkomkhoz -- Gorodskoe Kommunal'noe Khoziaistvo: City Department of Municipal Economy, a branch of the city Soviet.

Gorsovet -- Gorodoskoi Sovet: City Soviet or Council.

Gorstroiproekt -- Gordoskoi Stroitel'nyi Proekt: City Building Projecting Office (Trust type); governing body, charged with planning regions, cities and rural areas.

Gosarkhstroikontrol' -- Gosudarstvennyi Arkhitekturno-Stroitel'nyi Kontrol': State Architectural Building Control, under the Committee on Architectural Affairs, keeps check of the quality of building of towns, populated places, housing and public works.

Gosplan -- Gosudarstvennaia Planovaia Komissia: State Planning Commission, highest planning body of the U.S.S.R., consisting of 54 departments and employs about 1,000 expert planning officials. It receives from the Central Committee of the Communist Party and the Council of People's Ministers

general directives on which to base five-year, annual and quarterly plans.

Gosstroiproekt -- Gosudarstvennyi Stroitel'nyi Proekt: State Building Project Office; a central planning institute engaged in planning of housing projects, public buildings and industrial structures.

Hectare: 2.471 acres.

Kilometer: 0.621 mile.

Kreml': Kremlin: citadel or fortress; a large enclosure, located usually in the center of old Russian cities, containing palatial residential buildings, arsenal, churches, and other structures.

Kolkhoz -- Kollektivnoe Khoziaistvo: Collective farm; whence, Kolkhoznik, a member of a collective farm.

Kombinat: Combine, complex type of plant producing wide range of products based on a single main raw material, with its by-products and waste; also used loosely to mean any large organization or living combine, like a communal house.

Komissariat: Commissariat (now Ministry); a government department, equivalent to a Department of the U. S. federal government.

Kvartal: residential block or superblock, considered as the basic neighborhood unit in city planning and served by nurseries, kindergartens, schools, playgrounds, a post-office, restaurants and shops.

Kuzbas -- Kuznetskii Ugol'nyi Bassein: Kuznetsk Coal Fields.

Living Space or L. Area: includes living room, dining room and bedrooms but no kitchen, bath, halls, closets and service area.

Meter: 39.37 inches; Square meter: 10.764 square feet.

Mikroraion: a residential district made up of a group of residential superblocks and served by a high school, a district park, athletic fields, hospitals, public baths, a telephone station, and other public and communal buildings and institutions.

Ministry: a government department similar to a Department of the U. S. federal government (formerly Komissariat).

Mir: village community under collective concept, composed only of heads of families.

Mosoblproekt -- Moskovskii Oblastnyi Proekt: Moscow Regional Planning Office.

Narkomat -- Narodnyi Komissariat: People's Ministry of the U.S.S.R.; a government department similar to a Department of the U. S. federal government.

Narkomstroi -- Narodnyi Komissariat Stroitel'stva: People's Ministry for Building.

Oblprogor -- Oblastnyi (Institut) Proektirovaniia Gorodov: Regional Planning Office.

Planirovaniia: socio-economic planning.

Planirovka: physical planning.

Plenum: a fully attended meeting, as of the Central Executive Committee of the All-Union Communist Party.

Presidium: presiding council.

Proekt: project, plan; projecting office.

Raion: region or district.

R.S.F.S.R. -- Rossiiskaia Sovetskaia Federativnaia Sotsialisticheskaia Respublika: The Russian Soviet Federated Socialist Republic, the largest of the Republics; comprises most of the Russian part of the U.S.S.R., and extends to the Urals and the Far East.

Sovkhoz -- Sovetskoe Khoziaistvo: State-owned and State-managed farm.

Sovnarkom -- Sovet Narodnykh Komissarov: Council of People's Ministers; includes the heads of all the People's Ministers, equivalent to Cabinet or Council of Ministers.

Sel'khozproekt -- Sel'skokhoziaistvennyi Proekt: Agricultural Building Department.

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Abbreviations of Names of Publishing Houses

GZKIIS -- Gazetno-Zhurnal'noe i Knizhnoe Izdatel'stvo Leningradskogo Soveta (Newspaper-journal and Book Publishing House of the Leningrad Soviet).

GRSL -- Glavnaia Redaktsiia Stroitel'noi Literatury (Main Publishing House of Building Literature).

GAI -- Gosudarstvennoe Arkhitekturnoe Izdatel'stvo (State Architectural Publishing House).

GAIAA -- Gosudarstvennoe Arkhitekturnoe Izdatel'stvo Akademii Arkhitektury S.S.S.R. (State Architectural Publishing House of the Academy of Architecture of the U.S.S.R.).

GI -- Gosudarstvennoe Izdatel'stvo (State Publishing House).

GII -- Gosudarstvennoe Izdatel'stvo "Iskusstvo" (State Publishing House "Art").

GNTIU -- Gosudarstvennoe Nauchno-Tekhnicheskoe Izdatel'stvo Ukrainy (State Scientific-Technical Publishing House of the Ukraine).

IIMI -- Iuridicheskoe Izdatel'stvo Ministerstva Iustitsii S.S.S.R. (The Legal Publishing House of the Ministry of Justice).

IAA -- Izdatel'stvo Akademii Arkhitektury S.S.S.R. (Publishing House of the Academy of Architecture of the U.S.S.R.).

IMKK -- Izdatel'stvo Ministerstva Kommunal'nogo Khoziaistva R.S.F.S.R. (Publishing House of the Ministry of Municipal Economy of the R.S.F.S.R.).

IMR -- Izdatel'stvo "Moskovskii Rabochii" (Publishing House "Moscow Worker").

ITsSU -- Izdatel'stvo TsSU Soiuza S.S.R. (Publishing House of the Central Statistical Administration of the U.S.S.R.).

IVAA -- Izdatel'stvo Vsesoiuznoi Akademii Arkhitektury (All-Union Architectural Academy Publishing House).

MR -- "Moskovskii Rabochii ("Moscow Worker").

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