

The Socialist Settlement Experiment: Soviet Urban Praxis, 1917-1932

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ABSTRACT

If capitalist cities are dense, hierarchical, and exploitative, how might socialist space be differently organized to maximize productivity, equitability, and collectivity? That question—central to early Soviet planning specialists—is the basis of this dissertation, which investigates the origins and evolution of the socialist spatial project from land nationalization to the end of the first Five-Year Plan (1917-1932). This dissertation asserts that socialist urban practices and forms emerged not by ideological edict from above, but through on-the-ground experimentation by practitioners in collaboration with local administrators—by praxis, by *doing*. Existing scholarship on early Soviet architecture and planning relies on paper projects of the Moscow avant-garde—radical, exciting, and yet largely unbuilt. This dissertation, based on new empirical research, uncovers the untold origins of socialist urban practice through the brick and mortar, steel and concrete projects that defined Soviet urban praxis in the 1920s and 30s. Through interweaved stories of three so-called “socialist settlements” in Baku, (Azerbaijan), Magnitogorsk (Russia), and Kharkiv (Ukraine) this study explores how Soviet physical planners and their clients addressed unprecedented socioeconomic requirements. Provisions like affordable housing near the workplace, robust municipal transportation and evenly distributed social services emerged from these experiments to affect far-flung sites in the Soviet sphere for decades to follow. Material gathered from now accessible archives—including architectural briefs, bureaucratic memos, drawings and photographs—finally permits deep inquiry into these significant years and projects. It draws the Soviet case into dialogue with scholarship on industry, urbanization, and social modernization in Europe and the United States, and highlights the contributions of Soviet designers to devise viable alternatives to the capitalist city.

TABLE OF CONTENTS

Acknowledgements

INTRODUCTION	1
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PART I

BAKU: Defining the Tasks of Socialist City-Building (1920-27 [1930])

Chapter 1. Socialism Means Housing	35
Chapter 2. Constructing the Educated Client	89
Chapter 3. Setting the Tasks for Soviet Planning	129

PART II

MAGNITOGORSK: Toward the Problem of Socialist Space (1929-1932)

Chapter 4. The Great Debate	164
Chapter 5. Competition, Visions, and Facts on the Ground	220

PART III

KHARKIV: Socialist Urbanization through Standardization (1929-1932)

Chapter 6. From Tractors to Territory	279
Chapter 7. <i>Sotsgorod</i> as Socialist Urban Model	317

CONCLUSION	359
-------------------------	-----

Appendix	366
-----------------------	-----

Glossary of Terms & Acronyms	374
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Sources	377
----------------------	-----

Illustrations	396
----------------------------	-----

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INTRODUCTION

The flickering film pans slowly over a snow-covered plain, rendered desolate by the high ratio of sky to land in the frame.¹ This, the intertitles reveal, is the site designated for a Soviet tractor factory outside of Kharkiv, the new capital of Soviet Ukraine. In closer shots, horses approach and pass the camera, drawing primitive carts loaded down with bricks and logs. The camera turns to an army of workers—shovels and *ushanka* earflaps flying—as they dig themselves deeper and deeper into the factory’s foundation pit. Cut to black.

When the screen brightens we are once more on the plain—a steam train approaches. Volunteer workers from the city center hop from the train’s open doors: they are here to “help speed up construction” of the socialist city that will house tractor factory workers.² A heavily scaffolded building holds the background of the next shot in which three temporary workers stand, backs to the camera. The young woman in the center repeatedly turns her torso to the right, catches a brick, pivots, and slings it to the next volunteer in line to her left. Her body dips as the weight of each brick hits her hands.³ (Figures 0.1 - 0.6)

At around the same time the bricks were being flung from hand to hand, *Detroit News* journalist Philip Adler was traveling through these “Soviet hinterlands” to investigate the conditions brought about by the first Five-Year Plan, or *piatiletka*, Stalin’s hyper-industrialization

¹ The “large sky” shot of the Ukrainian countryside, then in the throes of agricultural collectivization, is a framing hallmark of Dovzhenko’s *Earth* (*Zemlia*), also from 1930.

² The intertitles note that these workers are volunteers. It is just as likely that they are participating in a “subbotnik” or “voskrestnik” – a mandatory extra workday to accelerate socialist construction projects.

³ *Tsentrāl'nyi derzhavnyi kinofotofonoarkhiv Ukrainy im. G.S. Pshenychnogo* [Central State Cine-Photo-Phono Archives of Ukraine, named after G.S. Pshenychnyi, TsDKFFA], VUKFU Newsreels, Archive numbers 1429, 1447, 1469, 1483, 1486, 1516, 1517, 1529.

drive. In a series of essays, Adler provided his American readers a more distant view of the construction process featured in the Kharkiv newsreels:

The country's landscape is changing. Traveling in Russia by train or boat you see yellow smoke stacks of new factories rising among the golden cupolas of churches in every town and belching clouds of black smoke against the blue sky. You see everywhere new three-four-and-five-story apartment houses, workmen's dwellings—not blocks, but complete city sections—rising among the dilapidated ramshackles of yore. In the midst of thick forests, or on river banks you run into completely new cities of 5,000, 10,000 or 20,000 inhabitants, with some new factory as a nucleus. All these are manifestations of the “Pyatiletka.”⁴

Adler's reportage from 1929, and the Ukrainian newsreels, captured the Soviet Union in the midst of a seismic shift from a rural landscape of thick forests and quiet riverbanks to a manmade industrial territory of smokestacks and multistory worker housing. If we knew nothing about this change other than that which we could intuit from the silent images on the screen or those passing by Adler's train window, we would still understand the *piatiletka* as a transformative project of an intense “spurtlike” character, and one invested, at all costs, in large scale projects.⁵ These two preconditions for Soviet industrialization—tremendous speed and scale—shaped the built environment that resulted from the *piatiletka*.

Construction during the early years of the Soviet period was, as the newsreels reveal, hard, dirty work that required massive mobilization of materials and labor. If the tasks weren't difficult enough, Soviet administrators frantic to meet the goals of the plan had to contend with a rapidly evolving conceptual framework for socialist space making. At the end of 1929, when the *piatiletka* was finally ratified, a fierce public debate erupted about the proper distribution of

⁴ Philip Adler, *The Detroit News*, 22 December 1929. Part three of “a series telling the real story of Soviet Russia.”

⁵ These are just two of six points Gerschenkron makes to characterize industrialization in a “backward” country. Russia's “backwardness” can be debated, but Gerschenkron's two points about rash speed and large scale do map on to the transformation of the built environment under the first Five-Year Plan. Alexander Gerschenkron, “Economic Backwardness in Economic Perspective,” in *Economic Backwardness in Economic Perspective: A Book of Essays*, ed. Praeger (New York: 1962), 27.

people and industry under socialism. If capitalist cities were dense, hierarchical and exploitative, Soviet economic and physical planners asked, how might socialist space be differently organized to maximize not only productivity, but also equitability and collectivity? These theoretical discussions were important—the future of a new kind of urban form rested on the correct formulations—but the timeline of the plan was set. As the debate raged on, concrete foundations were being poured. It was simultaneously a time of crisis and possibility.

* * *

This dissertation investigates the origins and evolution of the socialist spatial project in the first fifteen years of the Soviet era, from the Russian Revolution to the end of the first Five-Year Plan (1917-1932). It argues that socialist physical planning practices and forms emerged not by ideological edict or theoretical precept, but by on-the-ground experimentation—by praxis, by *doing*. Constructing socialism under conditions of economic austerity and technological inadequacy was a near impossible task—but the Soviets did it. Exactly how administrative clients, architects, economists, foreign experts, physical planners, spatial theoreticians, and the labor force came together to make a distinctly socialist built environment possible *despite* the many constraints is the story that I seek to tell here.

The Soviet industrialization drive of the 1920s and 30s was one of unprecedented speed and unfathomable scale. Take these numbers as evidence: the first two five-year plans projected the construction of thousands of new industrial enterprises in remote and sparsely populated locations like the Urals, Siberia the Soviet Far East. Each of those industrial sites was to provide housing and services for its workers in adjacent settlements. Eighty-seven completely new towns were to be built to accommodate a population of 4.5 - 5 million, and hundreds of additional

workers' settlements were planned near existing centers. Over ten years, 6 - 7 million people were to be put to work and housed, all by the Soviet state.⁶ These were official capital construction targets. Researching the gap between projections and reality—telling the “non-official” history of Soviet physical planning, which is nonetheless extraordinary—now occupies post-Soviet architectural and planning historians like Mark Meerovich, Dmitrii Khmel'nitskii and Evgeniia Konyshcheva.⁷ I place my work alongside theirs because, like them, I have chosen to dig into the archives to try and figure out how early Soviet planning projects actually materialized. I am not motivated by a desire to expose the falsehoods of Soviet historiography, however. I approach the material as an historian of urban form and design practitioner. I am interested in understanding how socialist physical planning developed as a practice with a distinct set of objectives and tools, and I do so by looking very closely at sites designed and constructed in the first years of the Soviet period.

First, I should be clear about what this project is not. Unlike most existing scholarship, it is not centered on the visionary theoretical projects of the architectural avant-garde (although they enter—and exit—the story in the middle), or on Moscow. Instead, this dissertation focuses on geographically peripheral but economically central sites where capital expenditure was greatest and design experimentation most intense. These brick and mortar, steel and concrete projects can tell us much about how design was employed in the first decades of the USSR to solve problems on the ground. Complications produced by imperfect sites, emergent

⁶ M. G. Meerovich, "Neofitsial'noe Gradostroitel'stvo: Tainyi Aspekt Sovetskoi Industrializatsii (1928-1932)," in *Problemy Otchestvennoi Istorii: Istochniki, Istoriografiia, Issledovaniia*, ed. M.V. Drusin, Istoriiia Rossiia (St. Petersburg: Sankt Peterburgskii institut istorii RAN, 2008), 395.

⁷ I refer to recent scholarship like M. G. Meerovich, Evgeniia Vladimirovna Konyshcheva, and Dmitrii Khmel'nitskii, *Kladbishche Sotsgorodov : Gradostroitel'naia Politika V Sssr 1928-1932*, Istoriiia Stalinizma (Moskva: ROSSPEN, 2011).

technologies, impossible deadlines and inchoate theories of socialist space-making forced practitioners to innovate. As a result, projects like these defined socialist design praxis.

Close study of three “peripheral” sites that defined Soviet urban praxis in the 1920s and early 30s anchors this work. Through interweaved stories of so-called socialist settlements in Baku, Azerbaijan; Magnitogorsk, Russia; and Kharkiv, Ukraine I explore how Soviet architects and physical planners addressed new socioeconomic requirements. (Figures 0.7 – 0.8) Provisions like affordable housing near the workplace, robust municipal transportation and evenly distributed social services emerged from these experiments to affect far-flung sites in the Soviet sphere for decades to follow. Material gathered from now accessible archives—including architectural briefs, bureaucratic memos, drawings and photographs—finally permits deep inquiry into these significant years and projects. This research draws the Soviet case into dialogue with scholarship on industry, urbanization and social modernization in Europe and the United States, and highlights the contributions of Soviet designers to devise viable alternatives to the capitalist city. It also asserts that design agency emerges in transitional periods, when trial and error is the only reasonable approach to deal with instability. The construction of “actually existing socialism” was a messy, experimental, and yet ultimately instrumental effort.

The Socialist Settlement Experiment makes four major contributions to the field of architectural and urban history broadly, and the history of socialist space specifically; I introduce them here briefly and return to them at the end of this introduction. First, this dissertation breaks ground as an **empirical study of foundational socialist urban theory and practice**. It considers the entire spectrum of urban activity in the early Soviet period from visionary schemes to materialized projects. Heavy emphasis on important but little studied built projects and the people who envisioned, designed and constructed them, finally situates the contribution of the Soviet avant-garde and offers an entirely new perspective on this period. Second, this is the first

comparative parallel study of early socialist urban development, one that creates a narrative arc across Soviet geography and cultures. All three sites of study share a political context, but each raises different issues depending on its centrality to the Soviet economy, its industry, its specific chronological situation and its urban morphology. Third, this study **explicitly links economic period to urban development**. Over the fifteen years covered here, the Soviet Union passed through three economic periods: War Communism (1917-21), the New Economic Policy (NEP: 1921-28), and the first Five-Year Plan (1928-32). Economic planning (*planirovanie*) and physical planning (*proektirovanie*) were distinct fields of action in the early Soviet period, even though they are often conflated in Soviet histories. Both disciplines lived under the administrative structure of The State Planning Commission (*Gosplan*)—but it was economic planners who determined the percentage of the state budget allocated to capital construction. Understanding the limits of change to the built environment provides a crucial corrective to histories that hold the work of Soviet architects and physical planners captive to expectations of what they *might* have accomplished in a friction-free context.⁸ This study teases out how creativity and innovation emerged on these sites in the face of fiscal and technological limits, and how design strategies—like architectural standardization—emerged from this period that affected later developments. Lastly, and most broadly, this study **ties into the growing field of transnational and global history**. Each of the microhistories in this dissertation is a node in a global network of industrial sites developed at the beginning of the 20th c. that freely shared experts, technologies and materials. Ideas, both spatial and social in nature, circulated even

⁸ See, for example, Manfredo Tafuri's assessment of the "disturbing degree of realism" in Soviet architecture in the essay "Toward the "Socialist City": U.S.S.R., 1917-28" in Manfredo Tafuri, *The Sphere and the Labyrinth : Avant-Gardes and Architecture from Piranesi to the 1970s* (Cambridge, Mass.: MIT Press, 1987), 149-70.

more readily. Who should provide housing and social services to the working class—the state or municipal government, industry, or the private real estate market? What are the constituent elements of the “good city”? What is role of standardization and mass-production in architectural design? How should the modern housing unit be spatially configured? All of these questions were posed and discussed in a transnational context, and the development of Soviet sites contributed heavily to the evolution of these debates.

Framing the Problem: Praxis, Anti-Utopianism and Experimentation

Praxis comes into this research through both architecture and Marxism. In architectural discourse, praxis is synonymous with architectural practice. Architectural praxis is concerned with materialization first and foremost; it may be critically oriented, but is not required to be so. The Marxist definition turns on Marx’s “Theses on Feuerbach,” specifically XI, which states that, “philosophers have hitherto only interpreted the world in various ways; the point is to change it.”⁹ Enacting change, per Marx, requires engaging in praxis, “revolutionary, practical-critical activity.”¹⁰ In both disciplinary definitions, praxis entails getting one’s hands dirty.

What I would like to propose is that for Marx, praxis was the logical foil to the dread utopia. Or, to flip the formulation around for the Soviet case, the Marxist interdiction against utopia is responsible for the ascendance of on-the-ground physical planning praxis during the first Five-Year Plan. Let me explain. In the *Communist Manifesto*, among other writings, Marx and Engels drew a stark line between their own brand of scientific socialism and the “Utopian” socialists who came before them. Among their criticisms of utopia was one that Roger Paden

⁹ Karl Marx, “Theses on Feuerbach,” XI. www.marxists.org. Accessed January 18, 2014.

¹⁰ Ibid, “Theses on Feuerbach,” I.

called the *Metaethical Critique*: if we agree that human nature is not fixed, but negotiable, we must also agree that the form of utopia—or whatever you might call the space of the future—cannot be definitively articulated.¹¹ The dynamic processes of history and social progress refute utopian projection; so drawing up detailed blueprints of the future condition is a waste of time and effort. Picking up the anti-utopian thread from Marx, Lenin wrote, “In Marx you will find no trace of Utopianism in the sense of inventing the ‘new’ society and constructing it out of fantasies.”¹² Yet herein lies the fundamental conflict: without a vision, no matter how cursory, it is difficult to embark upon immediate construction.

In his critique of the Marxist-Leninist anti-utopian stance, philosopher Martin Buber stressed the proactive role of utopia:

What, at first sight, seems common to the Utopias that have passed into the spiritual history of mankind is the fact that they are pictures, and pictures moreover of something not actually present but only represented... This “fantasy” does not float vaguely in the air, it is not driven hither and thither by the wind of caprice, it centres with architectonic firmness on something primary and original which it is its destiny to build; and this primary thing is a wish. The utopian picture is a picture of what ‘should be’, and the visionary is the one who wishes it to be.¹³

In Buber’s description, utopia is a concrete wish that drives the visionary to enact change.

According to the Buberian line of reasoning, the utopian plan has the capacity to act as a kind of shovel-ready project, one that needs some refinement to address the particularities of site, but one that nonetheless establishes the framework from which the new society may be constructed.

¹¹ The five Marxist critiques of Utopia, as articulated by Paden are *Tactical Critique*, *Strategic Critique*, *Materialist Critique*, *Humanist Critique*, and finally the *Metaethical Critique*, discussed here. Roger Paden, “Marxism, Utopianism, and Modern Urban Planning,” *Utopian Studies* 14, no. 1 (2003): 93-95.

¹² Martin Buber, *Paths in Utopia* (New York: Macmillan, 1950), 99.

¹³ *Ibid.*, 7.

When the dust cleared after the Revolution and Civil War, the absence of a blueprint for the post-revolutionary condition left Soviet administrators struggling to define the shape of their new society. Here is where praxis reenters the story. In the on-the-ground planning projects explored in this dissertation, both the problems and their solutions revealed themselves through intense engagement with context. Living blueprints developed in the process of making. This type of planning practice was, frankly, the only option available to the early Soviet state; without pre-ordained plans, construction had to proceed through experimentation, using the practical-critical activity of praxis. This activity was nonetheless congenial to the tasks Lenin put forth for the NEP, and jibes with the definition of praxis embedded in his writings from this time:

At one time we needed declarations, statements, manifestos and decrees. We have had enough of them. At one time we needed them to show the people how and what we wanted to build, what new and hitherto unseen things we were striving for. But can we go on showing the people what we want to build? No. Even an ordinary labourer will begin to sneer at us and say: "What use is it to keep on showing us what you want to build? Show us that you can build. If you can't build, we're not with you, and you can go to hell!" And he will be right.¹⁴

Although the "building" Lenin referred to here was analogical (he was addressing political education specifically), he was arguing that hands-on work was the only means to build the Soviet state. It was no longer the time for theories, manifestoes, or pictures of the communist future. It was time to build. Soviet architects and physical planners had a mandate—and a lot of work to do.

One more conceptual problem arises, however, if we consider that planning is, by its very nature, a *projective* act (utopian, if one wants to take it that far). The plan is a preconception of how systems, objects, and people will be organized in space. The relationship between praxis

¹⁴ Vladimir Ilich Lenin, "The New Economic Policy and the Tasks of the Political Education Departments," in *Report To The Second All-Russia Congress Of Political Education Departments* (1921 (October 17)).

and projective planning is one destined to be fraught. If the plan immediately precedes instantiation, can we characterize that activity as praxis? I am arguing that we can, and that the early Soviet planning projects investigated in this dissertation collapsed the distance between projection and action.

Walter Benjamin spent two cold months in Moscow in 1926-27, hoping to draw the object of his obsession, Latvian revolutionary Asja Lacis, out of a sanatorium. In the long intervals between seeing her, he traversed the city by foot and public transport. Benjamin didn't understand Russian—he was reliant on friends to assist with communication—so he mostly was left to observe intently, recording fragmented observations that he intended to transform into an essay for Martin Buber's *Die Kreatur*.¹⁵ Benjamin wrote to Buber upon his return to Berlin that,

I want to write a description of Moscow at the present moment in which “all factuality is already theory” and which would thereby refrain from any deductive abstraction, from any prognostication, and even within certain limits, from any judgment—all of which, I am absolutely convinced, cannot be formulated in this case on the basis of spiritual “data,” but only on the basis of economic facts over which few people, even in Russia, have a sufficiently broad grasp. Moscow, as it appears at the present, reveals a full range of possibilities in schematic form: above all, the possibility that the Revolution might fail or succeed. In either case, something unforeseeable will result and its picture will be far different from any programmatic sketch one might draw from the future. The outlines of this are at present brutally and distinctly visible among the people and their environment.¹⁶

The task that Benjamin set for himself was to record Moscow dispassionately, proffering no judgment. As he observed it, Soviet Russia remained in a state of suspended transition, which was not to say that Moscow was in some condition of stasis. On the contrary, it was a context in which a “full range of possibilities”—anything—could happen. Because the city was so inherently strange and radical, Benjamin proposed to act as mere scribe. Messy and contradictory

¹⁵ Benjamin was in Moscow from December 6, 1926 to the end of January 1927. Quote from Walter Benjamin and Gary Smith, *Moscow Diary* (Cambridge, Mass.: Harvard University Press, 1986), Afterword, 137.

¹⁶ *Ibid.*, 132-33.

everyday life itself generated intellectual fodder, or “all factuality is already theory.” Even if he tried to predict Moscow’s future, in utopian fashion or otherwise, the facts on the ground would develop and “something unforeseeable” would be the result. In just a few weeks in Soviet Russia, Benjamin grasped first, the utility of dealing with the facts of the present—let’s call that praxis—and second, the futility in such a transitional context of projecting too far into the future. He proposed a means of dealing with Moscow’s transitory state that aligns with the practices of early Soviet physical planners: remain alert to the promise of the future, but tackle the present.

I was drawn to this period and geography because of the remarkable visionary socialist urban theories; these ideas are folded into the middle of this dissertation. But the narrative thru-line traces the successes and failures of urban experimentation through *materialization*. It is constructed “on the basis of economic facts,” as well as I could assemble them. I submit that the real work of building distinctly socialist urban forms occurred through trial-and-error processes and on-site discoveries that eventually established new modes of urban practice and theory.

Defining Soviet Planning

What did the term “planning” evoke at the beginning of the Soviet period? According to E.H. Carr, economic historian of the Soviet Union, “the word ‘planning’ is held merely to mean the exercise of state authority to regulate the economy.”¹⁷ In a command economy like the Soviet Union’s, planning was understood, first and foremost, to be an activity of state-controlled fiscal projection and oversight. In capitalist or current contexts, planning more often refers to

¹⁷ Edward Hallett Carr, *Foundations of a Planned Economy, 1926-1929*, ed. R. W. Davies (London: Macmillan, 1969), 787.

spatial projection and oversight. Conflation of these two activities has leaked into scholarship on Soviet history, obscuring what type of planning expertise was at work in any given scenario. In *Magnetic Mountain*, the seminal English-language history on the construction of Stalinist culture, Stephen Kotkin uses the term “planner” indiscriminately to refer to a range of expert types. Through terminological imprecision, Kotkin’s damning commentary on the state of urban affairs in Magnitogorsk elides which type of planner is to blame.¹⁸

To give accurate voice to the protagonists in this story, we must be very precise with our terminology, separating and defining the two interdependent yet distinct planning disciplines that are specifically named in Russian: *planirovanie* (state economic planning) and *proektirovanie* (physical-spatial planning). For this study, the difference matters: unless economists and designers are allowed disciplinary and rhetorical autonomy, the intense negotiations that occurred between them to establish the ground rules for Soviet space making are lost. While the relationship between economic planning and physical planning is intense and intertwined in these stories, physical planning is the focus of this work.

Both planning disciplines operated under the auspices of the State Planning Commission (*Gosplan*), although it was not until the first Five-Year Plan that physical planners were given much of a role to play. Gosplan was established at the start of NEP in 1921. Its economists were tasked to stabilize an economy wrecked by overly rapid economic nationalization, and they did so through “strategic retreat,” allowing small-time capitalist activities within an overall socialist economic framework. Because so much effort was put toward jumpstarting the economy and

¹⁸ Take, for example, the following: “The urban geography of Magnitogorsk was defined by the priorities of the socialist revolution, which placed heavy industry above all else, and by the geography of the industrial layout; but it was also defined by the incompetence of the **planners** and the local officials...” Stephen Kotkin, *Magnetic Mountain : Stalinism as a Civilization* (Berkeley: University of California Press, 1995), 144.

balancing the budget, very little physical planning was undertaken during NEP. Lenin's pet project to electrify the whole Soviet landmass—the GOELRO Plan—engaged both economic and spatial planning, and a limited number of critical sites, like Baku, did undergo physical planning efforts. Gosplan's monthly journal, *Planovoe khoziaistvo*, however, was effectively devoid of articles related to capital construction through the 1920s. There was to be no *proektirovanie* until *planirovanie* figured out how to fund it.

Proektirovanie was a little used term in the 1920s, a fact that underscores the scarcity of physical planning efforts. There was a small cadre of experts thinking about and, in limited ways, affecting change on the urban fabric. What did they call their practice? “City-building” (*gradostroitel'stvo*), a direct Russian translation of the German term *städtebau*, was the term utilized by Aleksandr Ivanitskii, the physical planner from Moscow who formulated Baku's first general plan (Chapters 1-3). Although he was educated as a civil engineer in St. Petersburg before the revolution, Ivanitskii sought to establish Soviet city-building as a discipline distinct from architecture or engineering.¹⁹ The discipline now well established as urban planning was a nascent field in all geographical contexts at the start of the 20th century; in the Soviet Union, its arrival just happened to coincide with the shift in economic and political regime. Since both the state and the discipline were emergent, the precepts of socialist spatial organization were formulated in a rich field of interaction that included architects, engineers, economists, political theorists, state, regional and municipal administrators and common citizens. Each of the sites I researched for this dissertation featured a different cast of characters. One of my methodological

¹⁹ Heather D. DeHaan, *Stalinist City Planning: Professionals, Performance, and Power* (Toronto ;Buffalo: University of Toronto Press, 2013), 3.

challenges was to figure out exactly who the important actors were in each case, by cross-referencing a wide variety of sources.

According to one 1929 source, “in the entire USSR there are only 50 physical planning specialists,” a small number attributable to both an inconsequential amount of work and state neglect of educational programs to train future experts.²⁰ Therefore, the first generation of Soviet city-builders—Ivanitskii and forty-nine colleagues—was also the last generation of Russian imperialist city-builders. In the process of setting the rules for socialist space making, they researched and experimented with planning practices and architectural types from non-socialist contexts that they had studied and visited. Ebenezer Howard’s Garden City was frequently cited as an apt model to house the proletariat, as were industrial worker villages Bournville and Port Sunlight in the UK. Ivanitskii, for one, gathered physical planning and design documents from the US and France, among other countries, and he sifted through them to find transferable policies for Soviet cities. Ivanitskii was a pragmatist, and he saw no reason why pre-Soviet cities like Baku couldn’t be transformed into socialist cities through modernization and equitably distributed housing and services. Catholic borrowing practices weave through these stories.

The term *gradostroitel'stvo*, and even the practice of working in and on the city, came under fire during the socialist urbanism debate of 1929-1930 (Chapters 4-5). One linguistic root in *gradostroitel'stvo* is *gorod* (city), a settlement type deemed inappropriate in the socialist context by the so-called “disurbanist” camp. In his provocative essay “Not a city, but a new type of settlement” from 1930, disurbanist theorist Mikhail Okhitovich pulled out all rhetorical stops to

²⁰ Speech given by NKVD representative, B.S. Gurevich, at the Gosplan conference on November 26, 1929. Gosplan-SSSR, *K Probleme Stroitel'stva Sotsialisticheskogo Goroda* (Moskva: Izd-vo Planovoe Khoziaistvo, 1930), 28.

stress that *city* was an outmoded concept under socialism: “The difficulty now with problems of settlement and housing is that people are trying to resolve them in an overly simple manner. Instead of destroying the conflict between village and city (K. Marx), they suggest that we replace it with a *city* of industry and a *city* of agriculture; in place of a *new settlement* that would destroy village life and urban congestion (Lenin) they insert an *old city-like settlement*.” Okhitovich went on to propose that, “instead of urban congestion, urban clusters, urban concentration of people, buildings, and things—we should have extra-urban, non-urban, *decentralized* settlement.”²¹ A new linguistic and spatial vocabulary was required, insisted Okhitovich, which was why both the word and concept of *city* had to be jettisoned. In its place Okhitovich inserted the notion of settlement (really, re-settlement: *rasselenie*)—a historically situated term that gives the title to this dissertation.

Settlement is a vague concept, which was useful under the circumstances, since the spatial model appropriate to socialism had yet to be determined. It envisioned new Soviet citizens turning away from the dense industrial city to face the immeasurable depth and breadth of the Soviet landscape. Using the direct translation of re-settlement, *rasselenie* conjures images of bodies moving through space, dispersing, searching for sites worthy of occupation. It suggests a pioneering spirit and the distinctly non-urban density of the village (*selo*). Chapter 4 covers this debate in great detail and Chapter 5 looks at the spatial solutions to the problem of socialist settlement that came out of the design competition for Magnitogorsk, a tabula rasa steel town.

²¹ M. Okhitovich, "Ne Gorod, a Novyi Tip Rasseneniia (Not a City, but a New Type of Settlement)," in *Goroda Sotsializma I Sotsialisticheskaia Rekonstruktsiia Byta*, ed. B. Lunin (Moskva: Tip. Mospoligrafa «Iskra Revoliutsii», 1930), 153-55. All italics are original.

The many terms and concepts under contestation in the earliest years of socialist physical planning should reveal the incipient nature of the task.

Methodology: From Microhistory to Metanarrative

This dissertation links close readings of three sites to construct a broad narrative of the origins and evolution of socialist space making in the Soviet Union. This structure developed over the course of the project. In the beginning, there was a single site: Kharkiv, the capital of Soviet Ukraine from 1922-1934, a secondary city suddenly thrust into a representational role.²² I posited that Kharkiv was a productive site to investigate the chains of power and decision-making processes for architecture and urban infrastructure projects in the early Soviet state. A serious conceptual problem soon reared its head: *Kharkiv* as site and topic was both too broad and too particular. Too broad: because design and construction in the city during this period was copious and dispersed. The scale and variety of activity in all of Kharkiv was too great to engage in thick description. Too particular: because a monographic work on a single city could not capture the rich heterogeneity of planning experimentation occurring throughout Soviet territories. To build a narrative of the process by which socialist physical planning emerged, multiple, diverse, detailed examples were needed.

In searching out additional sites of inquiry, I looked for industrial centers where physical planning occurred early, where targeted capital improvements bolstered economic development, and where the precepts and practices of socialist urbanism were tested on specific projects. I sought to gather cases that differed from one another in myriad ways, to access the

²² Socialist state-building efforts in Kharkiv coincided with the rise of Constructivist architectural practice, so there was no shortage of seductive buildings to analyze.

heterogeneity that a single site lacked. My self-imposed rules stipulated that the sites vary geographically and culturally, be centered on different branches of industry, and represent contrasting urban morphologies. By following capital expenditures, and keeping variety in mind, I settled on three sites selected by the Soviet government for rapid development in exceedingly difficult economic circumstances, each of which played an important role in early Soviet industrial growth. Baku, Azerbaijan was the Soviet oil bank; Magnitogorsk, Russia the model Soviet steel town; Kharkiv, Ukraine the source of a preexisting skilled workforce able to staff a Soviet machine-building industry. To confirm the sites' variety, I developed the following table:

Site	Republic	Material	Industrial Production	Planning episode	Author	Urban Strategy	Urban Morphology
Baku	Azerbaijan	Oil	Oil extraction + refinery	1924-27	A. Ivanitskii: Moscow	Coexistence	Capitalist City/Socialist Overlay
Magnitogorsk	Russia	Iron ore	Steel	1929-31	E. May: Frankfurt	"Pure Socialism"	Tabula Rasa Socialist City
Kharkiv	Ukraine	Personnel	Tractors	1930-32	P. Aleshin: Kyiv	Americanism + Standardization	Satellite / Linear City

Considered together, early planning episodes in these diverse locales ran from 1924 through 1932 and drew in experts from Detroit, Frankfurt, Moscow and Kyiv. Morphologically, the urban forms at play included a preexisting capitalist core, a tabula rasa site, and a satellite city. The answer to the common design problem—how to install socialist urbanism?—would be differently formulated in each instance. Finally, unscientifically, I intuited that each of these sites would tell a compelling standalone story. In the course of research, the individual stories began to reach toward one another and interweave to a surprising degree. Not only did the rigid accounting of difference that initially justified the site selection cease to matter, it fell away because the cellular nature of the table actually blocked the emergence of a linked narrative arc across Soviet time and space.

The overarching narrative about the first decade and a half of Soviet spatial experimentation is thus constructed from three microhistories. Why use the term microhistory? Although they are named for convenience by geographical site, each of the three parts of the dissertation really focuses on a singular project, or planning “incident.”²³ In the case of Baku it is the General Plan of 1927; for Magnitogorsk it is the All-Union Open Design Competition for the new socialist city; for Kharkiv it is the design and construction of the Kharkiv Tractor Factory. My approach to each of these incidents is in accord with the microhistorical method in studies of the modern city described by Nancy Stieber:

There is a preference for the concrete over the schematic, an openness to observation, and a distrust of any theoretical construction that might prove constraining. Instead of framing historical problems within long-range developmental trajectories, historians read minute, empirically observable particularities to reveal the codes, forces, and processes at work in shaping cultural forms. There is a rejection of abstraction...in favor of the mapping of material practices, exposing the making of culture as active agent rather than passive reflection.²⁴

This project stands out from its predecessors by favoring concrete particulars, as Stieber notes, and seeking out the actors, codes, forces and processes that contributed to material examples of early Soviet planning practice.

I posed a series of questions to each site. How did state and local economic conditions affect architecture and planning decisions? What were the spatial issues particular to the branch of industry at the center of the story? Who were the main agents of change—not just physical

²³ Ten years after he dismissed microhistory as a mere “history of events,” Fernand Braudel, founder of the *Annales* School and proponent of the *longue durée*, conceded that: “The incident (if not the event, the socio-drama) exists in repetition, regularity, multitude, and there is no way of saying absolutely whether its level is quite without fertility or scientific value. It must be given closer examination.” Carlo Ginzburg, “Microhistory: Two or Three Things That I Know About It,” *Critical Inquiry* 20, no. Autumn (1993): 13.

²⁴ Nancy Stieber, “Microhistory of the Modern City: Urban Space, Its Use and Representation,” *Journal of the Society of Architectural Historians* 58, no. 3 (1999): 383.

planners, but administrators? I sought to expose the improper assignation of “total planning” to this period and territory, a concept that effectively scrubs out individual action. I began research in each case by translating bureaucratic meeting minutes related to the planning efforts.

Empirically recoverable details emerged: the protagonists of each story and their preoccupations, the planning tasks, and funding mechanisms. Information gleaned about the daily life of the projects in turn contextualized the rare drawings and photographs I managed to find, leading to more fruitful visual analysis.

The tightly drawn geographic and temporal boundary of the microhistorical incident allowed for targeted research, a necessity in post-Soviet archives. Many archival administrations refuse access to their collections unless a research topic has limited boundaries. This may be due to the fact that cataloguing systems in many former Soviet state archives still consist of index cards, hand-written inventories, and the memory cache of seasoned archivists; reliable digitally searchable databases exist for only the most powerful and well-funded repositories like the State Archive of the Russian Federation (GARF). Armed with circumscribed research episodes, I was able to obtain materials quicker and reach a greater degree of documentary depth. In the Azerbaijan State Archive, for example, a single archivist—provided a clear topic—directed me immediately to a store of invaluable documents.

The microhistories were built from evidence gathered in Azerbaijani, Canadian, Russian, Ukrainian and US state, local, and private archives and libraries (a full list is included in the sources). Gaining access to historical materials in post-Soviet states, as the notes above suggest, was often a frustrating process. In my first archival foray, I naïvely targeted visual materials: the maps, plans, drawings, and photographs that I felt best equipped to read as a design practitioner. As I now understand, visual materials, maps especially, are exceedingly difficult to access for embedded historical reasons. Cartography was a practice linked to state security in the Russian

Imperial era, and the Soviets assumed similar policies. During the 1920s, a huge debate roiled about the “right of vision,” and the degree of secrecy for civil maps; any map more detailed than 1:100,000 was classified. In 1935, after a period of relative openness, all maps and cartographic functions were placed under the control of the NKVD (People’s Commissariat for Internal Affairs, precursor institution to the KGB), and map sharing became a criminal offense.²⁵ When the German army attacked the Soviet Union in 1941, *all* maps were taken out of public circulation—removed from libraries and retail. Pervasive secrecy surrounds the sharing of cartographic and planning materials even today, evidenced by the fact that employees of Giprogor, the Russian State City Planning institute, are banned from travelling abroad for a period deemed appropriate to their level of security clearance.²⁶ The state is not the only body afflicted with cartographic paranoia: MMK, the private company that owns the Magnitogorsk Iron and Steel Works, strictly forbid me from accessing their planning materials, despite official sponsorship by a Russian university and copious assurances of my innocuousness.

Even when there was no purposeful archival stonewalling, the early Soviet planning materials that I sought tended to be diffusely dispersed. Like the practice of planning itself, which drew in experts and funding from many different organizations and geographies, documentation on planning projects is spread throughout the archival landscape. Every branch of state power seemed to have its fingers in physical planning projects, and yet no one institution’s material holdings provide a full picture. State Archives of the Economy, of the “Highest Organs of Power” (the Party), of Literature and Arts, of Photographic, Cinematic, and

²⁵ Elena Korotkova, "Planning Maps in Russia: From State Secrecy Towards World Openness," in *Fellows Seminar, Davis Center for Russian and Eurasian Studies* (Harvard University October 14, 2014), 28.

²⁶ *Ibid.*

Technical Documentation all hold materials that have proven useful in piecing together the stories of each site.

A last note on archival serendipity. Pavel Aleshin, the Ukrainian architect and physical planner who authored the Kharkiv *sotsgorod* explored in Chapter 7, twice gifted me historical materials of such depth and interest that he deserves special mention. Aleshin's personal archive resides at the Ukrainian State Archive of Literature and Arts in Kyiv. He was, judging by his papers, an unrepentant packrat. Aleshin's inability to discard proved useful not only for constructing the story of the Kharkiv Tractor Factory, but of Magnitogorsk as well. A thick envelope filled with photographs of competition entries accompanied his original copy of the Magnitogorsk All-Union competition brief (a competition he did not enter). Many of these entries have not been previously published; they are the primary evidence that drives the first section of Chapter 5. Aleshin returned to assist me, again—in Montreal. While working in the library of the Canadian Centre for Architecture (CCA), I noticed Aleshin's name scrawled on the flyleaf of a pamphlet. After further inquiry, a cart piled with the forty-seven books from his professional library—that somehow ended up in their collection—was wheeled out to me. I expected the uncanny find to be relevant for the Kharkiv case, and indeed it has been. With his emphatic underlines as proof, it is possible to trace how Aleshin became acquainted with the theories and forms of the linear city model that he utilized at KhTZ, for example. But, if we take Aleshin as representative of early Soviet planning practitioners, the implications for knowledge expansion about the profession in this period are much greater. He trained as an engineer and became established as an architect before the revolution. He was well travelled: the book he

authored in 1911 on school architecture is illustrated with examples from abroad.²⁷ After the revolution, Aleshin became involved with large socialist construction projects and quickly had to become knowledgeable about current debates. His library holds various types of architectural and planning texts, from technical manuals, to books on the theory, form and role of worker housing and the socialist city.²⁸ In short, technical and ideological training was necessary even for seasoned practitioners. Amazingly, Aleshin was in a position to utilize immediately what he was reading in the design for the KhTZ *sotsgorod*. Read, apply, adjust, write. Repeat. Aleshin confirms that socialist urban forms were established through praxis.

All three microhistories draw on political, economic and social history, urban theory, in-depth design analysis and close readings of visual and constructed artifacts to provide insight into how “actually existing socialism” was constructed. I cross-referenced primary archival documents to reveal the political and economic conditions early Soviet physical planners worked within. For insight into architectural materiality, I read space in plans, photographs and in what remains of these settlements today, all of which I have visited. By interrogating texts, images and spaces in turn, I was able to substantiate (or refute) hunches drawn from single-source reading. This iterative process mirrors the activities of my historical protagonists. Soviet designers generated the discipline of socialist urbanism by asking questions, engaging projects on concrete sites, proposing solutions, receiving feedback and finally developing long-term practices.

²⁷ P.F. Aleshin, *O Sovremennoi Shkol'noi Arkhitekture : Otdel'nyi Ottisk Doklada Avtora 4-Mu S"lezdu Russkikh Zochikov* (S.-Peterburg: Gos. tipografiia, 1911).

²⁸ An example of a technical text from the Aleshin library at the CCA: G.B. Barkhin, *Sovremennye Rabochie Zbilishcha* (Moskva: Voprosy Truda, 1925). Examples of socialist city theory texts: B. Lunin, *Goroda Sotsializma I Sotsialisticheskaia Rekonstruktsiia Byta* (Moskva: Tip. Mospoligrafa «Iskra Revoliutsii», 1930). Gosplan-SSSR, *K Probleme Stroitel'stva Sotsialisticheskogo Goroda*.

Structure of the Dissertation

The dissertation builds chronologically, with some crucial temporal overlap between the parts to construct a Soviet-scale narrative.

Part I (Chapters 1-3), “Defining the Tasks of Socialist City-Building, 1920-27,” takes place in oil-rich Baku. Over three chapters, the Baku section traces the emergence of physical planning as a tool in the Soviet administrative arsenal by focusing on the development of one of the first Soviet general plans. Baku presented all of the standard characteristics and attendant challenges of the “City of Socialist Man”: a pre-revolutionary urban core, poor worker housing stock, underdeveloped internal transportation and industry within the city limits adjacent to residential areas. In Baku, experimentation originated not only with the planner but also with the clients—the state oil company, Azneft, and the municipal government, Baksovet. The Baku chapters examine how expert socialist planning clients were made, a process that began in a planning vacuum (with some notable failures), and evolved as clients learned which questions to ask and whom to summon for planning assistance. Chapter 1, “Socialism Means Housing,” examines how worker housing emerged as one of “the most critical economic issues to confront the Baku oil industry”.²⁹ It narrates how Azneft—and particularly its director, Aleksandr Serebrovskii—imported planning expertise to solve intractable housing shortages in the first years of Soviet rule in Baku, and analyzes the types of housing that the oil company provided its workers. Chapter 2, “Constructing the Educated Client,” follows the early stages of the 1927 Baku General Plan. It describes the initial scope of the plan, and investigates how that scope shifted over the course of the planning effort as the planning team acquired necessary data and

²⁹ Azneft, *Obzor Azerbaidzžanskoi Neftianoi Promysblennosti Za Dva Goda Nacionalizatsii: 1920-1922* (Baku: Azneft, 1922), 261.

the client group gained experience. Chapter 3, “Setting the Tasks for Soviet Planning,” provides a close reading of the plan’s graphic documentation. It argues although the 1935 General Plan for Moscow is universally cited as the working model for the Soviet city, Baku was its proving grounds. In Baku, a geographically peripheral but economically central site, the ten points that drove most Union-wide planning from the first Five-Year Plan onward were formulated and tested. These included state control of housing; planned development of residential areas; spatial equality in the distribution of items of collective consumption; limited journey to work; stringent land-use zoning; rationalized traffic flow; and extensive green space.

Part II (Chapters 4-5), “Toward the Problem of Socialist Space, 1929-1930,” focuses on steel town Magnitogorsk, a first Five-Year Plan show project on the Ural steppe that sparked a late-breaking intellectual debate about socialist spatial organization. Chapter 4, “The Great Debate,” explores the intense public discussion about socialist settlement that erupted in late 1929 in response to the requirements of Stalin’s first Five-Year Plan for industrial growth. Seminal texts from the Moscow debates anchor the chapter and lead to the brief for the Magnitogorsk design competition. Chapter 5, “Competition, Visions, and Facts on the Ground,” closely reads the competition brief and the entries for the Union-wide design competition for Magnitogorsk. Irresolvable conflicts between the visionary schemes and difficult conditions on the site led Soviet authorities to invite German architect, Ernst May, to design the so-called “socialist city” (*sotsgorod*) adjacent to the steel factory. This chapter investigates the work of May and his brigade of foreign architects in Magnitogorsk, and narrates some of the challenges the seasoned architect met on site.

Part III (Chapters 6-7), “Socialist Urbanization through Standardization, 1929-1932,” centers on the Soviet-Ukrainian capital of Kharkiv, where a tractor factory and a workers’ settlement tested how standardized architecture might accelerate construction of industrial and

social infrastructure. In Kharkiv, experimentation occurred in the realm of project delivery, which sampled architectural typification and standardization as a means to instantiate the diffuse industrial complex pictured on the projective maps for the first Five-Year Plan. Chapter 6, “From Tractors to Territory,” provides a view into early stages of architectural standardization in the USSR by following the development of the Kharkiv Tractor Factory (KhTZ). Constructed in 1930, on slightly adjusted designs for the Stalingrad Tractor Factory by American architect Albert Kahn, KhTZ is also one of the first examples in which a diffused settlement model was made possible by the swift deployment of an American industrial architectural typology. Chapter 7, “*Sotsgorod* as Socialist Urban Model,” charts the design process for the socialist city built adjacent to the tractor factory. For *sotsgorod* architects and planners, “standardization” meant devising a limited number of replicable designs from the scale of the residential unit, to the building type, to the block. Design standardization permitted the timely completion of the working drawings, even with logistical setbacks and ideological inconstancy.

Design innovation emerged on these sites through pure invention, but also through import of heterogeneous expertise. American and European architects, technologies, and construction techniques appear often in the foundation stories of these settlements, upsetting common assumptions about Soviet isolationism.

Contributions to the Field

This dissertation makes four major contributions to the historiography of socialist physical planning.

1. Provides empirical study of foundational socialist built environment

In the work of the few architectural historians to address it, early Soviet urbanism has been framed as a purely theoretical, which is to say diagrammatic, paper project.³⁰ But what diagrams! Visionary urban schemes, like those that emerged from the Great Settlement Debate of 1929-30 (analyzed in Chapter 4) are so provocative that they retain currency in schools of design today for their spatial qualities and for the degree to which formal and social innovation coincide. Constructed architectural and urban works of the visionary cast were, however, exceptional: they constituted a very small percentage of what was actually built in the early Soviet period. Scholarly insistence on celebrating the extraordinary has, to date, foreclosed scholarship on innovative integrative practices.³¹

This dissertation analyses understudied built projects of the early Soviet period, and in doing so it contributes empirical scholarship, by which I mean deep archival investigation and close spatial reading, to the historiography of the socialist built environment. By using the term “empirical,” I do not wish to suggest that I have taken a positivist approach to the material. Many of the examples of photographic documentation I gathered in Soviet-era archives were clearly staged, which is to say they present a particular state-sanctioned version of events. In recent scholarship, Evgeny Dobrenko has proposed that aesthetic production during Stalinism—and here I add the built environment as a category of aesthetic production—was

³⁰ Catherine Cooke, *Russian Avant-Garde Theories of Art, Architecture and the City* (London: Academy Editions, 1995); S. Khan-Magomedov and Catherine Cooke, *Pioneers of Soviet Architecture: The Search for New Solutions in the 1920s and 1930s* (New York: Rizzoli, 1987); S. O. Khan-Magomedov, *Arkhitektura Sovetskogo Avangarda* (Moskva: Stroiizdat, 1996); Anatole Kopp, *Town and Revolution; Soviet Architecture and City Planning, 1917-1935* (New York: G. Braziller, 1970); Manfredo Tafuri, "Toward the Socialist City," in *The Sphere and the Labyrinth* (Cambridge, MA: MIT Press, 1990).

³¹ One notable exception is a book chapter in an edited volume: Milka Bliznakov, "Urban Planning in the Ussr: Integrative Theories," in *The City in Russian History*, ed. Michael F. Hamm (Lexington: University Press of Kentucky, 1976).

done in service of creating a simulacrum of socialism; that images, texts, and objects that emerge from this context cannot be taken at face value.³² I counter and complicate his argument in two ways. First, I submit that this work is an analytical compilation that summons and sifts through materials from a wide variety of sources. No single textual document or image was relied upon as an immutable factual source. Second, and more importantly, I insist that built objects contain their own forms of knowledge that are not so easily wrangled into state service, and further that they spur activity that their clients and authors could not have foreseen. City plans and works of architecture might be said to support a certain way of life—but how they perform often eludes stated aims. This study is about real life, narrated through the first attempts at construction under socialism. These contested experimental design projects undertaken on industrial sites were foundational for the establishment of socialist urban practices in the following years. Often, as in the case of Baku, there was no explicit political ideology behind the drafting or implementation of the plan.

By understanding a wider variety of experimental urban practices—from paper to concrete—the works of avant-garde visionaries can be better situated. Constructivist theoreticians and practitioners like Moisei Ginzburg, the Vesnin Brothers, and Ivan Leonidov were active participants in the nitty-gritty tasks of building the Soviet environment, as Catherine Cooke demonstrated in her 1974 dissertation at the University of Cambridge, “The Town of Socialism.”³³ Cordoning their work off from less seductive aesthetic experiments risks celebrating formal dynamism in isolation and misunderstanding what their work sought to accomplish for the culture in which it participated. Recent art historical scholarship has

³² See E. A. Dobrenko, *Political Economy of Socialist Realism* (New Haven: Yale University Press, 2007).

³³ Catherine Ann Chichester Cooke, “The Town of Socialism” (University of Cambridge, 1974).

challenged claims that avant-garde practitioners were co-opted against their will to work within state structures.³⁴ Soviet architects and physical planners, avant-garde and not, were engaged in an evolutionary process to move socialist spatial organization away from capitalist modes, a process that continued well beyond the period explored here.³⁵

Catherine Cooke's dissertation, never published, is the historical study that comes closest to covering similar intellectual ground to this dissertation. As Cooke notes in her introduction, and repeated later in her career, her research into the great socialist city debate of 1929-30 was sorely limited by her inability to access Soviet archives. Her requests to conduct research in the USSR were denied by the Soviet government, a fact not surprising given the military-strategic importance that physical planning still enjoys in post-Soviet Russia. Cooke's study relied on the period newspapers, books, and journals that she was able to access in the UK and the US. Given such limited resources, her dissertation is a remarkably thorough study of socialist urban theory and some aspects of urban practice that stretches from 1917 through 1971 (though it centers on the 1929-30 debate). What it lacks is empirical data on the construction of key built projects—which is where this work enters. How did physical planners intersect with political and theoretical imperatives about the building environment? Who decided what was constructed, and how? What were the local debates that drove what was ultimately built? How important was socialist urban theory to the actual work to build socialist environments? Only by looking closely

³⁴ Maria Gough, *The Artist as Producer: Russian Constructivism in Revolution* (Berkeley: University of California Press, 2005); Christina Kiaer, *Imagine No Possessions: The Socialist Objects of Russian Constructivism* (Cambridge, Mass.: MIT Press, 2005).

³⁵ For discussion of the shift in architectural production at the beginning of the 1930s, and “the intersection of aesthetics and politics in the making of a new, historically-informed Soviet architecture,” see Richard Anderson, “The Future of History: The Cultural Politics of Soviet Architecture, 1928-41” (Columbia University, 2010).

at specific sites can we ascertain the degree to which theory and practice overlapped, or the gap between them.

2. Offers a comparative parallel study of socialist urban development

This dissertation follows the development of three geographically dispersed sites over a critical fifteen-year period. The majority of works on Soviet cities are monographic; they examine a singular urban center over an extended timeframe, using the chosen city as a lens through which to extrapolate broader economic, political, or societal themes.³⁶ Armed instead with three sites and a narrow temporal frame, this study creates a rich, comprehensive conceptual map of socialist urban theory and practice that spans Soviet geography. These sites relate to one another—they fall under the same political-economic umbrella of Soviet socialism—but each raises specific issues depending on the site’s centrality to the Soviet economy, its industry, its chronology and not least its urban morphology.

³⁶ Soviet city monographs represent myriad disciplinary perspectives: various branches of history, literature, political science. A limited number that influenced my work are mentioned here. **On Baku:** Sh S. Fatullaev-Figarov, *Arkhitekturnaia Entsiklopediia Baku* (Baku-Ankara: Mezhdunrodnaia Akademiia Arkhitektury stran Vostoka, 1998). **On Kharkiv:** Volodymyr Kravchenko, *Khar'kov--Kharkiv : Stolitsa Pogranich'ia* (Vilnius: Evropeiskii gumanitarnyi universitet, 2010). **On Magnitogorsk:** V. I. Kazarinova, Pavlichenkov, Vaslii Ivanovich, *Magnitogorsk, Opyt Sovetskoi Arkhitektury* (Moskva: Gos. izd. lit. po stroitel'stvu, arkhitekture i stroit. materialam, 1961); Evgeniia Vladimirovna Konyshcheva and M. G. Meerovich, *Ernst Mai: Proektirovanie Sotsgorodov V Gody Perykh Piatiletok (Na Primere Magnitogorska)* (Moskva: URSS URSS, 2012); Kotkin, *Magnetic Mountain : Stalinism as a Civilization*. **On Moscow:** Katerina Clark, *Moscow, the Fourth Rome : Stalinism, Cosmopolitanism, and the Evolution of Soviet Culture, 1931-1941* (Cambridge, Mass.: Harvard University Press, 2011); Jean-Louis Cohen, *Le Corbusier and the Mystique of the Ussr : Theories and Projects for Moscow, 1928-1936* (Princeton, N.J.: Princeton University Press, 1992); Timothy J. Colton, *Moscow : Governing the Socialist Metropolis*, Russian Research Center Studies (Cambridge, Mass.: Belknap Press of Harvard University Press, 1995); Karl Schlögel, *Moscow, 1937*, ed. Rodney Livingstone (Cambridge, MA: Polity, 2012). **On Nizhni Novgorod / Gorkii:** DeHaan, *Stalinist City Planning : Professionals, Performance, and Power*. **On Petersburg / Leningrad:** Katerina Clark, *Petersburg, Crucible of Cultural Revolution* (Cambridge, Mass.: Harvard University Press, 1995).

3. Explicitly links economic period to urban development

One of the most important contributions of this dissertation is that it brings discussion of national scale economic policy directly to bear on the exploration of socialist physical planning. Economic decisions at all levels determined what was possible to envision for the new socialist urban environment.

When the Bolsheviks issued the Land Decree on October 26, 1917, they assumed responsibility for all future urban development in the territories under their control.³⁷ Over the fifteen years studied in this dissertation, the Soviet Union operated under three distinct economic regimes, each of which engaged differently with the capital-heavy enterprise to repair and improve existing urban centers and construct new industrial enterprises. War Communism (1917-21) was a fully socialized, militarily focused command economy. The intertwined crises of civil war and economic collapse manifested in material destruction and abandonment of now-Soviet cities; proactive urban development was non-existent. The New Economic Policy (NEP: 1921-28) was a so-called “state capitalist” economy in which limited private commerce coexisted with nationalized industry. In strategic cities like Baku, targeted development in transportation and housing infrastructure was seen as critical to economic recovery. But for the USSR as a whole during NEP, urban development was sparse and of limited scope. The first Five-Year Plan (1928-32) marked a sea change in the Soviet state’s attitude to urban development. The projective map of the first Five-Year Plan was dotted nationwide with massive industrial

³⁷ "Decree on Land" of 26 October 1917, published on the front page of *Izvestiia*, newspaper of the Central Executive Committee and the Petrograd Soviet of Workers' and Soldiers' Deputies, 28 October. The first paragraph reads: "Landlordly ownership of land is abolished immediately without any form of compensation." The second paragraph extends appropriation to church and monastic land, country estates, etc., with all rights being transferred into the hands of relevant local government organs. None of this was to extend to the land of ordinary peasants. Catherine Cooke Collection, Cambridge University, UK.

complexes to be designed, constructed, and made operational within a mere five years period: the race to “overtake and outstrip” (*dognat’ i peregnat’*) capitalist industry was on.³⁸

The shift from limited development during NEP to hyperdevelopment in the first Five-Year Plan is linked to a fundamental change in the way that the Soviet national budget was conceptualized, a topic that is covered in more depth in Chapter 4.³⁹ During NEP, a genetic (*geneticheskoe*) planning philosophy held sway. Soviet economic planners set annual “control figures”—projected revenues and expenditures—by considering historical tendencies both within and outside of national boundaries, and making educated guesses about the economy’s future trajectory. Genetic planning was predicated on the notion of a balanced budget, and as such capital expenditures on urban development were set by, and did not exceed, expected fiscal limits. A teleological (*teleologicheskoe*) planning philosophy took over at the onset of the Plan. Teleological planning was concerned foremost with the goals that the plan wished to achieve. The control figure became, in the words of Trotsky, “not merely a photograph but a command,” which is to say that revenues and expenditures became aspirational—focused on the *telos*, or endpoint that the state wished to reach—rather than based upon historical precedent.⁴⁰ What did this mean for the transformation of the Soviet built environment? Limits to urban development

³⁸ This plan to “overtake and outstrip” capitalist countries—a phrase originally used by Lenin—took on heightened meaning at the start of the first Five Year Plan. In a November 1928 speech at the Plenum of the C.P.S.U.(B.)

Stalin said, “we have overtaken and outstripped the advanced capitalist countries in the sense of establishing a new political system, the Soviet system. That is good. But it is not enough. In order to secure the final victory of socialism in our country, we must also overtake and outstrip these countries technically and economically. Either we do this, or we shall be forced to the wall.” I. V. Stalin, “Industrialisation of the Country and the Right Deviation in the C.P.S.U.(B).” On www.marxists.org. Accessed November 18, 2015.

³⁹ For definitions and discussion of genetic and teleological planning, see Chapter Two, “The Birth of Soviet Biopolitics” in Stephen J. Collier, *Post-Soviet Social : Neoliberalism, Social Modernity, Biopolitics* (Princeton [N.J.]: Princeton University Press, 2011).

⁴⁰ *Ibid.*, 57.

were no longer fiscal, but physical. In other words, *space* finally entered the picture. What were the physical limits of Soviet development? With territories and resources that spanned continents, urban theorists were finally given free reign to consider how a socialist organization of space—diffuse? nodal? linear? equitable?—might differ demonstrably from capitalist modes. It is no coincidence that the Great Socialist Settlement Debate coincides exactly with the shift to teleological planning; among the most vocal teleologists was VSUNKh economist, and settlement debate instigator, Leonid Sabsovich.

4. Upsets common assumptions about Soviet isolationism

This dissertation not only puts the urban experiments in Baku, Magnitogorsk, and Kharkiv on the map, it *changes* the map. (Figure 0.9) Soviet construction sites like these were understood in their time as important experiments, and their designers interlocutors, in discussions about what constitutes an appropriate spatial response to industry and modernity. Because of later political estrangements, this area of the world became isolated *ex post facto*. But architectural ideas and forms were not cordoned off in the 1920s. There was an active exchange of people, models and ideas about housing, mass production, and industrialization without concern to where borders lay.

This project contributes to the growing field of transnational history by highlighting the steady circulation of administrators, designers, technologies and spatial precedents through the Soviet Union and the West (particularly Germany and the United States) during the earliest years of the Soviet era. Early Soviet design culture was not totalized, centralized, or isolated; theory and practice were extremely dynamic. Because of the culture of crisis and Stalinist “tempo,” early Soviet planning was rife with transnational exchange, research, and borrowings, as archival materials for all three episodes covered in this study prove.

* * *

For much of the 20th century, socialist urbanism was the sole viable “other” to capitalist urbanism. There are places in the world—not just in the Eastern Bloc, but in Africa, Latin America, Asia (and not least China)—that were built according to a different set of ideological and spatial principles. But what were the principles behind socialist architecture and urbanism? How were they formed? The economic system—as practiced in the USSR—may have collapsed in 1991, but the socio-spatial experiments undertaken in the name of socialism deserve closer study.

This is a chapter in the history of urban planning and design that needs to be added to the canon and discussed with an eye to the contemporary urban condition. Soviet urban experimentation simply is not addressed in global urban histories. There are likely two reasons for this oversight. The first is ideological: socialism/communism (terms often used interchangeably), at least in the American context, is still suspect. The historiographical legacies of Cold War scholarship—which frame the Soviet Union as a menacing and oppositional force—still hold sway. The second is practical: Soviet archives were closed to this kind of research on industrial complexes and inner-Party squabbles about the proper spatial distribution of industry and population. Now the archives are, for the most part, open. The material I gathered in post-Soviet states makes this historical example available for comparison.

PART I

BAKU

Defining the Tasks of Socialist City-Building (1920-27)

CHAPTER 1. Socialism Means Housing

The housing question has been one of the most critical economic issues to confront the Baku oil industry, from the beginning of its development to the present time. Serious housing space shortages in the industrial and factory regions, and the unsanitary conditions of the majority of existing housing, long ago forced employers to build houses for their workers and laborers. Employers, however, acted with great reluctance because the houses took up land that could be drilled for oil, not to mention that providing housing meant expending large sums of their own monetary assets. If anything was done on this issue, it was almost exclusively by the largest oil companies. It was still too little to mitigate the overall housing crisis, however, because the growth of the oil industry meant that the numbers of oil workers grew larger and larger.⁴¹

—Azneft, 1922

The Apsheron peninsula, with Baku as its administrative and cultural center, was a prize acquisition for the Soviets, as it had been for the occupying Russians, English and Turks before them. Unfortunately for the new Soviet overseers of the territory, strikes, wars and revolutions in succession had wreaked havoc on the Apsheron oil fields and infrastructure by the time they acquired control in 1920. Recovery of the industry was imperative: the Bolshevik cause required fuel, and Baku was the primary source.

The shift to a socialist economy in Baku manifested first in state takeover of oil-bearing land. The Soviet government gathered land that ranged from large oil baron compounds to locally controlled plots to create a massive, lucrative territory. This territory was singly owned—by the Soviet state—but it was not singly administered. The urban center of Baku was overseen by the local municipal administration, Baksovet. Azneft, the state oil concern, controlled property affiliated with the oil industry and was the wealthier and more powerful of the two

⁴¹ Azneft, *Obzor Azerbaidzhanaskoi Neftianoi Promyshlennosti Za Dva Goda Nationalizatsii: 1920-1922*, 261.

administrations. Azneft's first director, Aleksandr Serebrovskii, was instrumental in modernizing and socializing Baku's oil industry. He recognized that both of these tasks required an accessible and committed workforce, which required housing.

The majority of this story takes place during the NEP period (New Economic Policy), from 1921-27. NEP was an economic hybrid, so-called "state capitalism" promulgated under the leadership of Lenin, who was pragmatic about the need to jumpstart the Soviet economy after the material and financial destruction of the Revolution and the Russian Civil War. Under NEP, private trade was legalized, foreign concessions sought and granted, and small-scale manufacturing denationalized. Baku thrived during NEP, as Azneft sought out foreign precedents and expertise to update the oil industry. It was common practice in the industry to test various drilling, extracting and refining technologies. A propensity to experiment trickled down to other spheres of activity in Baku, like urban development. Under Azneft's leadership, Baku's intractable housing problem was addressed with the same open-ended approach applied to solving technological problems. Since there were no replicable precedents, the rules for socialist development were far from set. This was where praxis came in: Azneft learned by doing.

This chapter examines how worker housing emerged as one of "the most critical economic issues to confront the Baku oil industry." It asks how Azneft addressed housing shortages in the first years of Soviet rule in Baku, and analyses the types of housing that the oil company provided its workers. The pressing question from the perspective of planning history asks: what role did physical planning play in solving Baku's housing problem? In other words, to what degree was the housing solution in Baku's oil fields systemically conceived? To answer these questions requires telling a story plagued by many false starts and a meandering search for solutions. It also requires beginning with the workers themselves.

Proto-proletarianism in the Oilfields of Baku

The oilfield workers of Baku were among the Russian imperial subjects engaged in massive strikes that began in 1902. Like elsewhere in the empire's territories, a groundswell of discontent over poor wages, working conditions and discriminatory ethnic policies in Baku led to a common push first for economic, and in some limited cases political and social, reform. (Figure 1.1) The oilfields were prime sites of economic and social inequity that became retaliatory targets in the 1905 Revolution, the failed precursor to 1917. The dense industrial urbanity of Baku's oilfields fueled destruction as fire moved quickly among the tightly packed wooden derricks and the oil fed the conflagrations. Images in the international press showed plumes of smoke engulfing the formerly productive fields. (Figures 1.2 – 1.3) American newspapers spun war reportage as a positive economic story: Baku's misfortune was a boon to the US oil industry. "The cloud that hangs over the burning oilfields of Baku, Russia, has a silver lining from the point of view of American oil producers. These Trans-Caucasian fields, whose continuous yield of oil seems only to disclose new and inexhaustible supplies, have been the greatest oil competitors of America," wrote the *New York Times* in September 1905.⁴² The economic losses in Baku were, indeed, devastating. Between 1904 and 1905, crude oil production on the Apsheron Peninsula dropped by 24M barrels, or 32 percent.⁴³

The condition of unrest was ripe for political agitation, and a young Josef Stalin was among those socialist revolutionaries slipping into and out of Baku, stirring conflict and laying plans from 1907-10. Stalin overlapped and collaborated during that time with fellow Bolsheviks

⁴² "THE BAKU OILFIELDS: Great Fires Will Cripple Russia's Oil Trade." *New York Times*, Sep 10, 1905, 13.

⁴³ *Mineral Resources of the United States, Calendar year 1905*. Department of the Interior, United States Geological Survey. Washington: Government Printing Office, 1906, 896.

Grigol Ordzhonikidze and Stepan Shaumian—both of whom play important roles in Baku in the Soviet period—to take over oilfield district committees in the regions of Bibi-Eibat, the Black and White Towns and Balakhany.⁴⁴ Because of debilitating strikes throughout the empire, the Russian railroad network was virtually at a standstill. Revolutionaries capitalized on the dysfunctional chaos, and utilized oil transportation infrastructure to move people and supplies across the Caucasus Mountains. “In the tempest of the deepest conflicts between workers and the oil...I first discovered what it meant to lead large masses of workers,” Stalin wrote in 1926. “There, in Baku, I received, thus, my second baptism in revolutionary combat. There I became a journeyman for the revolution.”⁴⁵ While Stalin’s effectiveness was curtailed by repeated prison terms in Baku, the politics of oil made a deep impression on the future General Secretary.

Oil laborers were appeased until 1913, largely because of economically neutral concessions by oil industrialists that included guaranteed freedom of speech and assembly as well as the right to unionize and strike.⁴⁶ The period from 1908-1913 also coincided with a decline in Baku’s output, and depressed prices for the oil that was extracted. In 1913, however, with “oil hunger” in Russia, and oil prices back up, as many as 40,000 oil workers took part in a general strike to protest a real wage decline of ten percent and insufficient days of rest; in 1914, 30,000 workers took part. While the impetus for the strikes in 1913 and ’14 was economic, workers’ demands verged on the political. Strikers requested libraries and education in their native languages, schools with free books and breakfast for their children, and free days on

⁴⁴ Ronald Grigor Suny, "A Journeyman for the Revolution: Stalin and the Labour Movement in Baku, June 1907-May 1908," *Soviet Studies* 23, no. 3 (1972): 383.

⁴⁵ As quoted in *ibid.*, 373.

⁴⁶ Audrey L. Altstadt, *The Azerbaijani Turks: Power and Identity under Russian Rule* (Stanford, Calif.: Hoover Institution Press, Stanford University, 1992), 45-46.

Muslim holidays. Oilfield owners' concessions, when they came, addressed the workers' economic concerns and ignored political claims.⁴⁷

When the Russian Bolshevik government overthrew the monarchy and assumed titular power of all imperial territories in 1917, Transcaucasia (Armenia, Azerbaijan and Georgia) refused to recognize it. For the following three years, Baku was seized and controlled by a series of short-lived governing bodies. A unified Transcaucasian Federation lasted for four weeks in 1918. From April through July 1918, the city was ruled by a dictatorship of the proletariat: the Baku Commune. The Commune's executive body, the Baku Council of People's Commissars (*Soviet narodnykh kommissarov* or Sovnarkom), was chaired by Armenian Bolshevik Stepan Shaumian (who will return to this story, memorialized by a new worker neighborhood). Under Shaumian's leadership, the Sovnarkom quickly enacted reforms that included expropriation of the oil and fishing industries, as well as banks and shipping companies.⁴⁸ These measures initiated regular oil shipments to Lenin's Bolshevik forces to the north, deliveries that had stalled during power shuffles over the previous months.⁴⁹ Upon increasing military pressure from British-led forces that surrounded the city, the Baku Sovnarkom resigned in July 1918 and was replaced by the government of a unified Azerbaijani Democratic Republic (ADR).⁵⁰ The British

⁴⁷ Ibid.

⁴⁸ Tadeusz Swietochowski, *Russian Azerbaijan, 1905-1920: The Shaping of National Identity in a Muslim Community* (Cambridge: Cambridge University Press, 1985), 135. For an account of the first nationalization of the oil industry after the October Revolution and under the Baku Commune, see Suny, *Baku*, 237-250.

⁴⁹ Ronald Grigor Suny, *The Baku Commune, 1917-1918: Class and Nationality in the Russian Revolution* (Princeton, N.J.: Princeton University Press, 1972), 238.

⁵⁰ The Azerbaijani Democratic Republic existed from May 1918, with Ganja as its temporary capital. When the Communists withdrew from power in July, Baku became the capital of the Nation-State.

in turn left Baku in August 1919, after which followed an unoccupied and independent period for the ADR through mid-1920.⁵¹

On April 28th, 1920, the 11th Division of the Red Army took Baku. The Azerbaijani Democratic Republic was overthrown and Azerbaijan was subsumed under Soviet rule. In the immediate aftermath of Baku's seizure by Soviet troops, Lenin made clear that the future success of the industrialized proletarian state hinged upon the Apsheron Peninsula's petroleum products: "We all know that our industries stood idle because of the lack of fuel. However, today, the proletariat of Baku has toppled the Azerbaijani government and is in charge. This means that now we own a basic economy that is capable of supporting our industries."⁵² "Owning" the Baku oilfields was not enough to ensure productivity on those fields, however. Over a decade of labor unrest and three years of mercurial governance had left Baku's oil industry in dire need of organization and renovation.

Azneft and the Rise of a Technical Leadership

Starting with the purposeful destruction of oilfields in the 1905 worker strikes, through the upheaval of the Russian Revolution and Civil War, Baku's oil industry had virtually collapsed. According to one diagram made for the 1927 city plan, Baku oil extraction hit a pre-revolutionary high of 677.4M poods in 1901, a year during which it supplied approximately half

⁵¹ Both Altstadt and Swietochowski agree on a three-phase characterization of the ADR period: 1) ADR with Ganja as capital, 2) Unified ADR with Baku as capital, under British occupation, and 3) Unoccupied and independent ADR. In Altstadt, *The Azerbaijani Turks: Power and Identity under Russian Rule*, 89-90. and *Historical Dictionary of Azerbaijan*, ed. Tadeusz Swietochowski and Brian C. Collins (Lanham, MD: Scarecrow Press, 1999), 6.

⁵² Nasib Nassibli, "Azerbaijan: Oil and Politics in the Country's Future," in *Oil and Geopolitics in the Caspian Sea Region*, ed. Michael P. Croissant and Bülent Aras (Westport, Conn: Praeger, 2000), 103.

of the world's crude oil (a pood is prerevolutionary unit of mass equal to 16.4 kg).⁵³ By 1921, the volume had dropped to just 157.1M poods, a staggering 77% decrease in production.

Immediate reestablishment of industrial and urban order in the region was paramount. Upon gaining control of Azerbaijan, the Bolsheviks merged 272 private oil companies in Baku to create a single state-controlled company, Azneftkom, later shortened to Azneft (a combination of *Azerbaijan* and *neft*, or oil).⁵⁴ Similar consolidations were undertaken in the other two significant oil-producing regions now under Soviet control, Grozny-Kuban (Grozneft) and the Ural Emba district (Embaneft).

Technically savvy Soviet leadership was critical to ensure a swift return to productivity in Baku, and the men tapped to fill both the top economic and political positions were carefully selected. Days before official capture of Baku, at a meeting of the Main Oil Committee of the Supreme Soviet of the National Economy (Glavneftkom), Chair Z.N. Dosser announced that through emergency powers granted by the Council of Labor and Defense (STO), the chairmanship of the Baku Oil Committee would be granted to A.P. Serebrovskii.⁵⁵ (Figure 1.5)

Aleksandr Serebrovskii joined the Bolshevik cause in 1903. While his revolutionary credentials were vast, his technical know-how and experience with organizational logistics were most important to the role he played in the revival of Baku's oil industry. Serebrovskii's technical

⁵³ A *pood* is a Russian measure of weight equivalent to 36 pounds, or 16.4 kilograms. For extraction data see A.P. Ivanitskii, "'Planirovka G. Baku' Poiasnitel'naia Zapiska K Proektu. Chast' 1-4," (Moscow: RGALI, f. 2991, op. 1, 1928). Diagram 1. Also, Edgar Wesley Owen, Robert H. Sourcebook for petroleum geology Dott, and environments Southwestern Federation of Geological Societies. Fluids in subsurface, *Trek of the Oil Finders : A History of Exploration for Petroleum*, vol. 6, Memoir - American Association of Petroleum Geologists ; (Tulsa, Okla.: American Association of Petroleum Geologists, 1975), 1356.

⁵⁴ Vladimir Mishin, "Breaking through the Oil Blockade," *Oil of Russia*, no. 3 (2005).

⁵⁵ Glavneftkom of the VSNKh of the RSFSR. Azərbaycan Respublikası Dövlət Arxivi [State Archive of the Azerbaijan Republic, ARDA] f. 2548, o. 2, d. 3, l. 18.

expertise was earned on both sides of the machine, as it were. Starting in 1904, at the age of twenty, Serebrovskii labored as a fitter at the famed Putilov machine-building plant in St. Petersburg, and after the 1905 revolution he worked as a fitter in the Balakhany oilfields of Baku. At both sites he doubled as a labor organizer under assumed names. After further arrests and close scrapes, Serebrovskii escaped Russia and landed in Brussels where he eventually earned a mechanical engineering degree and learned German and French. He returned to Russia upon Lenin's command in 1913, and steadily ascended in the Bolshevik power structure. After the Russian Revolution, Serebrovskii served as Deputy Chairman of a commission to supply the Red Army, a post that was followed by a Deputy Chairmanship of the Commissariat of Transportation.⁵⁶

Lenin sent Serebrovskii as emissary to Baku to organize the Azerbaijani oil industry for imminent transfer to Soviet hands days before the Red Army marched upon and captured the city. Lenin equipped Serebrovskii with extraordinary power—later referred to as “Ilyich’s Mandate”—to undertake three tasks as head of Azneft. Serebrovskii was to 1) organize and make productive Baku’s oil industry; 2) guide smooth transport of oil where directed and 3) use military force as needed to ensure the success of the first two tasks.⁵⁷ In addition to his post as first Director of Azneft, Serebrovskii also served as Chairman of the Board of the All-Russia Oil Syndicate and as Deputy Chair of the Supreme Soviet of the National Economy (*Vysshiy sovet narodnogo khozjaistva*, or VSUNKh), which oversaw the management of the entire Soviet economy,

⁵⁶ S. Aslanov, *Aleksandr Serebrovskii: Biograficheskiĭ Ocherk* (Baku: Azerbaidzhanskoe gos. izd-vo, 1974). Chronology in various biographical sketches of Serebrovskii differ slightly. These dates are based upon the Aslanov text, cited above.

⁵⁷ Sara G. Brinegar, "Baku at All Costs: The Politics of Oil in the New Soviet State" (University of Wisconsin, 2014), 9.

and most importantly, industry. Although Azneft had a geographically circumscribed industrial footprint, Serebrovskii's Union-scaled positions helped to keep the technical and labor crises in the Baku oilfields on the national agenda.

Soviet Azerbaijan's head political position was filled in the summer of 1921, when the Central Committee in Moscow appointed former Bolshevik revolutionary Sergei Kirov as the first secretary of the Communist Party of Azerbaijan.⁵⁸ (Figure 1.6) Kirov was an apt political choice to oversee a republic mired in industrial production issues, as he was one of the only members of the Central Committee with a technical academic background. In 1904, Kirov earned a degree in engineering from the Kazan Technical School, which qualified him as a skilled mechanic. In his party biography from 1923, Kirov noted that he moved to Siberia after graduation to work as a draughtsman in a city office while studying for the entrance exams to the Tomsk Technological Institute, an extension to his education that he never finished.⁵⁹ Kirov's technical competence, paired with his mythic people skills—he was known to visit production sites to speak with workers directly—communicated seriousness of purpose by the central leadership to boost morale and bolster extraction, refinement and export of Baku's petroleum products.⁶⁰

⁵⁸ Kirov, Russian by birth, had significant history in Baku. He was present in the city as a Communist Party organizer as early as 1910, and had a hand in the Red Army's takeover of the Apsheron peninsula in 1920. In 1939, a large statue to Kirov was installed at the apex of Baku's Dagustu (Highland) Park, and stood as a landmark over the city until 1992, when it was dismantled in the aftermath of the fall of the Soviet Union.

⁵⁹ Matthew E. Leno, *The Kirov Murder and Soviet History*, Annals of Communism Series (New Haven [Conn.]: Yale University Press, 2010).

⁶⁰ Despite the success their tenure in Baku brought to the new Soviet oil industry, neither Kirov nor Serebrovskii were to survive the Stalinist terror of the 1930's. Kirov was shot under mysterious circumstances in 1934, Serebrovskii was arrested in 1937 and killed in 1938.

NEP in Baku: Technical Innovation, Capital Improvement

To address the broad economic distress brought upon by War Communism, and to draw much needed foreign investment to support the modernization project, the new socialist state enacted a “strategical retreat”.⁶¹ At the Tenth Party Congress in March 1921, Lenin convinced his colleagues in Moscow to pass the New Economic Policy (NEP), a step back from full nationalization, in which the state controlled all large enterprises (i.e. factories, mines, railways) as well as enterprises of medium size, but small private enterprises, employing fewer than 20 people were allowed.⁶² Under NEP foreign concessions were sought, and international companies lured to the USSR to help capitalize industrialization projects that the Soviets were unable to fund themselves.

This shift in economic policy had huge implications in Baku. The Apsheron peninsula reengaged international fuel networks. Azneft hired foreign technical specialists to consult on their modernization projects and the Soviet Naphtha (Oil) Syndicate began export negotiations with foreign companies and states such as Standard and Vacuum Oil in the United States, and the French and Italian Ministries of the Navy.⁶³ In order that Baku might be as profitable to the state as possible, the material conditions on the ground had to be improved quickly. Extraction

⁶¹ Sara Brinegar offers a useful distinction between Azerbaijani and standard Soviet chronologies. The period between Red Army occupation of the territory and NEP she calls “Revolutionary Communism” (as opposed to “War Communism”). “Revolutionary Communism was characterized by the same ideological militancy and harsh punishments as War Communism but allowed trade and did not requisition foodstuffs from the peasantry, two fundamental differences.” Brinegar, “Baku at All Costs: The Politics of Oil in the New Soviet State,” 4.

⁶² The economy of the new Soviet Union had already passed through one disastrous stage, called War Communism (1917-1920), which had attempted rapid nationalization. The state had assumed control of all means of production, exchange and communication, and all land had been declared nationalized by the Decree on Land.

⁶³ Corporation Amtorg Trading, *Soviet Oil Industry : A Compilation of Statements Regarding Purchases of Soviet Oil by the Standard Oil Company of New York and the Vacuum Oil Co. : Statistics of the Oil Industry of the U.S.S.R* (New York: The Corporation, 1928), 26.

sites and distribution networks had to be reconstructed at the very least, and the whole region brought up to modern industrial standards.

Under Serebrovskii's leadership, Azneft sought out highly qualified specialists to oversee oilfield production, drilling and affiliated services, attracted foreign consultants, and imported new equipment from abroad.⁶⁴ For Serebrovskii, modernization of the oil industry was tied to Western technological advances, specifically American drilling and pumping techniques. In a 1922 *Pravda* article, he announced a partnership with the American firm International Barnsdall Corporation who would "provide the equipment, start drilling in the oilfields and organize the technical production of oil with deep pumps."⁶⁵ The fields were swiftly modernized—from percussive to rotary drilling, run by electricity—new fields opened, and the volume of extraction significantly increased.⁶⁶ In addition, two new pipelines were completed and three refinery complexes built. Long-term technical innovation occurred, however, in the sea. In 1922-23, the Bibi-Eibat peninsula to the south of urban Baku was enlarged with fill and steel pilings to take advantage of the oil known to reside under the water, and in 1925 the first offshore well was tapped from a steel and wood ramp. Finally, sophisticated electrical prospecting began in 1928, which allowed for more accurate geological surveying and mapping rock formations and

⁶⁴ Yakov A. Gelfgat, Mikhail Y. Gelfgat, and Yuri S. Lopatin, *Advanced Drilling Solutions Volume 1: Lessons from the FSU* (PennWell Books, 2003), 7-8.

⁶⁵ Antony C. Sutton, *Western Technology and Soviet Economic Development 1917 to 1930*, 3 vols., vol. 1, Hoover Institution Publications (Stanford, Calif.: Hoover Institution on War, Revolution and Peace, Stanford University, 1968), 18.

⁶⁶ "Electric power is widely applied in the Soviet oil industry. The oil wells in Baku are at present electrified to the extent of 93 per cent. This compares with 30 per cent in 1913." Amtorg Trading, *Soviet Oil Industry: A Compilation of Statements Regarding Purchases of Soviet Oil by the Standard Oil Company of New York and the Vacuum Oil Co.: Statistics of the Oil Industry of the U.S.S.R.* p.28.

sediments.⁶⁷ The result of the modernization project was a surge in production and export: Baku's exports in 1926-7 doubled those of 1913.⁶⁸

As Yves Cohen has stressed in his work on early Soviet technology, the temporary import of foreign technicians to consult on Baku's modernization did not constitute a unidirectional transfer of expertise from the West to Soviet engineers. Instead, these meetings initiated a circulatory process of knowledge sharing that allowed Baku to become an important node in the network of oil technology exchange.⁶⁹ Professor R.C. Beckstrom, dean of the college of petroleum engineering at the University Tulsa, returned from his consultancy with stories of rapid electrification of fields and anecdotal tales of the impact of the four-day workweek, all of which praised Soviet ingenuity.⁷⁰ Technical expertise was absorbed, processed, transformed and improved upon in Baku for the wider Eurasian context, such that the city became known as the "Oil Academy" of the Soviet Union.⁷¹ The institutes and training facilities for oil-industry technicians that were established in the early Soviet period sustained the city's stature within the

⁶⁷ Michael P. Croissant and Bülent Aras, *Oil and Geopolitics in the Caspian Sea Region* (Westport, Conn.: Praeger, 2000), 11-12.

⁶⁸ Sutton, *Western Technology and Soviet Economic Development 1917 to 1930*, 1, 43. The American-Soviet trade corporation Amtorg clarified in 1925 how the oil from these various regions was to be utilized by the Soviet state. Oil from the three primary sites—Baku among them—was for foreign export, to be exchanged for hard currency to feed other branches of the economy. Only oil from the minor Fergana site, in Central Asia, and that extracted on the Island of Cheleken on the eastern shore of the Caspian Sea, was to be for domestic use. From the very establishment of Soviet control in Azerbaijan, Baku's oil was pooled and controlled by the central authorities. As Amtorg noted, "All the trusts are subordinated to the Supreme Economic Council of the Soviet Union, which is the equivalent to a Ministry of Industry. The trusts do not sell their product to the consumer directly. All sales are conducted by the Soviet Naphtha (Oil) Syndicate, which handles the output of the three trusts." Coal, on the other hand, was to be the preferred fossil fuel for Soviet domestic use. See Amtorg Trading, *Soviet Oil Industry: A Compilation of Statements Regarding Purchases of Soviet Oil by the Standard Oil Company of New York and the Vacuum Oil Co.: Statistics of the Oil Industry of the U.S.S.R.*, 26.

⁶⁹ For an extended discussion of *circulation des saviors* in the Soviet context, see Yves Cohen, "Circulatory Localities: The Example of Stalinism in the 1930s," *Kritika: Explorations in Russian and Eurasian History* 11, no. 1, Winter (2010).

⁷⁰ "Former Mines Professor Tells About Russia," *The Colorado School of Mines Magazine*, no. March (1930).

⁷¹ Charles van der Leeuw, *Oil and Gas in the Caucasus & Caspian: A History* (Richmond, Surrey, UK: Curzon, 2000), 108-10.

industry long after other extraction sites in the Urals and Soviet Central Asia had leapfrogged Baku in total volume.

The Housing Question

Living conditions for Baku's oil workers were notoriously appalling. One pre-revolutionary photograph shows ramshackle one-story stone and wood structures sitting on a slight rise before an open oil reservoir, derricks in the immediate background. Another, published by *Azneft*, features a small girl in the foreground who looks out over a warren of low-rise residential buildings in Balakhany; again, a forest of derricks occupies the distance. (Figures 1.7 – 1.8)

Historians of Baku's labor unrest agree that the oilfield strikes from 1903 through the establishment of Soviet power in Azerbaijan were economically motivated, with higher wages and paid days off dominating the demands.⁷² The first mention of housing in strike literature occurs in 1908, when union representatives met with oil industrialists to discuss provision of worker settlements away from the fields, but no material improvement resulted from the talks.⁷³ It was only in 1913 that complaints of substandard housing joined the strikers' more standard economic requests. A leaflet published by the strike committee demanded that residences be removed from oil fields and factory precincts and replaced in dedicated worker settlements. Further, sanitation committees run by workers themselves were to oversee the improved

⁷² See Suny, *The Baku Commune, 1917-1918: Class and Nationality in the Russian Revolution*, Chapter 2. Altstadt, *The Azerbaijani Turks: Power and Identity under Russian Rule*, Chapter 3.

⁷³ Suny, "A Journeyman for the Revolution: Stalin and the Labour Movement in Baku, June 1907-May 1908," 377. It should be noted that both the Nobels and Taghiyev built housing in the late 19th century. The Nobel housing was largely for foreign specialists in the White Town near the grounds of Villa Petrolia, and Taghiyev's housing and support services were for the workers of his textile factory on the Caspian coast east of Baku, not for oil workers. Taghiyev divested of his oil property by 1897, before he constructed the textile-workers' settlement.

housing. The industrialists not only refused these demands, but striking workers were removed forcibly from the substandard housing they rented from the oil companies.⁷⁴

Socialism and housing are inextricable. The provision of suitable, affordable housing for workers was a primary concern in two treatises written by Engels: *The Condition of the Working Class in England* (1845) and *The Housing Question* (1872). Engels proposed in the latter that social inequalities could not be solved through housing reform alone. Once social equity was achieved, however, with the overthrow of capitalism, resolution to the housing problem would necessarily follow. While Engels detailed the myriad causes of the working class housing crisis under capitalism, he did not provide an actionable template to transform the housing problem into a solution in a post-capitalist society. The newly installed administrators of socialist Baku had to enact this transformation through experimental means.

The Chief Oil Committee of the RSFSR (Glavneftkom) raised the subject of worker settlements (*rabochie poselki*) the week *before* the Red Army took Baku, in the same protocol that named Serebrovskii Director of Azneft. They decided to petition VSNKh for the right to oversee the construction of workers' settlements in Baku themselves, and not, per protocol, to cede control to Committee of State Structures/Construction (Komgosor). The protocol describes how the organization would be run: "Under the Baku Oil Committee [Azneft], a temporary construction management will be formed on the construction of settlements, which is charged to work on existing settlement projects and to develop estimates."⁷⁵ In this structure, Azneft would coordinate with Komgosor and other state agencies as needed, but would retain

⁷⁴ *The Baku Commune, 1917-1918: Class and Nationality in the Russian Revolution*, 54-57.

⁷⁵ ARDA f. 2548, o. 2, d. 3, l. 18.

control over the process of rehousing the oilfield workers. What this meant in practice was that planning decisions would issue from and address local interests.

Azneft's early attempts to address the so-called "housing question" (*zbilisbchnyi vopros*) were piecemeal and limited in scope. This was not for lack of aspiration, but for paucity of timely data. In the fall of 1920, the Minor Commission on the Construction of Garden-Cities in the Baku Region, comprised of representatives from the Building Department of Azneft, Komgosor, the Department of Communal Services (Kommunkhoz) and the unions began to meet. The group's first order of business was to gather detailed demographic and geographic material for the territories to be planned, a task that proved difficult. For demographic numbers, the commission was forced to rely on 1913 census data that they ran through a complex mathematical formula to arrive at projective settlement populations.⁷⁶ Existing maps and plans of the Apsheron peninsula were scattered among various intractable departments such as the Geological Committee in Petrograd. After unsuccessful attempts to gain access to cartographic data, the Commission took surveying matters into their own hands. They commissioned a topographical map for the whole peninsula at the scale of 50 sazhen, with contours every 2 sazhen, with special care to be paid to the location of industrial complexes.⁷⁷ At the end of 1920, the group also commissioned exploratory plans for worker settlements near Binagady, Bibi-Eibat, Subunchi and the White Town.⁷⁸

The spatial relationship between drilling sites and worker housing was of particular economic concern to Azneft. The sole map in Azneft's *Overview of the Baku Oil Industry During*

⁷⁶ Mathematization of data would become prevalent in Soviet central planning.

⁷⁷ ARDA f. 1114, o. 1, d. 515, ll. 59-61.

⁷⁸ Azneft, *Obzor Azerbaidzhan'skoi Neftianoi Promyshlennosti Za Dva Goda Nationalizatsii: 1920-1922*, 262.

Two Years of Nationalization, 1920-22 indicated the entire Apsheron Peninsula veined with solid and dashed red lines. (Figure 1.9) The key revealed that these lines traced known and proposed anticline axes, geological folds along which oil and gas drilling was most productive. A solid red line circumscribed urban Baku, and ran directly through the industrial drilling sites of Binagady, Balakhany, Sabunchi, Romany and Surakhany to the north and northeast of the city center. Dark clusters indicated villages at these sites, which were the residential quarters of oil workers that sat directly upon the cherished fault line. The campaign to move workers into more suitable settlements must then be considered doubly motivated. Azneft publically justified settlement construction as a socialist right due the proletarian workers in Baku's nationalized fields. Behind closed doors, Azneft representatives stressed the importance of clearing the sprawling residential quarters from potential drill sites as soon as possible.⁷⁹

The ideal location for an oil worker settlement had to satisfy two contradictory requirements. First, as noted above, new settlements needed to be clear of all current and future extraction sites, which meant moving existing housing off the anticline axis and building new housing significantly away from the fields. Azneft spoke through the concerns of the oil barons to broach this purely economic motivation. "Serious housing space shortages in the industrial and factory regions, and the unsanitary conditions of the majority of existing housing, long ago forced employers to begin building residential houses for their workers and laborers [in Baku]. Employers, however, acted with great reluctance because the houses took up land that could be

⁷⁹ "On the location for the construction of houses: In Ramani, Zarbat, Black Town, Bingadi, Shubani and Bibi-Eibat construction will occur in the assigned locations. In Surakhani, we charge V.N. DELOV, together the the geologists and the administration of the regions, to choose a location that does not conflict with oil-producing land." ARDA, f. 2940, o. 1, d. 12, l. 53, rev.

drilled for oil.”⁸⁰ In direct conflict with the first precondition was the need for residential areas to be located as close as possible to industrial sites, so that workers would be less dependent on Baku’s poor transportation infrastructure. Serebrovskii had been Deputy Chairman of the Commissariat of Transportation for a brief period in 1919, and was particularly attuned to the importance of reliable connectivity. He repeatedly stressed in his communications back to Moscow that subpar transportation hindered productivity in the Baku the fields by as much as 50-60 percent.⁸¹ Settlement sites had to be found in the close middle ground: far enough away from the anticline axis to preserve future drilling rights, but close enough to the axis to ensure ease of labor conveyance. The locations had to be precise; all the more reason to insist upon accurate surveys of the peninsula.

The housing question was shelved for much of 1921, when even more pressing shortages wracked Baku. Azneft coffers were effectively empty by February of that year.⁸² Azneft’s bankruptcy was due to decreasing volume of oil and insufficient compensation for its export. Because of oilfield destruction through the wars, outdated drilling methods, lack of qualified workers and insufficient transportation to the fields, oil extraction numbers in the first two years of Azneft’s tenure were shockingly poor. From a 1901 high of approximately 540M poods, the annual volume of extraction in 1921 dropped to just 62M poods.⁸³ The majority of oil exported from Baku was thus drawn from pre-Soviet stores. Upon nationalization of the industry, this waning supply was shipped throughout Soviet territories without Azneft receiving

⁸⁰ Azneft, *Obzor Azerbaidzhanskoi Neftianoi Promyshlennosti Za Dva Goda Nationalizatsii: 1920-1922*, 261.

⁸¹ Brinegar, "Baku at All Costs: The Politics of Oil in the New Soviet State," 25.

⁸² Azneft, *Obzor Azerbaidzhanskoi Neftianoi Promyshlennosti Za Dva Goda Nationalizatsii: 1920-1922*, 74.

⁸³ *Ibid.*, 32.

currency, bartered goods or services in return.⁸⁴ Azneft had no income. The company was unable to pay its workers in a timely fashion or provide them with the most basic provisions. In March 1921, grain rations were reduced for workers in the industry, who were forced to forage for sustenance. In April, the oil workers who had not already abandoned their posts went on strike.

A Plenipotentiary Committee from the Council of Labor and Defense (*Sovet truda i oborony*, STO) arrived in Baku in August to address the collapse of Baku's oil industry head on. The Committee voted to institute the following measures immediately: "1) provide the oil workers with a living wage, as well as food, clothing and shoes; 2) provide the oil industry with technical materials and transportation resources; 3) establish single control of the industry [Azneft]."⁸⁵ With financial support from Moscow, Azneft was able to procure food, clothing and ensure payment to its workers. These local measures, supplemented by foreign technical assistance to modernize the industry, slowly increased oil outputs on the Apsheron peninsula.

Plans for the worker settlements were submitted to the Garden City Commission in the midst of the labor crisis. The cost for their realization: 42M rubles gold. Not included in the estimate were the tramlines, water system and supply, and road networks necessary to connect tabula rasa settlements with industry and the city proper. In 1921, Azneft had neither the funding—nor the prospects for funding—to undertake such an ambitious project. Logistics support from Moscow for building materials acquisition and transportation was not forthcoming, and the proposed four-year project schedule was also untenable.⁸⁶ Given the

⁸⁴ Brinegar, "Baku at All Costs: The Politics of Oil in the New Soviet State," 20.

⁸⁵ Azneft, *Obzor Azerbaidzžanskoi Neftianoi Promyslennosti Za Dva Goda Nacionalizatsii: 1920-1922*, 76.

⁸⁶ *Ibid.*, 262.

strained labor conditions, Azneft opted to put more immediate, if less radical, housing solutions in place. Work toward a “partial” resolution to the housing crisis ensued at a unit-by-unit scale.

Housing Without Planning (or: Socialism at the Scale of the Unit)

Azneft described a two-stage process of housing construction in their 1925 *Overview*. According to the company, the period from 1920-1923 constituted a first phase of stopgap renovation work. The restoration of the oil industry hinged upon provision of housing near the fields, but there were only enough suitable apartments to accommodate 50 percent of their workers, and certain key industrial sites like Zabrat had no housing at all.

The Building Department of Azneft examined the housing stock in Balakhany-Sabunchi and decided as a first step to renovate fifteen existing residential buildings for a total of 236 improved family apartments. Project managers economized on building materials by using reserve stores from Azneft’s own warehouses and transporting them to the sites by animal cart. Further savings were obtained through a competitive bid process. Three of the lowest bidding contractors were granted a single building to renovate; this quickened construction and provided Azneft the opportunity to assess each team qualitatively. The whole first phase cost Azneft 172,000 rubles, a far cry from the 42M required for a more systemic settlement solution to the housing question.⁸⁷

In the two years that followed, Azneft threw labor and money “at the expense of the main oil industry” into addressing the housing question.⁸⁸ The bootstrap efforts are described

⁸⁷ Ibid., 263-64.

⁸⁸ *Obzor Azerbaidzhanskoi Neftianoi Promyshlennosti Za Piat' Let Nationalizatsii: 1920-1925* (Baku: Azneft (VSNKh SSSR - Gosudarstvennoe Ob"ednenie Azerbaidzhanskoi Neftianoi Promyshlennosti), 1925), 67.

well in the company's five-year overview. "Dilapidated housing was brought to order, and abandoned boiler rooms, barns, workshops and other premises, which the majority of time consisted of nothing more than bare walls, were rebuilt and equipped as living quarters. There was a shortage of construction materials, and so it was often necessary to create from two dilapidated structures one building that was more or less sufficient for housing."⁸⁹ By the end of 1923, Azneft had rehabilitated some 8,000 worker apartments throughout the Apsheron peninsula. These units were considered "temporary residential stock" by the company, expediently located near the fields so that extraction could continue unabated.⁹⁰

Azneft chose to supplement housing in the fields with existing apartments in urban areas of Baku. In January 1922, Azneft rented from the Baku Executive Committee (Bakispolkom) forty-three residential buildings in the city and factory regions. This stopgap solution to house their workers provided nothing but grief for the company:

This [renting] effort offered absolutely no helpful results, since all of the houses turned out to be inhabited by people unauthorized by Azneft (*vse doma okazalis' zaselennymi postoronnimi dlia Aznefti litsami*). It was impossible to evict them, because there was no free residential space in the city in which to put them. Besides this, all of the rented houses needed expensive capital repairs and Azneft did not have the money for this. For this reason, renting became an unhelpful burden for Azneft.

Azneft's account reveals that no serious reconnaissance of the rented buildings was undertaken before the rental agreement was signed. Not only were the buildings already inhabited by non-avoidable, non-Azneft employees, they needed serious maintenance. Azneft pulled out of the agreement just three months into the lease, and returned the majority of the units to the city

⁸⁹ Ibid.

⁹⁰ Azneft noted this number of 8,000 renovated housing units through 1923 in their 1925 overview. In archival documentation, this count jumped to 12,000. See ARDA, f. 1610, o. 4, d. 22, ll. 9-11 and *ibid*.

administration. The abject failure of this episode reveals just how inexperienced the Azneft Building Committee was on questions of real-estate development and management. The rented buildings they took on, sight unseen, tallied nicely against their deficit of worker units. But the problematic materiality of the buildings and their residents were issues that Azneft was not even aware to consider in advance.

Official documentation offers little evidence of how workers responded to the first round of accommodations provided by Azneft; we hear their voices only through the mouthpiece of the union. The First All-Russian conference of oil workers passed a resolution at the end of 1921 to initiate the rational, detailed and implementable planning of dedicated workers villages in the Transcaucasus, which included the oil-bearing Baku, Grozny and Embe regions.⁹¹ But it was not until mid-1923 that the Presidium of the Azerbaijani Council of Trade Unions (Profsoiuz) adopted a concrete proposal on the construction of worker villages in Baku.⁹² Glimpses of the workers to be housed can be seen in Azneft's overview of the first two years of oil-field nationalization. The majority of illustrations celebrate the industrial infrastructure of oil, from derricks to reservoirs and pipelines. Workers periodically appear, engaged in the dirty, difficult manual labor of drilling. (Figures 1.10 – 1.11) Only three photographic examples show Azneft-sponsored social infrastructure populated. In one, a group of workers sits around a canteen table in a house of rest (*dom otdykh*). In the other two, posed groups of closely shorn oil workers' children and accompanying adults, set stiffly against planted

⁹¹ M. Astafieva-Dlugach, "Proekt Raionnoi Planirovki Apsheronского Poluostrova," *Arkhitektura SSSR*, no. 10 (1971).

⁹² ARDA, f. 1114, o. 1, d. 24, l. 28.

backdrops, stare at the camera. (Figures 1.12 – 1.14) There are no photographs of worker housing.

Azneft's first phase housing program suffered from myopia, brought upon by an absence of reliable data. The number of workers and families to be housed was unknown. The quantity of salvageable units was unknown. The cost of undertaking new construction was no more than a rough estimate. Without information to plan forward, Azneft housing administrators were reduced to solving the problems immediately in front of them, which meant renovating existing stock, unit by unit. The magnitude of the housing crisis became clear only in 1923, when Azneft stepped back to assess the work done to date. Regardless of the amount of money, materials and effort expended to house workers during the previous three years, the first “more or less full examination of the housing question” revealed a grim state of affairs:

The results of that examination revealed a seriously distressing picture. It turned out that despite the effort put in on the housing-construction front, a catastrophe was looming in terms of apartment stock. It became clear that the sad resolution to the housing question reflected very unfavorably on the oil industry.

With about 45,000 people working for Azneft—120,000 including families—Azneft could provide only around 20,000 apartments, of which about 50% were of sufficient quality to meet sanitary, hygienic or technical norms. The crush in these apartments was extreme ... In many barracks beds occupied every corner, and workers would use them in succession, depending upon when they were on duty or on watch. More than 7,000 industrial or factory workers lived in Baku and every day they wasted much strength and time getting from the city to the workplace.

The technical condition of some of this housing was so poor that residents were constantly fearful of collapse. This picture powerfully advanced the issue of building new apartments, and in 1923 Azneft began to construct new houses of the settlement type in areas specially designated for development.⁹³

Azneft administrators were shocked by the data this report revealed. Despite the money spent to date, they had provided enough housing for only half of their workers, and half again of those

⁹³ Azneft, *Obzor Azerbaidzhanaskoi Neftianoi Promyshlennosti Za Piat' Let Nacionalizatsii: 1920-1925*, 67-68.

units failed to meet the most basic hygienic standards. All told, suitable housing was available for just 25 percent of Azneft workers. The stark picture painted by raw numbers prompted reconnaissance of qualitative data as well. Although the text does not provide details of failed sanitary, hygienic or technical standards, the mental image of shift after shift of oil workers cycling through a single barrack bed is enough to envision lives conducted under conditions of extreme domestic scarcity.

The drive to begin new housing construction picked up speed and momentum once the head of Azneft became involved. Beginning in mid-1923, Serebrovskii was present at, and chairing, many of the housing related meetings. He served as chair of the Committee on the Construction of Workers' Houses, a group comprised of his own technical staff, union leaders, and representatives from the affected industrial regions. Serebrovskii opened one October meeting not with an exploratory or descriptive report—which was customary for such working groups—but pronouncements. All new worker houses would have concrete foundations. Only one-story houses would be built in the settlements to economize on construction costs. All work would be complete by January 1, 1924. Serebrovskii's assertive commands ensured that housing units came on line swiftly, but subsequent meeting minutes suggest that the aesthetic result was less than satisfactory. In the midst of the construction process, the committee requested that the Azneft Technical Bureau reconsider the typical window installation. To improve the look of the residential buildings, sashes were added to windows already installed, and standard window dimensions were enlarged.⁹⁴

⁹⁴ ARDA, f. 2940, o. 1, d. 12, l. 12, 24 October 1923.

Hundreds of new houses were being built throughout the Baku and adjacent the oil fields without anticipatory planning. Azneft was capable of providing materials and local logistics to amass a portfolio of housing units, but they did not have the expertise to consider the housing program holistically. Documentation of their early housing initiatives reveals that the sequence of construction decisions was often inverted. Small-scale material decisions were taken before large-scale infrastructural systems were considered. Take as an illustrative example the order of topics covered in one meeting of the Committee on the Construction of Workers' Houses. The group began by agreeing to prescribe a cement additive to the standard plaster mix, so that interior walls would dry faster. This topic was followed by an accounting of the number of 8- and 10-length wooden boards needed for construction in each region. Only after these and other matters of fine unit-scale detail were discussed did the committee turn to those issues that a trained planner would have broached months before building materials arrived on site: open space design and the sewage system. The delayed acknowledgement of water management needs at the new housing sites was particularly uncharacteristic of Baku administrators, for historical reasons.

Baku was at the forefront of modern water supply during the imperial period. A high, salty water table and the chronic outbreaks of water-borne disease instigated construction of a modern pipeline of clean water from Shollar in the Caucasus Mountains to Baku starting in 1899. Baku's parliament (duma) obtained technical assistance for the project from William Lindley, an experienced British civil engineer with water systems in thirty-five cities to his credit.

Although it was stalled repeatedly by war, the 110-mile porcelain pipeline—the longest in Europe or Russia at that time—was finally completed in 1917.⁹⁵

The lack of systemic water planning in the Azneft settlements is all the more surprising against this historical backdrop. Yet it may have been the very inter-agency nature of the task that caused planning delay. Questions about the proposed sewage system had to be discussed by regional representatives who in turn were tasked to establish a special commission comprised of engineers, architects, representatives of the technical inspectorate, Labor Ministry (Narkomtrud) and a sanitary doctor.⁹⁶ To construct a municipal system like a sewer, then, a deliberate administrative process was required. Conversely, individual buildings paid for and owned by Azneft solely could be constructed immediately without bureaucratic friction or municipal oversight. The fact remains, however, that through 1923 Azneft housing was being renovated, rented and built in a planning vacuum.

The Aborted Competition and the Failed Request

In July 1924, the Building Committee of Azneft drafted a notice for local newspapers to announce an open design competition. The “Competition for Plans of a Few Structures of Settlement Character” (*Konkurs na plany nekotorykh postroek poselkogo kharaktera*) requested typical designs for three projects: a house with family-style apartments, a house with apartments for singles, and general plans for a village in Zabrat for 10,000 apartments and a village in the White Town for 5,000 apartments. Cash prizes of 300, 200 and 125 rubles would be granted the top three designs in each category; all winning entries would become the property of the Azneft

⁹⁵ Ryszard Zelichowski, "Water - Not a Drop to Drink," *Azerbaijan International* 10, no. 2 (2002): 53.

⁹⁶ ARDA, f. 2940, o. 1, d. 12, l. 12.

Building Committee.⁹⁷ The committee spelled out general design parameters for each of the three project types in a packet of materials that could be obtained at their headquarters. Few drawings were required of the competitions participants. For the typical houses, a single site plan and floor plan, one section/façade and a short cost accounting was requested. All materials were due on October 1, 1924, and would be judged by a jury consisting of Baku Soviet (Baksovet) leadership, the head engineers of the Building Committee and the Medical-Sanitary Department of Azneft, the technical inspector of the Narkomtrud, a representative of the Miners' Unions, and two outside engineers invited by Serebrovskii. This initial competition did not come to pass, but it marked the beginning of an expanded collaborative relationship between Azneft and Baksovet, the municipal administration of the city, on the issue of settlement building.

Just nine days after drafting the competition brief, the Azneft Building Committee hired Georgian architect Gavril Ter-Mikelov to design two settlements—one in Mardakian for 5,000 apartments, and one in the White Town for 10,000 apartments. Ter-Mikelov was the first imported designer summoned by Azneft to assist with the housing question, but he was also a known entity in Baku. The Tbilisi-based architect designed the Tiflis Bank and the Philharmonic Hall in the prerevolutionary period, among other buildings. Engaging Ter-Mikelov in settlement planning was an odd choice on Azneft's part, however, since the only municipally scaled project with which he was involved was a design competition for Baku's seafront boulevard, which he won in 1909. The letter of agreement between the architect and the committee suggests why he may have been chosen. Ter-Mikelov would be responsible primarily to provide designs for various worker housing types. The entire three-element competition was wrapped into this one

⁹⁷ ARDA, f. 1610, o. 4, d. 22, l. 1-5.

job, with a stress placed on resolving unit types, not the settlement plan. The results of this commission are unclear, but Ter-Mikelov did become a regular consultant to Azneft as a competition jury member in the following months.⁹⁸

The Azneft Building Committee pushed forward with settlement plans, regardless of a glaring lack of specificity where either design or accounting were concerned. In October 1924, Mikhail Vasil'evich Barinov, Deputy Director of Azneft and Chairman of the Building Committee, sent a telegram to Moscow to request 600,000 cubic sazhen of land to construct the next round of oil worker settlements.⁹⁹ His telegram threw the Moscow branch of Azneft into a panic. The Azneft employee charged to present the land request to the Technical-Building Section of VSNKh sent a candid letter to the head of Azneft's Moscow branch, N. Solovev, to explain his distress at the blithe request from Baku:

I was put in a very difficult position because, not having the right information at hand, I had to take over the job of the Settlement Committee to get the materials ready for battle. To prepare my notes I used the writings of the past Party Congress, our Department of Statistics and so on. That's on the one hand. On the other hand, the problems with our estimates are exacerbated by the republic's severe financial situation, which requires us to be very careful. The slightest misstep, added to the politics of "no new housing construction," could yield very negative results.¹⁰⁰

In short, the preparatory materials sent by Barinov to Moscow were devoid of sufficient data to justify the land request. The unfortunate messenger was forced to construct in a matter of days, and from afar, a "battle plan" comprised of demographic projections, cubic volume allocations per person and ballpark cost estimates to answer questions put to him by the Technical-Building Section. But, he notes, "I didn't mention how the cubic capacity was calculated, that is whether it

⁹⁸ ARDA, f. 1610, o. 13, d. 319, l. 43.

⁹⁹ Barinov is noted as the Chair of the Building Committee in ARDA, f. 1610, o. 13 d. 319, l. 1.

¹⁰⁰ ARDA, f. 1610, o. 4, d. 22, l. 6.

is only utilized volume or the volume of the entire structure, as there was not a single hint in the note submitted to me by the Settlement Committee.”¹⁰¹ Once again, the expertise gap in the Azneft Building Committee threatened to torpedo the entire settlement project. The land request was denied.

Azneft Moscow chief Solovev synthesized the official decision in a letter to Barinov, to explain why the Technical-Building Section rejected their proposal. “Due to the financial difficulties experienced by the republic, passing any kind of budgets and capital costs is accompanied by a large obstacles. Further - the work to rationalize manufacturing...will reduce the number of oil workers by 50-60%. For that reason, the timing is inopportune to request 600,000 cubic sazhen for settlement construction, at a sum of around 90M rubles.”¹⁰² The official reason for denying the land request, Solovev notes, was industrial rationalization. Labor specialists in Moscow had determined that in the coming three to four years, technical modernization of the Baku fields would reduce by 15-20,000 the number of oil workers needed. In response to this labor projection, Gosplan determined that just 51,000 cubic sazhen were necessary for Baku worker settlements, less than 10% of the amount requested by the Azneft Building Committee. This is the first time that Gosplan is mentioned in Baku’s settlement planning notes.

It is important to keep in mind that construction of Azneft working housing continued during this period. In 1923, the year Azneft began to construct ground-up housing, 550 new apartments in one- and two-story residential buildings were completed, at a cost of approximately 5,500 rubles per unit. In 1924, 750 apartments were added. The prevailing unit

¹⁰¹ ARDA, f. 2940, p. 1, d. 12, l. 6, rev.

¹⁰² ARDA, f. 2940, o. 1, d. 12, l. 7.

types were one- and two-room apartments with kitchen and veranda. Four schools, accommodating 2,000 students, were also built adjacent to the new housing.¹⁰³ According to Azneft, the construction work progressed smoothly. Local stone, lime and sand were brought to the worksites on their own narrow gauge rail line, and by auto-transport. Delayed delivery of non-local building materials—alabaster, iron, gas piping, glass—often stopped work, however. Building materials factories through Soviet territories were still not operational, so Azneft had to fight with projects in other corners of the USSR for access to the last surviving stocks.¹⁰⁴ Without the support of Moscow, how was the construction financed? For the most part, Azneft paid for the work and materials out of its own coffers. In 1923 and '24 combined, Azneft spent 1.9M rubles of its own money toward worker settlements, and over 2.3M rubles toward building materials. Baksovet pitched in to provide some free transport, stones and other building materials.¹⁰⁵

¹⁰³ The number of total new apartments built in 1923-4, and their per unit cost, varies according to the source. The numbers cited here come from a December 9, 1924 report by Head Engineer of the Azneft Building Committee, A.P. Sidorenko. In ARDA, f. 2940, o. 1, d. 12, l. 8. Per this report, unit breakdowns by settlement were the following:

1. Zarbat Settlement - 366 apts (for Sabunchi, Balakhani region and Drilling Division)
2. Belgorodskii Settlement - 120 apts (UPD II group Elektrotoka)
3. Montina Settlement - 96 apts (autotransport Group I)
4. Settlement at the Ltnt. Schmidt Factory - 52 apts
5. Bingadski Settlement - 202 apts
6. Shubaninski Settlement - 102 apts
7. Bibi-Eibat Settlement - 200 apts
8. Romany Settlement - 146 apts
9. Surakhani small Settlement - 38 apts
10. Dom Elektrotoka in the region - 32 apts
11. Other Institutes in the region and Mardakian - 34 apts

¹⁰⁴ Azneft, *Obzor Azerbaidzhanaskoi Neftianoï Promysblennosti Za Piat' Let Nationalizatsii: 1920-1925*, 68.

¹⁰⁵ ARDA, f. 2940, o. 1, d. 12, ll. 9-10.

For the first four years of its operation, Azneft relied upon local technical staff to deal with the problem of worker housing. The ad hoc answers to Azneft's housing question are attributable to insufficient information: poor accounting of the people, housing units, materials and territories under their purview. Without numbers to assess the shape and magnitude of the problem, an appropriately long-term answer was unreachable. Insufficient information in the realm of technical expertise also plagued the Azneft housing program. Among Azneft's design consultants on the housing problem were Iosif Ploshko, Polish architect to prerevolutionary oil barons, and Gavril Ter-Mikelov, Georgian architect to the same.¹⁰⁶ Neither seasoned designers of monumental urban structures, nor local civil engineers, could provide the planning know-how to guide Azneft toward a regional housing solution. Azneft needed to obtain outside knowledge on the settlement issue, and it did so through three imports: a national expert, competition designs and American technical literature, machines and houses.

Importing Expertise 1: The Well-traveled, Well-spoken Planner

The first aborted competition did not discourage the Azneft Building Committee from inviting outside designers to Baku. On October 29, 1924, Professor Aleksandr Ivanitskii arrived from Moscow to present a report on settlement construction to a joint meeting of the Azerbaijani Division of the All-Russian Union of Miners and representatives from various local organizations including Azneft, Baksovet Kommunkhoz, the NKT (Narkomtrud?) and Gorzdrava (the city health commission). Ivanitskii, who will return as protagonist in the second

¹⁰⁶ Ploshko was involved in the very earliest discussions about worker settlements, and served as chair for the Minor Commission on the Construction of Garden-cities in the Baku region (Oct 1920). See ARDA, f. 1114, o. 1, d. 515, l. 59. Ter-Mikelov was brought back to Baku in 1924, first as a design consultant and later as a jury member for the 1925 settlement housing type competition. ARDA, f. 1610, o. 13, d. 319, l. 43.

and third parts of this story, was an engineer by training who was heavily involved in the Moscow Architectural Society (MAO) as a section head, competition jury member and lecturer on the issues of city planning. Like others of the first generation of Soviet planners, Ivanitskii was a specialist skilled in pre-revolutionary tactics, well-traveled and versed in European models, but eager to establish modes of practice appropriate to new social and economic conditions.¹⁰⁷

In a prepared talk, Ivanitskii shared his knowledge of the English system of small-scale residential construction. His presentation was illustrated by colored lantern slides of drawings and photographs of the projects he described in his report, many obtained during a research trip he took to England in late 1923 to early 1924. The housing situation in England, as Ivanitskii painted it, was remarkably similar to Baku's. WWI not only caused great destruction of existing housing stock, but it was a period during which no new housing was constructed. By 1918, there was widespread acknowledgement among English municipal governments that they would need assistance from the state to embark upon a coordinated national housing campaign. The approved plan promised construction of one million new cottage-style apartments by the end of 1922. Ivanitskii explained that given the scope of the task and limited funding, extreme design discipline was exercised: "[the English] sought to bring the houses closer to interior spatial standards, without permitting any kind of extraneous decoration. The plans of the apartments were developed purely from the point of view of economics, comfort and hygiene."¹⁰⁸ To meet but not exceed these three criteria—economics, comfort and hygiene—would be the goal of all

¹⁰⁷ Modern planning in the Soviet territories did not begin abruptly in 1917, nor was there a seamless continuation with imperial Russian practices. For a full discussion see S. Frederick Starr, "The Revival and Schism of Urban Planning in Twentieth-Century Russia," in *The City in Russian History*, ed. Michael F. Hamm (Lexington: The University Press of Kentucky, 1976).

¹⁰⁸ ARDA, f. 1933, o. 1, d. 222, l. 19.

new housing in Baku going forward, per Ivanitskii's prescription. He went on to share linear and area footage data for each domestic room type (in English feet), followed by pricing data. He stressed in closing that the English post-war housing construction campaign posed so many important questions about small-scale residential construction, and generated such high level scientific-technical research, that its results needed be utilized by the Russian [sic] technical community. Especially the findings related to economization and standardization of housing types and household equipment.

Upon conclusion of the formal report, Ivanitskii narrated a color slideshow that featured pre- and post-war worker settlements in England, France and Wales.¹⁰⁹ Among his examples was Bournville, the model worker village founded by the Cadbury Company in 1893, and Port Sunlight, another model worker village built adjacent to the Lever Brothers' soap-making factory in Merseyside, northwest England, between 1899 and 1914. Both Bournville and Port Sunlight predated Ebenezer Howard's garden city model, but they also provided social infrastructure including schools, a hospital, sports and arts facilities in addition to housing. Ivanitskii ended his slideshow with images of regional plans on which worker settlements were shown in relation, and linked by road and rail, to sites of industry.

The chair of the assembled group proposed to extend the meeting to allow Professor Ivanitskii to share his opinions of the planned extensions of Azneft's worker settlements. Ivanitskii's incisive assessment of the issues revealed that he had done his research. He noted the existence of two opposing points of view where settlement location near Baku was concerned.

¹⁰⁹ The settlements Ivanitskii showed in slides were in Birmingham, Bournville (the Cadbury-built worker village outside of Birmingham), Cardiff, Bristol, Liverpool, Leeds, Manchester, Nestingham, Port Sunlight (the Lever-built worker village) and Sheffield. ARDA, f. 1933, o. 1, d. 222, l. 19.

The first option, forwarded by the Baksovet Kommunkhoz and the NKT, proposed that new worker settlements should be placed in a ring close to the existing city and away from oil bearing lands. The long-term benefit of such a scheme was that settlements in this middle territory would be subsumed naturally into the urban fabric as central Baku expanded. In addition, urban infrastructure such as roads, tramlines, electricity, water and sewer systems would be more easily and rationally extended to these new areas. Ivanitskii characterized this as the “centralization” option, which made sense for the city administration, but which posed two dangers for Azneft. “First—there is the issue of transportation and private funding to transport the workers to industrial sites and back. Second—there are practical urban issues to deal with, including a large population, existing settlements that need to be transformed, renovation of structures and difficult hygienic conditions. To solve these issues is very important not only from a humanitarian standpoint, but also from a cleanliness and production standpoint, as they are connected with the task to increase the quality and production of labor.”¹¹⁰

Ivanitskii continued that a second “decentralized” option synthesized the position of Azneft. In accordance with new housing they had already completed, the oil company advocated for worker settlements to be placed in closer proximity to the oil fields, tethered to sites of extraction. The degree of proximity was of primary concern to Azneft from the time of its consolidation, as has been discussed above. The ideal settlement location was far enough away from the anticline axis—the geological fold from which oil was most easily extracted—to allow for further exploration in the future, but close enough to ensure easy transport of workers to the fields, as Ivanitskii himself noted. Yet there were significant pitfalls to this scheme for Azneft as

¹¹⁰ ARDA, f. 1933, o. 1, d. 222, l. 20.

well. Primary among them was the daunting and expensive task to create an entire technical and social infrastructure separate from that of the municipality.

Although he provided an acute assessment of Baku's situation, Ivanitskii refused to provide an answer to the question of future settlement location or even to weigh in on the housing construction underway. Instead, he stated that he was "more interested in the absence of a general plan than the plan of any individual settlement."¹¹¹ Let us pause for a moment and consider the impact of this comment. In making it, the planner from Moscow ran the risk of irreparably alienating his hosts, most notably Azneft. Significant numbers of new worker housing units were already built and occupied by October 1924. That they were constructed without a general plan should be evident from the preceding history. But prior to Ivanitskii, no one had articulated the seriousness of this oversight.

The administrations of Azneft and Baksovet had to be educated on the critical financial repercussions of building without planning. Ivanitskii warned the assembled that there was great risk of wasting money on costly engineering preparations for territories poorly suited to settlement construction. Before selecting a site, it was important to determine a rational road system congenial to Baku's difficult topography, and to assess the proximity of existing transportation lines. To quantify the risk, Ivanitskii provided the group with startling numbers: "Construction without drafting a rational general plan threatens to increase all estimates—for the construction of roads, paving, planting, water piping, sewage—from 50-60 percent."¹¹² If Azneft captured these savings, tens of millions of rubles could more aptly be allocated to increased housing capacity.

¹¹¹ Ibid: ARDA, f. 1933, o. 1, d. 222, l. 20.

¹¹² Ibid: ARDA, f. 1933, o. 1, d. 222, l. 20.

Additional economization was possible through intelligent planning of the typical worker housing units. Ivanitskii noted that his overall impression of completed Azneft housing was positive: the construction quality was solid, the units were spacious and light-filled, and they were for the most part comfortable and hygienic. His criticism centered on the “luxuriousness” of the typical unit, which he considered excessive in volume, square footage and decoration:

It is unpleasant to see acts of superfluous decoration that are unnecessary from an architectural standpoint and expensive. All of these should be discarded, and residential architectural decision-making should turn to more severe form, based upon mass and space. The best decoration for the house is cleanliness and green all around. In order to move toward economical construction, it is necessary to reconsider all the needs imposed and understand the social implications, such that every hundred rubles spent on unnecessary decoration—which is, anyway, of a philistine character (*meshchanskii kharakter*)—is a subtraction from the beneficial cubic capacity of constructed living space.¹¹³

While his critique of Azneft’s new worker housing units began with a personal expression of distaste for the “superfluous” decoration applied to the building exteriors, Ivanitskii took care to frame the problem of architectural style in terms of hygiene and economics. Simple units enhanced only by cleanliness and greenery were the least expensive to build. Ivanitskii suggested that once pilasters, moldings and double-leaved doors were removed from typical unit designs, the Azneft Building Committee would find itself flush with unexpected extra funds with which to construct additional units. What was most important about Azneft’s new worker units was that “have nothing in common with the prerevolutionary type of housing,” and they marked the beginning of a large-scale and ongoing effort to solve the housing question. “All of these flaws are easy to fix,” Ivanitskii noted in closing.

¹¹³ Ibid: ARDA, f. 1933, o. 1, d. 222, l. 22.

In late autumn 1924, soon after his presentation for the institutions and organizations invested in solving Baku's housing problem, Professor Ivanitskii was hired for two separate though interrelated planning jobs. The Baksovet engaged Ivanitskii to prepare a general plan for the city of Baku. The resultant 1927 Baku Plan is the focus of the following chapters.

Concurrently, Azneft commissioned Ivanitskii to develop a comprehensive plan for Azneft worker settlements, and detailed plans for four: Belgorodskii, Bingady, Montina and Stepan Razin.¹¹⁴ The timeline for this effort was extremely short, since construction had already begun in some of these sites.

Importing Expertise 2: Competition for Typical Worker Housing

Less than a month after Ivanitskii's pivotal visit, Azneft and Baksovet joined forces as co-sponsors for a comprehensive competition for typical worker housing units. Compared to the overly general instructions for July's failed "Competition for Plans of a Few Structures of Settlement Character," the new competition brief was a specific and educated piece of work that bore Ivanitskii's signature. Four house types were requested of entrants: one-story houses with two, three, and four rooms, and one two-story house with four rooms. All types were required to provide a veranda and service space. Precise area targets were given for each room type, and ceiling heights were strictly prescribed. Details reveal the institution of Ivanitskii's spare, hygienic and economical architectural regime. Roofs of all houses must be flat. Walls of all houses must be straight (no curvature, no crenellation). Provide as many built-in closets as possible. Specify, within reason, the least expensive materials and most simple construction techniques. Design the

¹¹⁴ Rossiiskii gosudarstvennyi arkhiv literatury i iskusstva [Russian State Archive of Literature and Art, RGALI], f. 2991, o. 1, ed.kh. 1, l. 29.

facades of the houses without unnecessary decoration or the need for painting. In total, “the appearance of the house must bear the imprint of simplicity, attractiveness and comfort.”¹¹⁵

In addition to the more exacting design parameters, the competition drawing requirements were more exhaustive, starting with the site plan. Besides the house designs, the site plan needed to show the yards, gardens, open spaces and paths that cross the typical parcel, as well as an arrow to indicate the direction of the sun. A table was required on the detailed plans for each house type as a key to the areas of each individual room and the overall area of the house including living, veranda and service spaces. An explanatory text was requested to accompany the drawings with descriptions of the materials and construction techniques specified.

The competition also explicitly sought to draw designers from outside of Baku. Competition materials were made available at Azneft offices in four cities: Moscow, Leningrad, Tbilisi and Yerevan. A February 15, 1925 deadline was imposed, which provided approximately three months for interested teams to develop their submissions.

The Baku competition was an opportunity to put theories about Soviet worker housing into immediate practice at a massive scale. Publications about the Soviet Union’s housing crisis and proposals for its resolution emerged largely from architectural circles in the capital. Of these, two by renowned Moscow architect and pedagogue Grigorii Barkhin best set the technical parameters of the task. Barkhin was active at the Moscow Architectural Society from 1923-30, and he taught at various Moscow architectural and engineering institutes, work that overlapped with that of Ivanitskii and his Baku collaborators, Viktor and Aleksandr Vesnin. Barkhin and the

¹¹⁵ ARDA, f. 1933, o. 1, d. 222, l. 14.

Vesnins participated in a number of the same housing competitions in the early 1920s, and their work was undoubtedly known to one another.¹¹⁶

Barkhin's first book, *Worker Housing and Worker Garden-village (Rabochii dom i rabochii poselok-sad, 1922)* was one of the first Soviet publications to address the housing question in technical and climatological terms. In it, Barkhin articulated optimal living conditions in heating, air exchange and lighting norms. *Contemporary Worker Housing (Sovremennye rabochie zbilishcha, 1925)*, was published more or less concurrently with Baku's oilfield housing competition. Barkhin's one page introduction set the practical tone for the book. "At present," he wrote, "we observe a sharp mismatch between housing needs and the housing fund. This gap may be removed only with a long process of rationalizing and broadening housing construction... The work [in this book] is an experiment toward clarifying a number of issues in this large and very serious question."¹¹⁷ *Contemporary Worker Housing* was organized as a step-by-step guide for fellow architects. The book first established general sanitary-technical requirements and norms for housing and laid out the constituent elements of the typical worker apartment and settlement. The bulk of the text was concerned with empirical data: important relational information for locating various programs within an apartment, house or settlement as well as length and area standards for each room type. The book ended with two important tables. The first gave the technical parameters of fourteen apartment and dormitory types, and the second provided accompanying economic data. Barkhin's book-experiment to rationalize an approach to the housing question is distilled in these two data-rich charts.

¹¹⁶ One example of a housing competition both Barkhin and the Vesnins participated in was a worker settlement in Mytishchye (near Moscow) for 12,000 residents. The Vesnins project was that selected to be built; Barkhin was granted second prize. A. G. Barkhina, *G.B. Barkhin* (Moskva: Stroizdat, 1981), 36.

¹¹⁷ Barkhin, *Sovremennye Rabochie Zbilishcha*, 7.

A quick comparison between the Baku competition brief and *Contemporary Worker Housing* reveals notable quantitative coincidences.¹¹⁸ Specific area targets for the living room (4 cubic sazhen (c.s.)), kitchen (1.75 c.s.) and entryway (0.6 c.s.) in the Baku brief align perfectly with Barkhin's recommendations. Other room prescriptions fall within area ranges proposed by Barkhin. While the book was published after the brief, the correspondence between the two suggests that the Baku competition drafters were aware and informed of housing research occurring in Moscow. As Barkhin notes throughout the text, his area targets were drawn from foreign worker housing examples, mostly English and German. His data was not original, but the effort to collate the data in a single Russian-language publication was. For design specialists interested in housing norms, like Ivanitskii—who likely assisted in drafting the competition brief—gaining access to such data was simply a matter of calling on colleagues engaged in such research. The publication matters less than the professional network.

The competition drew nineteen competitors who vied for cash prizes that ranged from 250 to 800 rubles.¹¹⁹ The jury was chaired by V.S. Krylov, Chair of the Baksovet Building Committee, and consisted of representatives from the Baksovet, Azneft, NKT and the Miners' Union. According to Azneft, the competition yielded positive results; they planned to build 1,000 houses based on the “lively” new designs in Azneft settlements before the end of the year. Although competition drawings did not turn up in the archive, a constructed result of the competition can be seen in a 1925 Azneft publication. (Figure 1.15) Unused construction materials hold the foreground of the photograph in which the competition house (*konkursnyi*

¹¹⁸ These area targets may have been set by NARKOMTRUD.

¹¹⁹ Azneft, *Obzor Azerbaidzhanской Neftianoi Promyshlennosti Za Piat' Let Nacionalizatsii: 1920-1925*, 69. Also, ARDA, f. 1933, o. 1, d. 222, l. 15.

domik) is just nearing completion in Montina. The house is comprised of two mirrored units, each with its own side door and covered veranda, a type Barkhin characterized as a “paired house” (*parnyi dom*). The paired competition house in the photograph is sheathed in simple parged stucco. Porch columns, railings and window surrounds are all constructed from dimensional lumber. Compare this example to those Azneft worker houses pictured just a few pages before, in Balakhany and Sabunchi. (Figure 1.16) The Balakhany photograph captures the end of a house embellished by contrasting pilasters, an arched doorway and pediment crowned with decorative sculpture. The houses in Sabunchi share elaborate window surrounds and decorative wood porch supports reminiscent of Villa Petrolia, the Nobel estate in the White Town. Such were the decorative excesses that drew Ivanitskii’s criticism on his first visit to the Azneft settlements. The planner made certain that the competition designs, and all worker housing built in Baku under his watch, would be distinguished only by cleanliness and green surrounds.

Importing Expertise 3: Americanization

Azneft director Serebrovskii traveled to the United States for several months at the end of 1924, which explains his absence from the Ivanitskii presentation. The purpose of Serebrovskii’s visit was to see the American oil industry for himself, and to garner American assistance to modernize the Baku fields. The American press referred to Serebrovskii as the “Soviet Rockefeller,” a nickname that stuck throughout his 1924 and 1927 visits to the U.S.¹²⁰

¹²⁰ B. M. Shpotov, *Amerikanskii Biznes I Sovetskii Soiuз V 1920-1930-E Gody: Labirinty Ekonomicheskogo Sotrudnichestva* (Moskva: URSS, 2013), 143.

Serebrovskii's visit was one of the first organized by Amtorg, the Soviet-American trade chapter based in New York, and an important organization in the Kharkiv chapters. On July 30, 1924, the day after his arrival, Serebrovskii visited the Manhattan offices of Standard Oil. Executive Director, Walter Teague, entertained his Soviet counterpart, and began talks that would lead to unrestricted visits to Standard's oil fields and logistical assistance purchasing American equipment. The sticking point was money. Azneft did not have sufficient cash reserves to purchase machinery outright; credit from American banks was impossible, owing to the lack of official Soviet-American diplomatic ties; and only Standard's senior partner, John D. Rockefeller, could authorize monetary assistance to Azneft.

Serebrovskii wrote to the elder Rockefeller to request a face-to-face meeting. Surprisingly, Rockefeller agreed. In his 1925 book, *The Oil and Gas Industry in America* (*Neftianaia i gazovaia promysblennost' v amerike*), Serebrovskii recounted his visit with the American oil baron:

[Rockefeller] was very well informed about things in Baku...and about our resources. He emphasized several times that they were willing to support Soviet industry on the condition that we be his allies...

I proposed two arrangements. First, he would give a letter of guarantee to his bank to pay our supplier invoices from future earnings on petroleum products...Rockefeller thought for a long time, and then looked at me attentively and unexpectedly agreed. Second, he would give a letter to suppliers in which he would recommend us as buyers well known to him and recommend that we be given the same discount on invoices as Standard Oil. Rockefeller accepted this much more readily.

It was around five in the afternoon, and tea was served. The old man poured tea for me, offered me cookies with jam, and then invited me to take a stroll. He walked quickly and for a long time, half an hour, and we went around the entire forest park. I was hardly able to keep up with him, and my leg ached. The two of us dined...In the morning I was awakened before dawn. The old man was going on a stroll before breakfast and wanted to talk along the way...After breakfast I bid him farewell and left.¹²¹

¹²¹ Vagit Alekperov, *Oil of Russia: Past, Present and Future*, trans. Paul B. Gallagher and Thomas D. Hedden, 1 ed. (Minneapolis: East View Press, 2011), 113. Although not cited, this quote likely comes from A.P. Serebrovskii, *Neftianaia I Gazovaia Promysblennost' V Amerike* (Moskva: Tsentral'noe upravlenie pechati VSNKh, 1925).

Two crucial agreements that were to transform the Soviet oil industry were forged at the initial meeting over tea and cookies. First, Standard Oil would act as Azneft's sole creditor in the United States. American suppliers were to bill Standard Oil directly for machinery purchases, and Standard's bank would keep track of the debt to be paid from Azneft's oil futures. Second, based on Rockefeller's personal request, Azneft would receive the same industry discount offered to Standard on all machinery purchased. With one meeting, Serebrovskii secured the most modern equipment for the Baku fields at a discount. Serebrovskii later learned what had caused Rockefeller to trust him so quickly: the patch on the bottom of his shoe. Rockefeller reportedly told his financial director, "This man can be trusted in debt. He is not a spendthrift, does not drink wine, does not smoke, and I like him."¹²² By the time he left the United States, Serebrovskii had purchased more than \$8M worth of American machinery on behalf of Azneft—with Rockefeller's money.¹²³

On his visits to oilfields in Pennsylvania, Texas and California, Serebrovskii also toured oil workers' residential quarters. According to one account, he ordered a "whole small town" of worker cottages from American manufacturers to be shipped back to Baku.¹²⁴ This story is difficult to corroborate, but we do know that Serebrovskii returned from his trip abroad laden with specialty literature and technical manuals on settlement planning. The American materials were handed over to Azneft's engineers to "meticulously review," ingest and process for the Baku context. Whether they were built from in-house designs or shipped from the United States, 110 "experimental Americanized apartment types" (*opytnykh kvartir amerikaniizirovannogo tipa*) were

¹²² Alekperov, *Oil of Russia: Past, Present and Future*, 113.

¹²³ "Ussr Oil Head Here to Study U.S. Production," *Daily Worker* 1927.

¹²⁴ *Oil of Russia: Past, Present and Future*, 115.

built in Baku's worker settlements in 1925. The express goal of this experiment was "to test the applicability of these types for all new Azneft housing and to explore new production organization and construction methods."¹²⁵

An Americanized house is featured in Azneft's 1925 *Overview*, this one built in Shubany, a village in the hills just west of Balakhany and Bibi-Eibat. The choice of location is unexplained, but it is not one of the new settlements to be designed by Ivanitskii. The photograph shows a 3/4 elevation of a single-story house. (Figure 1.17) The left edge of the photo clips the façade, making the building's full length unknown. There is, however, a thick pilaster that appears to mark the centerline of the building, making this a paired house like the competition type described above. The house is striking for its solidity, the generosity of its window openings and its decorative excesses. The photograph highlights one unit's classically pedimented entry portico that is held up by four slender columns. An intricately profiled finial rises from the pediment. The covered entry porch is approximately four feet proud of the main body of the building, deep enough for two scale figures—one leaning on the balustrade, one standing at the back wall—to be cast in shadow. An off-center door sits behind the standing figure, and the remainder of the porch wall is taken up by tall double-leaved windows set off by contrasting surrounds. Compared to the stark settlement houses at Binagady, shown from afar in a photograph below, and the competition house described above, the Americanized house was the very exemplar of philistine taste that Ivanitskii condemned in his remarks just months before.

In addition to technical literature, Serebrovskii brought back new construction machinery. The machines that saved the most time and effort, according to Azneft, were those

¹²⁵ Azneft, *Obzor Azerbaidzhanskoi Neftianoi Promyslennosti Za Piat' Let Nationalizatsii: 1920-1925*, 69.

that extracted local stone for building blocks and dug pits for the sand used in mortar and concrete aggregate.¹²⁶ Serebrovskii also returned with examples of the latest American domestic appliances, such as gas stove tops, washing machines and vacuum cleaners. A supplemental package of American soccer balls led to the establishment of Azerbaijan's first soccer team, the Azneft "Neftchi" (Oilers).¹²⁷

By Azneft's account, the American experiment was a success. The standard construction schedule was accelerated by 50-70%, and costs reduced by 50%. The pilot project's positive outcome was due to three newly acquired resources: a complete set of technical-planning materials, modern construction machines and the experimental construction itself. Together the brains, the brawn and the built work provided Azneft with a model for a rationalized design and construction process. "In short," the company wrote at the end of 1925, "construction has developed an *apparatus (stroitel'stvo razvernulos' v apparat)*, which begins to work broadly on Azneft settlement construction. In the near future we will need to build up to 24,000 new settlement apartments that correspond to all of the requirements of our new cultural life."¹²⁸ In the coming year, Azneft's confidence in the apparatus would grow with the assistance of rationalized planning and new design talent applied to the Stepan Razin settlement.

Stepan Razin: Settlement-Garden in the Oilfields

Of the four Azneft worker settlements Ivanitskii was tasked to plan, Stepan Razin was the largest and most remote from the city center. Because of its location near the historic

¹²⁶ Ibid.

¹²⁷ Shpotov, *Amerikanskii Biznes I Sovetskii Soiuz V 1920-1930-E Gody: Labirinty Ekonomicheskogo Sotrudnichestva*, 148.

¹²⁸ Author's italics. Azneft, *Obzor Azerbaidzhanской Neftianoi Promyshlennosti Za Piat' Let Nacionalizatsii: 1920-1925*, 70.

oilfields at Balakhany, Sabunchi and Surakhany, it was also the settlement that Azneft was most eager to move forward. Soon after his return from the United States, in March 1925, Azneft director Serebrovskii presented to the Baku Executive Committee (Bakispolkom) a potential settlement site near the “Stepan Razin” ridge on the west side of Bulbul Lake (Bülbulə gölü). (Figure 1.18) The site was nearly equidistant from the three extraction fields and also significantly removed from the anticline axis where the most productive drilling took place. Serebrovskii revealed that Azneft had begun to remove all residential structures in the village of Surakhany that sat on oil-bearing land, to make way for more derricks. The displaced peasants would soon be homeless unless a prompt decision was made.

The Bakispolkom approved the general settlement location for Stepan Razin, but assigned Serebrovskii follow up tasks to be completed before Azneft could proceed with construction. The Azneft and Baksovet Building Committees had to prepare a common report on worker settlement construction throughout Baku. In collaboration with comrades from the Land Committee and Kommunkhoz, Azneft had to work out a compensation plan for peasants whose arable land was to be taken for the settlement. Finally, Azneft had to spearhead a special commission to define the most economical type of worker housing.¹²⁹ Design for worker housing and the entire settlement plan for Stepan Razin was, in fact, already well underway when the committee made its request. Azneft had provided Ivanitskii and his team with sufficient survey data to allow them to move quickly, and their task was simplified because the settlement site was a tabula rasa—all existing peasant residents were being evicted, per Azneft’s plan.

¹²⁹ ARDA, f. 1933, o. 1, d. 256, l. 13.

Ivanitskii began research and sketch designs for Stepan Razin at the end of 1924, months before Serebrovskii asked official permission from the Bakispolkom.

Ivanitskii referred to Stepan Razin and the other Azneft worker settlements as “settlement-gardens” (*poselki-sady*).¹³⁰ His term is a curious conflation of two distinct planning paradigms: the socialist worker settlement, and the garden city. With “garden,” Ivanitskii summoned Ebenezer Howard’s *To-Morrow: A Peaceful Path to Real Reform* from 1898, the book that established the garden city as an antidote to England’s heavily industrialized urban centers [this is discussed in Chapter 1]. Russians interested in city planning reform became aware of Howard’s ideas as early as 1902, but it was not until 1912 that the garden city received a proper exegesis in Russian. In *City Improvement (Blagoustroistva gorodov)*, architect Vladimir Semenov described the formal and financial structure of the garden city, and provided drawings and images of Letchworth, the first built example. A Russian branch of the International Garden City Society was founded in St. Petersburg in 1913.¹³¹

A 1924 book, *Worker Housing and Byt (Rabochee zbilishche i byt)* proved that the revolution had not quelled Russian interest in Howard’s settlement form. The book’s sole solution to the “housing catastrophe” in Soviet cities was the *proletarian garden-city (proletarskii gorod-sad)*.¹³² Author P. Kozhanyi argued that because private ownership of land was abolished in the Soviet republics, there was no economic logic to build tall. Further, the underdeveloped Soviet construction industry was better equipped to build low-rise development. How was the proletarian garden-city sited, and what did it look like? Kozhanyi provided the following

¹³⁰ ARDA, f. 2983, o. 1, d. 38, l. 133, rev., for instance.

¹³¹ Starr, "The Revival and Schism of Urban Planning in Twentieth-Century Russia," 232.

¹³² P. Kozhanyi, *Rabochee Zbilishche I Byt* (Moskva: Izdanie VTsSPS, 1924), 48.

guidance. “Before the construction of the garden-city it is necessary to select a high, healthy, wooded area with access to running water...the whole city should be girded with wide agricultural bands, planted with agricultural products—here we have the realization of the union of town and country (*smychka goroda s derevnei*).”¹³³ The proletarian garden-city described by Kozhanyi is concentric, with industry in a slim zone between the residential core and the exterior ring of agriculture, per Howard’s diagram. Kozhanyi’s siting principles fly in the face of Soviet production realities, however. The Soviet Union was rapidly transforming into a state driven by the requirements of heavy industry. Housing was needed, green space for the workers was ideal, but the insatiable industrial complex was the foremost planning concern.

Ivanitskii had experienced firsthand the original garden city, Letchworth. But in his initial presentation in Baku, he showed photographs he had taken of worker settlements (*rabochie poselki*) in the suburbs of Cardiff, Bristol, Liverpool, Leeds, Manchester, Birmingham and other industrial centers.¹³⁴ Ivanitskii presented to his future clients in Baku site plans of these suburbs, drawing attention to relationship between worker residential zones and regional industry, as well as the transportation infrastructure that linked them. He understood his precedents, and he knew very well that the Azneft worker settlements were not garden cities. “Settlement-gardens,” Ivanitskii’s terminological invention, does accurately describe the peri-urban Azneft worker regions he designed. First, they were settlements—agglomerations of worker housing proximate to industry, but not so close as to hamper free industrial expansion. Second, they were as garden-like as possible, under the circumstances.

¹³³ Ibid., 50.

¹³⁴ ARDA, f. 1933, o. 1, d. 222, l. 19.

The site plan for Stepan Razin came together quickly, since the land set aside for the settlement straddled a rocky ridge and layout options were limited. The ratified plan divided the settlement into three sub-neighborhoods, each of which was centered on an open space that in turn served as a spoke for streets that radiated into the lobes of each section. (Figures 1.19 – 1.20) Green spines were intended to soften the major boulevards, and additional plantings filled the areas too steep to support construction. Unlike in the English examples, however, where “green” might be understood as residual, or simply un-built space, the lushness promised by the Stepan Razin plan required infrastructural gymnastics to overcome the naturally desert-like climate and salty soil of the Apsheron Peninsula.

Once the site plan was resolved, a multidisciplinary team of specialists began typological designs for Azneft settlement housing. Ivanitskii tapped brothers Viktor and Aleksandr Vesnin as his architectural collaborators for the project. Ivanitskii and the Vesnins knew one another through the Moscow Architectural Society (MAO), a prerevolutionary institution that took up the mantle of socialist concerns after the establishment of Soviet power. While MAO retained a conservative reputation, it also drew members from among Moscow’s architectural avant-garde including the Vesnins, leading Constructivist architects.¹³⁵ (Figure 1.21) Architectural Constructivism was a functionally- and socially-motivated practice that aligned itself with science rather than art. Primary theoretician for the group, Mosei Ginzburg, described the Constructivist design process as follows: “In place of the abstracted and extremely individualistic inspiration of the old-style architect, the contemporary architect is firmly convinced that the architectural task,

¹³⁵ The editorial board of MAO’s short-lived journal, *Architecture* (1922-1924) included Leonid Vesnin and Moisei Ginzburg. Ginzburg’s 1924 book *Style and Epoch* crystallized definitions of the architect’s role under socialism that were tested in the pages of *Architecture* and among his colleagues at MAO.

like any other, can only be solved through a precise elucidation on the factors involved [literally: the unknowns] and by pursuing the correct method of solution.”¹³⁶ The Vesnins were particularly renowned in Soviet architectural circles for their competition successes, most important of which was the third place Palace of Labor entry from 1923, a design that exceeded its official placement to set the social and spatial tasks of Constructivist architecture.

The research and data driven rationality of the Constructivist method was congenial to Ivanitskii’s planning outlook. As early as 1919, he teamed up with Viktor and Leonid Vesnin on a competition entry for an autoworkers’ village in Filyakh.¹³⁷ Their design was not chosen, but the effort marked the beginning of fruitful professional collaboration. The Vesnins were also aware of the issues particular to sites of oil extraction. In 1922, the brothers took first prize in a competition for three oil workers’ villages in Grozny for Grozneft, the state-controlled company that was the Russian site’s equivalent of Azneft. They joined the Baku planning project in early 1925 on Ivanitskii’s request. Although their time in Baku was limited—they were pulled away in late 1925 to work on the Dnipro Hydroelectric Station in Ukraine—the designs they developed were crucial to establishing a new architectural language for Baku’s worker settlements and socialist institutions.

Viktor Vesnin later recalled three housing-related issues that the design team sought to address in the Azneft settlements, the first two of which fell to the planners. They wished to

¹³⁶ M. Ia. Ginzburg, "Novye Methody Arkhitekturnogo Myshleniia," *Sovremennaia Arkhitektura*, no. 1 (1926). As translated in Cooke, *Russian Avant-Garde Theories of Art, Architecture and the City*, 129. Aleksandr Vesnin echoed Ginzburg’s formulation, writing that "...true functionalism signifies not only the rebirth of the utilitarian function, but of the artistic and social functions as well. This primacy of function over decorative academicism has always existed, but today its base is considerably larger and more complicated—that of modern man, citizen of a socialist country." From *Arkhitektura SSSR*, no.7, 1934, as translated in S. O. Khan-Magomedov and Aleksandr Aleksandrovich Vesnin, *Aleksandr Vesnin and Russian Constructivism*, 1st ed. (London: Lund Humphries, 1986).

¹³⁷ V. G. Davidovich and Tatiana Aleksandrovna Chizhikova, *Aleksandr Ivanitskii*, *Mastera Arkhitektury* (Moskva: Stroiizdat, 1973), 19.

ensure that worker housing was separated from industrial sites in dedicated settlements and they looked to forge close and rational ties between housing and production through intelligent transportation linkages. Lastly—and here is where architecture enters the picture—they they hoped to “create a link between contemporary housing and the strong tradition and lifestyle of the local population.”¹³⁸ As this final wish implies, the architects sought to devise a style for replicable worker housing at Stepan Razin that melded the best attributes of both modernity and tradition. This problem was political as well as architectural. Stepan Razin was being designed during an ongoing socio-political debate about the *novyi byt*, or new way of living under socialism. In *Questions of Everyday Life*, published just a year before the Baku plan was begun, Leon Trotsky argued that relational habits, the stuff of everyday life (*byt*), needed to be reconceived in order to construct socialist citizens. Because the domestic realm was where habits form and persist, new housing was ground zero for inculcating socialist practices. Architects like Viktor Vesnin and Moisei Ginzburg maintained, however, that the working class would find drastic changes to the domestic environment alienating, and that a transitional period between the old and new would be necessary. Stepan Razin was an experiment to establish worker housing types that could bridge that gap between a local past and a common socialist future.

The architects designed types for Stepan Razin that closely matched the requirements for the late 1924 Azneft housing competition.¹³⁹ All one-story types had covered verandas, direct access to garden space from the kitchen, and they were architecturally spare for reasons of

¹³⁸ Ibid., 11-12.

¹³⁹ While the winning competition types were constructed in Montina and other Azneft settlements, the first development phase for Stepan Razin appears to have been constructed solely of the Vesnin versions. Photographs taken during and just after completion of the first phase capture only the majority one-story houses, but three-story models were built along the main boulevard.

hygiene and economy. By mid-1925, the Vesnin-led architectural team had developed thirty-six house variants for one-, two- and three-story houses. Three design drawings demonstrate the characteristic features of Stepan Razin's first phase one-story types. Like Azneft's competition entries and Americanized houses, the Vesnin designs held two mirrored units per building (a paired type). The modest units in Type II—the only design for which a plan exists—consist of three zones. The deep open air veranda at the front of the house comprises zone one. (Figures 1.22 – 1.23) The middle zone holds the shared living/sleeping space. A service zone sits at the back of the house, with a kitchen/dining area, separate shower and toilet stalls, and a door that leads directly outside from the kitchen. Modern technology serves the residents in the form of running water and sewer, plus a furnace whose exhaust runs up one large shared chimney in the service zone, and individual smaller chimneys in the living/sleeping rooms. The elevation of the house, and a construction photo from November 1925, both show raw stonework as the exterior finish. Types X and XI are illustrated in elevation and perspective only, but these paired houses appear wider, and are presumably larger, than Type II. (Figures 1.24 – 1.25) The three houses viewed together exhibit volumetric variety and a diversity of finishes to create a hybrid local-modern architectural language. The spectrum of exterior finishes ranged from local stone left bare, to walls parged and painted in an assortment of colors. Verandas, bays and deep eaves were justified for their shading capacities, but they also contributed to volumetric complexity.

The first phase of the Stepan Razin settlement had a pleasing heterogeneity that writer Maxim Gorkii noted after his visit to Baku in 1928:

Of all the experiments in worker housing construction in the Soviet Union, it seems to me the most successful is the Azneft experiment. The Baku worker settlements are beautifully built... "These small towns are built by smart people," is what you think about them. From a distance the settlement of Razin looks like a military camp: one-story grey houses, exactly like the tents of soldiers. But when I visited the settlement I saw that each house was "nicely done for its type" (*molodets na svoi obrazets*), and that together they make the beginning of an original and beautiful town. Almost every house has its own architectural physiognomy, and this

makes the variety of types of settlements amazingly vibrant.¹⁴⁰

Gorkii highlights the perceptive difference in the settlement's appearance depending on the length of view. Period photographs support his observation that the distant view was camp-like at best. (Figures 1.26 – 1.29) In aerial and long-range photos taken near the end of phase one construction, Stepan Razin looked like a settlement built from a limited set of model houses in a short period—as it was. The types were largely one-story, two-unit houses, set a similar distance apart, that appeared identical from afar. The starkness of the view was also not helped by the fact that the “garden” component of the settlement-garden was not yet installed to soften the blank and dusty site. Once the viewer was on the ground among the houses, however, the varied “architectural physiognomy” eclipsed the perception of sameness. Close range photographs, populated with workers, show that the types were widely mixed, and that slopes on the site caused site-based construction adjustments from one house to the next. The number of steps to reach the veranda, the height of the foundation, etc., changed from house to house. For Gorkii, the lasting impression of Stepan Razin was of its vibrancy, due in large part to the masterful deployment of slightly varied types.

The benefit of typological design must now have been clear to Azneft. In 1925 alone, they completed hundreds of units in the first phase of Stepan Razin, they built 110 Americanized houses on various sites, and planned to construct 1,000 additional houses based upon new competition types.¹⁴¹ As promised, the rationalized design and construction apparatus was working broadly and swiftly to provide worker housing. The timeline for Stepan Razin is

¹⁴⁰ Davidovich and Chizhikova, *Aleksandr Ivanitskii*, 53-54. Original in Gorkii, M. *Po Soiuзу Sovietov, 1928-1929 gg.*, *Sobr. soch.*, t. II, *proizvedeniia 1924-1931 gg.* Goslitizdat, 1962, 229.

¹⁴¹ Azneft, *Obzor Azerbaidzhanской Neftianoi Promyslennosti Za Piat' Let Nationalizatsii: 1920-1925*, 69.

impressive by any measure. Relying only on the artifacts at hand, a drawing for the Type II house dated 1 May 1925 marks a possible (though unlikely) project start date, and a cache of post-construction photographs dated 22 November 1925 marks its end. These traces of process reveal that less than seven months separated architectural concept from completed settlement. Azneft learned from Stepan Razin that worker housing could, and should, be approached with the same rationality and efficiency as any branch of industry.

* * *

One of the first examples of Soviet led urban development, worker settlement construction in Baku's oil fields, was plagued from the start by a total lack of systemic planning. When Azneft gained control of the fields in 1920, the newly established socialist oil concern found that the Baku oil industry was effectively defunct. Baku's oil was crucial to the Soviet cause: the problem for Azneft administration was to determine how to revive the industry with few funds, insufficient transportation infrastructure and poorly housed, clothed and fed workers.

In various texts, Azneft director Serebrovskii wrote that Baku's labor problem was directly related to housing and transportation. Workers arrived on the worksite exhausted from long commutes from miserable housing in the center city; many did not arrive at all. Housing the workers in locations proximate to the fields became one of Serebrovskii's, and by extension Azneft's, prime goals. Although the company created its own construction arm to renovate and build new housing for the oil workers, the Azneft leadership had no experience directing capital construction on this scale. Even after pouring millions of rubles into construction, Azneft was adequately housing just twenty-five percent of its workforce. A five-year period characterized by unit-by-unit, stopgap problem solving renders the failure of their first efforts unsurprising. There was no overarching vision for housing the oil workers because there was no local planning expertise. Azneft leadership didn't know what they didn't know: that it helps to have a plan.

Serebrovskii was a trained engineer and a seasoned logistician who understood that oil is an industry that rewards technical innovation. He and his Soviet colleagues in Baku were of a mindset to accept external assistance, whether in the form of American drilling equipment or models for worker housing. To arrive at a solution to their housing problem, Azneft sought and received three varieties of expertise. In Aleksandr Ivanitskii, they gained planning knowledge. When Ivanitskii arrived from Moscow wielding strong opinions about the importance of physical planning, he spoke to a group primed for receptivity. He shared foreign precedents for worker housing, framed the problem holistically and regionally and helped them to set the parameters of their effort. The Union-wide worker housing design competition summoned architectural expertise from throughout the country. New unit types produced by competition participants provided Azneft with fresh design ideas tailored to their own budget and program. Between Ivanitskii's planning and unit designs generated by the competition and the Vesnin brothers, Azneft completed their first successful ground-up worker settlement, Stepan Razin. Finally, Azneft tried a third way: importing houses, foundation to roof, from the United States. The final two imports—competition designs and vetted worker housing models—yielded a catalogue of standardized housing types that Azneft was able to deploy with speed and confidence to address housing needs in locations that supported the oil industry.

Azneft leadership was the perfect client group for a planning effort. They were uneducated about the particulars of physical planning, but were willing to experiment with new practices and modernize housing production through technology. The industrial project, they learned, began at the scale of the worker's unit, expanded to the scale of the settlement, and encompassed, finally, the whole oil producing city-region. This was a lesson that their colleagues at Baksovet would assimilate in the years to come with their own planning project, the Baku Plan of 1927.

PART I: BAKU: Defining the Tasks of Socialist City-Building (1920-27 [1930])

CHAPTER 2. Constructing the Educated Client

This is not an individual work, but a seriously collective work ... Many were involved, especially in the Baksovet Department of Municipal Improvements (Bakkommunkhoz), who undertook so much of the research for the plan. I feel myself to be a worker of the Bakkommunkhoz—if not forever, at least for the past five years ... I feel very gratified when I come to Baku and see what is being done here.¹⁴²

—Aleksandr Ivanitskii, 1930

The first general plan for the city of Baku took three years to develop and five to become ratified. Over the course of that half-decade, a well-known planner from Moscow became expert in local issues. Intense place-based research is customary for design practitioners, and so this outcome of the plan is not surprising. Transfer of expertise in the Baku plan was not unidirectional, however. While the planner, Aleksandr Ivanitskii, gained deep knowledge about his object of study, municipal administrators at Baksovet gained proficiency in the concerns of city planning. Through their interactions with Ivanitskii, Baksovet committee members were taught how to become good planning clients. Fruits of their education included awareness of core planning issues, competence to ask relevant questions, and knowledge of when the planning process had run its course and needed to be finalized.

This chapter follows the early stages of the Baku Plan. It asks: what was the initial scope of the plan, and how did this shift over the course of the planning effort? How did the planner deal with client inexperience and data insufficiency? Did design innovations emerge from less than perfect circumstances? How did the relationship between the imported expert and his local clients change as the years progressed?

¹⁴² ARDA, f. 2983, o. 1, d. 38, l. 133. 11 January 1930.

The members of the Baksovet client group are actors in this story. They were not faceless bureaucrats standing in the way of effective planning, but rather acquisitive participants in the establishment of Baku’s first Soviet era general plan.¹⁴³ I do not wish to overstate their enlightenment—there are ample examples of willful misunderstandings and obstructionism practiced by Baksovet administrators and staff alike during Ivanitskii’s five-year consultancy. The big picture, however, is unmistakable. The general planning effort in Baku produced much more than a series of diagrams and projective maps. It built a cadre of planning-savvy local administrators.

Planning Prerevolutionary Baku

Pre-Soviet Baku was a city with copious plans, if not proper planning. The first prospective city drawing, a “plan of the city of Baku designated for the redesign of its defensive arsenals,” was formulated in 1796. No fewer than ten official city plans were drafted after this attempt and before the Soviets took power.¹⁴⁴ Baku came under Russian imperial rule in 1806, and the small fortress town was drawn and redrawn by Russian military planners as a seaport, trading center and, most importantly, a bulwark against neighboring Iran. Russian engineers placed a 350-meter glacis around the fortress, and opened a new residential neighborhood to its north. The rectangular grid of the so-called “forshtadt” (from the German *vorstadt*, or suburb) established a rationale for future city growth, but individual structures often overstepped the

¹⁴³ This claim of the “enlightened client” should be contrasted to scholarship that pits Soviet designers and bureaucrats against one another, like that published by Russian architectural historians Mark Meerovich and Dmitrii Khmel’nitskii.

¹⁴⁴ According to Fatullaev-Figarov, general plans were developed for Baku in 1807, 1810, 1822, 1833, 1835, 1842, 1855, 1864, 1876, 1878 and 1898. For a full accounting see Fatullaev-Figarov, *Arkhitekturnaia Entsiklopediia Baku*. Chapter 2: “Gradostroitel’stvo Baku XIX - nachala XX vekov”

neat block boundaries inscribed on the map. In short, Baku retained a frontier quality. Its density largely was confined to the area within the walls of the old Muslim city (Icheri Sheher)—an organic warren of small alleyways and courtyards—and the forshtadt. The city became the provincial capital only in 1859, when an earthquake destroyed the previous capital city of Shemakha.

Two factors conspired to draw a rush of outsiders to Baku and to instigate a late 19th century building boom. In 1871, an Armenian entrepreneur drilled the first successful modern oil well, industrializing local extraction technology in the process. Then, in 1872, Russian overseers enacted widespread land reform to allow privatization of land previously owned solely by the tsarist government. New landowners could drill, extract and sell whatever oil they could capture. Property in Baku was bought up by foreign investors, Nobels and Rothschilds among them, and the formerly regional capital was suddenly plotted as a node on the international energy network map. The rush was on.

The effect of the oil boom on the physical shape of Baku was immediate. The population of the city grew over 700% between the 1870s and 1897, from 14,500 to 112,000 official residents.¹⁴⁵ Newly arrived workers lived on the city fringes and in villages adjacent to the oilfields that grew into informal worker settlements. Local oil barons, on the other hand, built their residences and institutions close to the natural center of Baku, along the old fortress wall and in the gridded Russian colonial city. As Baku grew eastward along the Caspian shoreline, citizens complained to the local municipality of the uncomfortable proximity of oil concerns to residential quarters. In 1876, the municipality acted, forcing 147 factories to be dismantled and

¹⁴⁵ Audrey Altstadt-Mirhadi, "Baku: Transformation of a Muslim Town," in *City in Late Imperial Russia*, ed. Michael F. Hamm (Bloomington: Indiana Univ Press, 1983), 288.

their operations moved a minimum of two kilometers from the then-current edge of residential activity. Local industrialists slotted their relocated factories into pre-planned gridded blocks to the east along the Caspian shore. This area, named the Black Town, was the first instance of a dedicated industrial zone in Russian planning practice.¹⁴⁶ The Nobels favored freedom from the grid, and built their sprawling compound further to the east, in the so-called White Town.

Despite innovative zoning in the Black Town, the 1880s were a decade of persistent development chaos in Baku. The former industrial zone between the old city center and the Black Town had become a two-kilometer-wide swath dotted with the remnants of old factories. The engineers who drafted the Baku Plan of 1878 demurred from laying out a plan for this interstitial region, citing the lack of a proper land survey. The properties stood to gain in value, however, with scheduled completion of the Trans-Caucasian railroad just to the north of this region in 1883, a line that linked Baku to Tbilisi across the Caucasus Mountains. In the absence of active municipal planning, land-grabbers (*zakhvatschikov*) simply began building structures with occupation, not municipal connectivity, in mind. Haphazard buildings blocked east-west roads needed to link the old center and the Black Town. The head of the city government finally appealed to Baku's Russian governor in May 1882 for help to stave the fast, furious and illegal occupation of the region. "We ourselves cannot address the new construction... simple homes are built incorrectly as mixed-up piles, resembling village *saklis* (outhouses). Similar structures rise day and night with the help of an entire crowd of workers."¹⁴⁷ In response to this plea, the governor charged municipal police to remove enough obstructing buildings to clear passage.

¹⁴⁶ Fatullaev-Figarov, *Arkhitekturnaia Entsiklopediia Baku*, 31.

¹⁴⁷ *Ibid.*, 43.

When the Soviets took control of Baku, they inherited the 1898 plan of the city. Named for its author, German engineer Nikolaus von der Nonne, the colorful and seemingly rationally gridded plan was printed and sold as the official map of the city until 1918. (Figure 2.1) Von der Nonne knew Baku well. He had served as the City Planning Director from 1883-95, after which he remained and ran a private architectural firm in Baku. In 1897, the city Duma (parliament) hired von der Nonne to undertake a comprehensive expansion plan for Baku, which he completed in 16 months.

Von der Nonne laid a grid over the city in an attempt to bring unruly development under control and to guide rational future growth. The plan key holds four categories that make up the majority of the plan. Pink indicates constructed plots, most of which sit against the Caspian seafront. Orange shows partially constructed plots that make up a large percentage of the plan and stretch to the north, west and east of the constructed city. Light green designates existing and planned gardens and boulevards, which grow larger and more regular as they move away from the city center. Finally, and most tellingly, brown denotes parts of existing structures that conflict with newly regularized streets and seafront zone. Brown, therefore, is the color of friction. It can be seen veining through Icheri Sheher, the tightly packed traditional neighborhoods to the north and northwest of the forshtadt, and it is found in a few isolated instances elsewhere in the plan. Although there likely was more conflict between existing and proposed conditions than the map discloses, the existence of this category nonetheless reveals a new degree of planning realism. Topographic lines are also faintly drawn in the background of the plan, even if the grid largely ignores them.

Despite its temporal persistence, the von der Nonne scheme was realized in ink alone. Private landowners consistently flouted the regulating aspects of the plan, and successful commercial enterprises disregarded large-scale civic recommendations with tacit approval of the

city government.¹⁴⁸ Von der Nonne had envisioned an ample public boulevard along the Caspian seafront, for instance, but the amenity was omitted in the final plan because the industrial piers were deemed too valuable by their owner, the Caucuses and Mercury Company, and by city government. Nonetheless, the last prerevolutionary plan for Baku made three specific proposals that Ivanitskii elaborated in the 1927 plan. These were implantation of green space at multiple scales, limited demolition to make way for better connectivity, and establishment of a model urban worker neighborhood at the city's northern border.

The von der Nonne plan established an open space framework for Baku that operated at two scales, that of the neighborhood and the region. Municipal interest in green space was not new in Baku. In the 1880s, local magnate, philanthropist and Duma representative Zeynalabdin Taghiyev sponsored legislation to plan and maintain a network of public spaces in the city. The legislation also obliged private landowners to plant trees on one third to one half of their properties.¹⁴⁹ In von der Nonne's initial draft plan, the architect sprinkled green squares throughout the expanded city grid to serve local populations. After reviewing the draft, the city Duma requested more and varied green spaces. In von der Nonne's final plan, open space was thus also linearly arranged to create a large green cross that ran north-south from new regions on the outskirts the city in to Icheri Sheher, and east-west from the industrial zones on the outskirts in toward the Nagorny Plateau. The soft infrastructure of city grid and civic green spaces are inextricably linked to the heavy infrastructure of oil in the ratified plan. The east-west bar of the green cross kinks toward the north above the rail terminal to follow the rail and oil pipelines toward Balakhani and other oilfields. Ivanitskii wrote in his assessment of von der Nonne plan

¹⁴⁸ Ibid., 52.

¹⁴⁹ Ibid., 44.

that the “unsystematic arrangement of the enormous bazaar squares are doomed, due to their exaggerated size, to remain empty.”¹⁵⁰ Indeed, the massive green cross is excessively wide, long and unprogrammed. However, von der Nonne’s move to link the center with autonomous industrial regions along wide planted roadways was taken up by Ivanitskii, as were local green spaces spread throughout the grid.

Second, both von der Nonne and Ivanitskii recognized the difficulty of the Nagorni region. The largely Muslim neighborhood was perched on the steep slope to the northwest of Icheri Sheher, and was made up of small, mostly one-story houses tightly packed together. The extreme topography of this part of the city hindered connectivity. Horse trams were unable to climb the steep streets, which were nonetheless so narrow as to be passable by pedestrians only. von der Nonne proposed removing existing fabric to make way for widened connecting streets that slowly climbed along the topographic lines and resolved at the plateau. Even though Ivanitskii avoided large-scale demolition in principle, he likewise targeted this neighborhood for significant clearance in the 1927 plan, in the name of hygiene and regional connectivity.

Lastly, von der Nonne indicated a new settlement at the very northern end of his plan. In 1897, the city дума had voted to set aside this land, two to three kilometers to the north of the center, for a charity village (*blagotvoritel’nyi poselok*) to accommodate the poorest strata of the population. The village grew quickly despite lackluster municipal follow through to provide suitable roads, water supply, or public institutions. This area became the site for the Armenikend neighborhood, designed by Ivanitskii in collaboration with architect Anatolii Samoilov and discussed in the following chapter.

¹⁵⁰ Ibid., 55.

NEP: Local Plans Under Centralized Planning

The main economic planning body for the new Soviet state was the State General Planning Commission, or Gosplan (*Gosudarstvennyi komitet po planirovaniyu*), established in February 1921.¹⁵¹ Unlike all other significant governmental departments, Gosplan did not control any particular sector of the economy, but rather served a dual role as planning adviser for both the long- and short-term economy of the Soviet Union as a whole.¹⁵² Formally, Gosplan sat under the Council of People's Commissars (Sovnarkom) and the Council of Labor and Defense (STO), but in practice the economic advisers at Gosplan answered directly to the Politburo. To underscore the massive scale at which the commission typically worked, the first task of Gosplan's specialists was to devise a comprehensive scheme for the GOELRO Plan, Lenin's pet project to electrify the vast, rural territories of the entire Soviet Union in ten years' time.¹⁵³

Despite the planning commission's outsized brief, Gosplan had limited impact on Soviet economic policy in its first four years of existence (1921-25), a period Davies and Khlevnyuk deem "the dictatorship of finance".¹⁵⁴ After the abject failure of War Communism—the overly rapid transition to a full socialism that resulted in economic collapse—Soviet authorities used

¹⁵¹ Gosplan was originally set up as the RSFSR State Planning Commission, to deal with the Russian Federation in particular. As GOELRO and other Union-wide plans indicated, however, the commission was tasked with overseeing planning for all Soviet territories.

¹⁵² R.W. and O. Khlevnyuk Davies, "Gosplan," in *Decision-Making in the Stalinist Command Economy, 1932-37* ed. E. A. Rees, Studies in Russian and East European History and Society (Basingstoke: Macmillan, 1997), 32.

¹⁵³ GOELRO has been cited by Richard Stites, among others, as the single most utopian project Lenin—a vehement critic of utopian projects—supported. In a 1920 speech to the Moscow Committee of the R.C.P.(B.) Lenin famously quipped: "communism is Soviet power plus the electrification of the whole country," which laid the theoretical groundwork for the GOELRO Plan. Vladimir Ilich Lenin, "Our Foreign and Domestic Position and Party Tasks," in *Speech Delivered To The Moscow Gubernia Conference Of The R.C.P.(B.)* (<http://www.marxists.org/archive/lenin/works/1920/nov/21.htm>1920).

¹⁵⁴ Davies, "Gosplan," 37.

the first years of the NEP to stabilize the budget and currency, seeking to achieve equilibrium in the economy between supply and demand. Such relative conservatism did not lend itself to big plans, and indeed, there was little aspirational physical planning undertaken at Gosplan during the first years of NEP; this would wait until the massive industrialization campaign of the First Five-Year Plan. Baku's first socialist general plan, begun in 1924, was devised during NEP, but it was commissioned and overseen locally, by Baksovet.

Centralized planning was not felt outside of Moscow in the early and mid 1920s. Baku, a city whose petroleum products were at the very center of the Soviet economy, was hardly a provincial town. But as investigation into its NEP-era plan demonstrates, the plan largely was financed by local oil and overseen by local administrators. Gosplan is not referred to in Baku planning documentation until 1924, when its planners in Moscow determined that the amount of land needed for oil worker settlements was less than requested.¹⁵⁵ After this brief engagement, Gosplan again receded from view in the story of Baku's general plan, replaced by specialists deeply invested in the particulars of a site whose complexity could only be understood from the ground.

Because of Baku's singularity, local leadership had a great deal of autonomy to make decisions not only about oil technologies, but also about urban development. Oil and urbanism were inextricable in Baku, and the transportation inefficiencies, poor connections between industry and neighborhoods, and pockets of squalor in the city and on the fields stood in the way of industrial efficiency. In Baku, locally invested leaders framed the urban problems, hired the specialists, founded the institutions and ultimately planned and built the new socialist Baku.

¹⁵⁵ ARDA, f. 2940, o. 1, d. 12, l. 7.

Engineer / City-builder / Planner

Aleksandr Ivanitskii made an immediate and deep impression on those members of the Baksovet Building Committee who attended his October 24, 1924 presentation. The Moscow planner's critical remarks after his prepared talk were directed at both Azneft and Baksovet and centered on one problem for which both organizations were accountable: Baku had no plan. Azneft was to blame for a myopic unit-by-unit construction campaign that left worker housing unconnected to regional transportation networks. Baksovet was accountable for permitting Azneft to get so far without requiring systemic planning to benefit the urban region as a whole. If together Azneft and Baksovet conceived of the housing crisis as more than a question of square footage, and expanded their thinking to the scale of the region, more economical answers could emerge, Ivanitskii argued. Ivanitskii gained two concurrent commissions from his pointed remarks. Azneft hired the planner to design four worker settlements near the oil fields, a process covered in the previous chapter. Baksovet gave Ivanitskii the assignment to create a general plan for the entire city of Baku.

Who was this expert Baksovet entrusted with their city? Aleksandr Ivanitskii was educated as a civil engineer, not as an architect, a fact that may explain his propensity to address function before composition. He attended technical school (*uchilishche*) in Kharkov before receiving his ultimate degree in 1904, with honors, from the Institute for Civil Engineering St. Petersburg. Upon graduation, Ivanitskii was retained to teach at the Institute and he also worked professionally on a wide range of projects. One of those projects was the reconstruction of the Marinskii Palace, for which Ivanitskii worked under the direction of preservationist and

champion of classical revivalist practice, Leontii Benois.¹⁵⁶ In 1913, Ivanitskii moved to Moscow and became an active participant at the Moscow Architectural Society.

Ivanitskii was well traveled by the time he arrived in Baku, and he brought his experiences abroad to bear on his professional work. He was also well read, and an exhaustive gatherer of precedents. Ivanitskii's writings were laced with urban examples and quantitative data from planning work in Europe and the United States, and he regularly translated planning tracts into Russian.¹⁵⁷ One article in *Construction Industry (Stroitel'naia promysblennost')* listed notable international planning and public building legislation to goad Soviet policy makers into instituting similar measures. England, France and Germany provided examples that a Russian public would expect. But by the end of a single long paragraph, Ivanitskii had also detailed laws in Sweden, Norway, Denmark, Belgium, Austria and the United States. Ivanitskii noted that by 1923, all American cities with populations over 100,000 had instituted zoning plans, and large public and private funds had been expended on the efforts (St. Louis to the tune of \$87M, and Philadelphia: \$70M).¹⁵⁸ It would be impossible to apply capitalist examples to the socialist condition without some adjustment, Ivanitskii stressed. Nonetheless, proper coordination of industry, commerce and public amenities would lead to municipal health, no matter the prevailing economic system.

Ivanitskii argued time and again that planning required expansive conceptions of both space and time. The city, for Ivanitskii, was a complex organism that encompassed more than

¹⁵⁶ Davidovich and Chizhikova, *Aleksandr Ivanitskii*, 18.

¹⁵⁷ Among the texts Ivanitskii translated into Russian were "Regulations for the 1911 Expansion Plan of Lausanne," (from French), and "Saxon Building Laws, 1900," (from German). *Ibid.*, 20, note 6.

¹⁵⁸ A.P. Ivanitskii, "O Ratsional'noi Planirovke Gorodov," *Stroitel'naia promysblennost'*, no. 4 (1926): 298.

just the fabric that fell within the existing city limits. To understand how a city functioned, the planner had to study the broader region. “Regional zoning is of major economic and social importance,” he wrote. “Proper distribution of special purpose areas (central-administrative, commercial, residential and industrial, factory) provides the necessary framework not only for building a network of main streets, paths and all local transportation...but also for the development of social life, production and trade. The social life of the city requires selection, proper distribution and correct communication of its centers.”¹⁵⁹ In Baku, this meant that the planner’s scale of intervention was the Apsheron Peninsula. Likewise, the timescale of planning work had to extend beyond the present. Ivanitskii advocated for expansion plans that anticipated growth up to 25-30 years into the future. This period was selected because it corresponded to the amortization period for large infrastructural projects like trams, water and sewer systems or reconstruction of main railways junctions or ports.

Most importantly, planning required site specificity. Intense research and abundant data were necessary to determine the appropriate planning approach for a city. For Ivanitskii, data was king: demographic data, economic data, and especially data on existing physical conditions, for “*without accurate preliminary surveys, serious planning work is impossible.*”¹⁶⁰ As it turned out the Baksovet, Ivanitskii’s clients in Baku, were nearly useless where data was concerned. Ivanitskii’s tolerance for work without proper information, and his ability to invent work-around planning tools, would be tested in Baku.

¹⁵⁹ Ibid.

¹⁶⁰ Original stress. Ibid., 301.

The Decision to Plan, But How to Fund?

At their November 22, 1924 meeting, the Baksovet Building Committee dealt exclusively with issues that emerged from Ivanitskii's critique. First, the committee put a stop order on design of the Armenikend neighborhood, as "the question of planning Armenikend is inseparable from the General Plan of Baku."¹⁶¹ Armenikend was the new name for the Mamediarova "charity village" proposed by the city дума in 1897 and included on von der Nonne's 1898 plan. In the intervening years, Baku's urban fabric had expanded to the north so that the two to three kilometer gap separating Mamediarova from the city center had closed. Baksovet intended to renovate the neighborhood, but now, with the general plan under formulation, design was halted. Ivanitskii's censure caused the committee to "recognize that it is time to survey the location and to gather statistical-economic data necessary for detailed development of the general plan."¹⁶² On what basis the initial design for Armenikend was to be based—without a basic survey or demographic data—is left to the imagination. The committee then discussed the competition for typical worker houses, devised in collaboration with Azneft and discussed at length in the previous chapter. The jury for the competition would include Georgian architect Gavril Ter-Mikelov, who was working as a consultant to Baksovet on design matters, representatives from Baksovet, Azneft, Narkomtrud, ASPS, the city health department, and, representing only himself, Professor Ivanitskii.

At the next Presidium of the Baku Executive Committee (Baksipolkom), the issues raised by the Baksovet Building Committee came up for final ratifying vote. The typical worker housing competition brief and jury were approved. Armenikend was put on indefinite hold. The

¹⁶¹ ARDA, f. 1933, o. 1, d. 222, l. 10.

¹⁶² Ibid: ARDA, f. 1933, o. 1, d. 222, l. 10.

Baksovet Building Committee, in collaboration with the Bakkommunkhoz, was to begin gathering necessary materials for the general plan of Baku and immediate suburbs. Then, the higher governing body moved on to money, and specifically funding for construction projects. The Presidium allocated 1 million rubles for the 1925 building season, an amount that the Building Committee was to program for and not to exceed. Compared to the 4.2 million rubles Azneft spent on settlement housing over the 1923-24 building seasons, the Baksovet allocation seems shockingly small. The problem for the Baksovet was fiscal sourcing. Unlike Azneft, the municipality had no self-generated income.

V.S. Krylov, Chair of the Baksovet Building Committee and representative of Narkomtrud, proposed two funding streams for the city's capital campaign. Long-term credit for construction would be requested from Moscow. The Building Committee would be responsible to prepare the materials and propose the terms to receive credit from "the center." The more lucrative, locally based fiscal source would come from the imposition of a 25% industrial tax (*promnalog*), earmarked for residential construction.¹⁶³ Terse protocol language does not reveal details of this proposal. But the financial and legal departments of Baksovet were charged to research existing RSFSR provisions for the imposition of such a tax, and to draw up an appropriate decree. The archive goes silent on the final composition of funding sources for Baku's NEP-era planning and construction effort. Fiction, then, will have to provide the tenor, if not site-specific details, of municipal money struggles under NEP.

In *Twelve Chairs*, a classic satire of the first decade of the Soviet period, authors Ilf and Petrov offer a glimpse into the politics and financing structure of a NEP-era capital campaign.

¹⁶³ ARDA, f. 1933, o. 1, d. 145, l. 167.

In the provincial town of Stargorod, underemployed engineer Treukhov plans a streetcar system in his spare time that will transform his hometown backwater into a well-oiled modern urban center. The town council rejected the idea back in 1912, the Civil War and Revolution made any sort of plan impossible, and then, under NEP, “the requirement that it pay for itself and make a profit got in the way.”¹⁶⁴ The new director of Stargorod Communal Services, Comrade Gavrilin, also dismisses the engineer’s plan until a financing scheme strikes him:

“I’ve got a little plan in the offing here. If I know anything, it’s that there’s no money, and that a streetcar’s no donkey—you’re not going to get it for three rubles. We need to set up a material foundation here. So what’s the practical solution? A joint-stock company! What’s another? Bonds! With interest. How many years will it take for the streetcar to pay for itself?”

“Six years from the day the three initial lines are put into operation.”

“So we’ll say ten. Now for the joint-stock company. Who’s going to join? The Food Trust, Central Butter...Do the cable factory workers need a streetcar? They do! We’ll send freight cars to the train station. So we’ve got the cable men. The People’s Commissariat of Transportation might give a little. And the Province Executive Committee will give something. That’s a sure thing. And once we’ve started, the State Bank and the Communal Bank will give loans. So that’s my little plan...”¹⁶⁵

For the fictional Gavrilin, a Soviet functionary with a tour of duty in Samarkand under his belt, funding public infrastructure was an aggregative proposition, and one that relied only partly on governmental assistance in the form of loans, not grants. In paying for capital improvements under NEP, the hybrid economic condition had to be maximized from both a socialist and capitalist perspective. Stargorod’s streetcar system—whose opening day merits a visit from a documentary film crew from Moscow—is finally materialized by tapping into local trade organizations that will directly benefit from its arrival. The Food Trust, Central Butter and the cable factory workers pay out of their own pockets for local transportation to be modernized,

¹⁶⁴ Ilya Ilf and Evgeny Petrov, *The Twelve Chairs: A Novel*, trans. Anne O. Fisher, Northwestern World Classics (Evanston, Ill.: Northwestern University Press, 2011), 157.

¹⁶⁵ *Ibid.*, 159-60.

but only upon the promise that their investment will be amortized in less than a decade. “It has to pay for itself,” engineer Treukhov is overheard muttering as he wanders the construction site.

Funding for municipal projects during NEP was gathered from varied sources, as both the Baku protocol and the fictional Stargorod examples indicate. In *Worker Housing and Byt* (*Rabochee zbilishche i byt*, 1924), author P. Kozhanyi devoted his final chapter to the possible sources of funding for new housing construction. The chapter opens with a straightforward observation that may nonetheless seem surprising in the context of socialist construction: “It is not difficult to agree on the form of construction if funding exists to roll out a project. If there is no funding, then there is nothing to talk about.”¹⁶⁶ Kozhanyi outlined the four most probable funding sources: government, communal/economic organizations (this includes factory administrations, trusts, etc.), workers’ organizations, and the initiative of the working masses (*samodeiatel'nost' rabochikh mass*). Unfortunately for his readers, Kozhanyi provides little concrete advice on how to approach these funders or to organize a multi-sourced project. This may be more than mere oversight. The Baksovet protocol suggests that there was no codified system for generating funding, and that municipalities were left to guess how to levy taxes, strong-arm constituents and petition higher powers to finance a public project.

Land allocation was one part of the project funding structure that the Baksovet did have under its immediate control. The Baksovet Kommunkhoz and Building Committee shared the power to adjudicate plot requests on the Apsheron Peninsula. Despite the fact that the Baksovet and Azneft planning efforts overlapped, the oil company had to appeal to the city for permission to utilize nationalized land for their worker settlements. Having the same planner, Ivanitskii, at

¹⁶⁶ Kozhanyi, *Rabochee Zbilishche I Byt*, 57.

work on both plans simultaneously smoothed friction that the two projects naturally may have generated.

Importing Expertise 4: *Komandirovka*

Like Azneft, the Baksovet administration had to become conversant in contemporary planning discourse to get the most out of the general plan project. Both Azneft and Baksovet gained expertise through Ivanitskii, who brought knowledge about international planning practices to Baku. The Baksovet Building Committee also established a planning and construction library of Russian and foreign language books to bring their in-house engineers up to speed.¹⁶⁷

In February 1925, just months into the general plan project, Baksovet determined that a reconnaissance business trip (*komandirovka*) was in order. The Presidium of the Baksovet requested permission from the People's Commissariat of Foreign Affairs in Tbilisi, the capital of the Transcaucasian SFSR, and from Moscow, to send a commission to Europe. The purpose of the trip was to permit the travelers “to familiarize themselves with the achievements of Western-European technology in the realm of worker housing and to learn about contemporary conditions of communal organizations and municipal improvements.”¹⁶⁸ The three-person commission consisted of the Baksovet Deputy Director and Chair, Rizaev; the Deputy Director of the Bakkommunkhoz, Rokhlin; and a water-sewer engineer named Atlas. The travelers proposed to visit large urban centers in Germany, France, England and Italy.

¹⁶⁷ ARDA, f. 1933, o. 1, d. 145, l. 167.

¹⁶⁸ ARDA, f. 1933, o. 1, d. 302, l. 15.

Baksovet proffered two arguments in favor of the research trip. Commission members would gain first-hand knowledge of European civic improvement precedents. The travelers would return eager to share best practices with colleagues in Baku, and they would be more able to engage intelligently with Ivanitskii and his planning staff on the general plan project. Equally important, the commission members would enter into talks with foreign firms concerning orders for equipment “that cannot be produced in Russia.” Parisian discussions would be with “Sud Komters,” a firm specializing in garbage incineration systems. In England the trio would meet with sewer equipment manufacturer, Adams. Baksovet had already reached out to a number of Berlin-based infrastructural equipment firms with whom they would engage in face-to-face negotiation. Particular attention would be paid to Germany on the trip, given “the importance of social contacts, especially as they have the closest ties to us economically.”¹⁶⁹

Judging by the detailed list of cities and installations to be visited, the most pointed goal of the research trip was to learn about modern sewer technology. In France, the commission would spend time in Paris, Lille, Rochefort and Tours, all cities with advanced sewer, water and garbage incineration systems. The commission’s time in England would be taken with inspection of these systems, but also with visits to settlement construction near the cities of London, Birmingham, Manchester, Liverpool and Leeds. The Italian leg of the trip was less detailed, but the request claimed interest in general city improvements and sewer and water systems in Rome, Milan, Genoa and Turin. An accounting of the German section of the trip was not provided.

The proposed European tour for the Baksovet commission had Ivanitskii’s fingerprints all over it. His first presentation in Baku had focused on settlement projects he had just visited in

¹⁶⁹ ARDA, f. 1933, o. 1, d. 306, l. 6.

England, including all five cities on the proposed itinerary. But it is Ivanitskii's own long history with research trips abroad that points to his involvement in crafting the client expedition. After graduating from the Institute of Civil Engineering in St. Petersburg in 1904, Ivanitskii traveled on several fact-finding trips through European cities. One itinerary, in 1910, covered Germany, Holland, Belgium, France and Italy. Of that trip Ivanitskii later wrote: "The value of the research trip...was in learning the issues of overall improvement of residential areas. On one side, there were the urban design complexes of Paris, Berlin, Brussels, Antwerp, Amsterdam, Marseilles, Genoa, Milan, Rome and other cities. On the other side were issues of planning of smaller towns and sites of the 'garden city' types, and the questions of construction of seaside resorts."¹⁷⁰ The projects Ivanitskii experienced abroad influenced his early planning work in Astrakhan, Saratov and in the Crimean resort town of Balaklava.

When Ivanitskii was invited to speak about settlement planning in Baku, he did so on the heels of his latest trip abroad. That trip was made expressly to participate in an international conference on questions of city improvement, landscape and housing. At the London conference, Ivanitskii met and shook the hand of Raymond Unwin, one of the architects of Letchworth, the first purposeful implementation of garden city planning.¹⁷¹ Garden city precepts immediately came to the fore in Ivanitskii's work on the Azneft settlements. For Ivanitskii, travel generated implemetable ideas.

International travel was, therefore, one swift means to combat the provincialism of Baksovet's administrative staff. Just as Azneft's Director, Serebrovskii, returned to Baku from

¹⁷⁰ Davidovich and Chizhikova, *Aleksandr Ivanitskii*, 19.

¹⁷¹ *Ibid.*, 21. Letchworth was incorporated in 1903 by Ebenezer Howard. Unwin and Barry Parker won the competition for the town's design, based upon Howard's garden city principles.

America with equipment, books, and washing machines, Baksovet's commission promised to return with European models for civic improvement. And sewage pipes.

Socialism at the Scale of the Region

The general plan for Baku, commissioned by Baksovet at the end of 1924, predated by half a decade the most intense period of debate about suitable settlement patterns under socialist ideology—the topic of chapter five.¹⁷² The Marxist project to eradicate bourgeois urban centers *in toto* was impractical in a city like Baku. Oil reserves adjacent to the city caused the pre-revolutionary boom and would continue to drive the municipal economy. Baku was already in an optimal location. Baku's first Soviet planning team, therefore, had to devise interventionist tactics to achieve socialist urbanism.

Ivanitskii had two separate clients and schedules to answer to, even though his planning efforts in Baku were concurrent. For Azneft, he was to complete designs for four worker settlements. Azneft had the money to spend on construction immediately, and the company was already well along in preparations for the settlements. For Baksovet, Ivanitskii was to create a 20-30 year general plan for the city of Baku. Baksovet still had funding issues to resolve, and materials to gather, before the real planning effort could begin. The order of planning was thus clear: Ivanitskii should begin with worker settlement designs and only then address the city core. Instead, he combined the first phase of both efforts, and rewrote his scope of work to begin planning at the scale of the Apsheron Peninsula.

¹⁷² As outlined in the introduction, and covered in detail in the next chapter, the most intense socialist settlement debates occurred from 1929-30, in conjunction with the building boom during the First Five-Year Plan (1928-32).

Ivanitskii explained his reasoning for initiating the Baku plan at the regional scale in a 1925 interview with the newspaper *Baku Worker* (*Bakinskii rabochii*):

The project raises many issues regarding the growth and improvement over the next two to three decades of a rapidly expanding city like Baku. On one side are issues having to do with the growth of suburban industries and factory territories, rail lines and the port, and questions of integrating transport. On the other side are issues of sanitation and local education, construction of hospitals and schools, exercise and sport facilities. Large settlement construction developed by the exceptionally powerful economic organization, Azneft, in an area so close to the city of Baku, suggests that future expansion may simply merge the efforts. All of this leads us to consider not only the city but the whole region.¹⁷³

He argues first that is impossible to plan any discrete section of a city without considering how it will expand. Baku was an extreme case, a boomtown in which particularly rapid growth was certain. If the planner envisioned a couple of decades into the future, the urban core and its suburbs would consolidate through natural urban expansion. The peninsula thus needed to be understood as a holistic economic territory.

In determining the scope of planning work, Ivanitskii wrote, the planner should understand that his target “is above all an expansion plan, a zoning plan and a plan for communication between each of the regions as well as plan of overall linkages within in the locality and beyond—with the province, the region and the entire country.”¹⁷⁴ The city is not an object, but a node within dynamic, complex, large-scale systems. This planning ideology was congenial to contemporary Soviet preoccupations with expansive modern infrastructure projects. Lenin’s 1921 GOELRO Plan, for instance, plotted electrification of the entire Soviet Union, and did so by splitting the country into eight large districts. Such an undertaking necessarily considered the interdependencies of large geographic territories. Of equal import in

¹⁷³ Davidovich and Chizhikova, *Aleksandr Ivanitskii*, 24-26. All translations by the author, unless otherwise indicated.

¹⁷⁴ Ivanitskii, "O Ratsional'noi Planirovke Gorodov," 298.

Ivanitskii's discussion is the stress he places first upon the relationship of outlying industry to the port via efficient rail lines, and second on the democratizing implementation of sanitary services, such as sewage systems and freshwater plumbing, for the workers' settlements as well as the city center. Previously siloed responsibilities of civil engineers and economists are addressed most efficiently and comprehensively, he suggests, by the urban planner.

Ivanitskii also made shrewd economic arguments for regional-scale planning. He argued that the wealth a city can generate is dependent on its ability to accommodate industry and commerce. Rational planning, per the American model, projects the territorial and infrastructural needs of industry so that there are no unnecessary barriers to continued economic growth. But further, "A city plan, technically well designed and economically feasible, that takes into account the topography, soil properties and technical requirements of different types of construction, *results in a substantial savings in construction itself.*"¹⁷⁵ In other words, planning is both a revenue generating and cost saving exercise. This is an argument that would have resonated within the context of NEP when such capital projects bore the pressure to "pay for themselves."

The 1927 drawing "Overview of the General Plan for the Apsheron Peninsula" (*Osnova general'nyi planirovki apsberonskogo poluostrova*) illustrates Baku's first regional plan. The Soviet drawing is in dialogue with its forebear, the 1899 map of the Apsheron Peninsula from which it was traced. So, first the late 19th century plan must be analyzed. (Figure 2.2) The 1899 drawing plots the peninsula's undulating pockets of oil and privately owned oil-bearing parcels. Baku is simply the most densely developed seaside node of a large mineral-rich territory subdivided by private interests. The categories on the 1899 key include "oil-bearing land plots whose

¹⁷⁵ Ibid.

ownership is in dispute,” followed by various categories of land use both in dispute and not. The large green island to the north of the urban center jumps out of the page, as it should: it indicates the most productive oil lands in Balakhani, Sabunchi and Bingady, divided into proprietary numbered plots. The map reveals there was little infrastructure that linked the peninsula as an interdependent whole. Individual industrialists like the Nobels built and maintained their own extraction sites, pipelines, refineries and transportation.

The 1927 drawing, in contrast, shows radial growth and interdependency. (Figure 2.3) The originating center of the regional territory is Baku’s old city. Its dark urbanized center is surrounded by a light-colored intermediate ring, which in turn gives way to a dark crescent of oil-bearing land in the middle of the peninsula. The city and oil fields are held in tension by a net of crisscrossing magistral, trams and rail lines. The Azneft worker settlements sit in the intermediate zone between them—the expansion zone—and benefit from the dense transportation network that connects the civil city and its industry. Beyond the oil lands, an amorphous grey zone reaches all the way up to the peninsula’s north shore and fingers to the west, encompassing as it does a number of dark patches planned as future urban sub centers. The entire peninsula is engaged.

Regional planning was not a Soviet invention, by any means. At the same time that Ivanitskii was designing the regional expansion plan for Baku, the Regional Planning Association of America (RPAA) was taking shape. Founded in 1923 in New York, the RPAA took Ebenezer Howard’s Garden City concept and exploded its scale. Like some of his Soviet counterparts (most notably Okhitovich), RPAA theoretician Lewis Mumford understood the new technologies of electricity, radio, telephone and cars to be agents of territorial freedom. Modern systems obviated the need for population concentration, so the new scale of planning intervention would be the region, or even the nation. Mumford wrote in 1925 that, “regional

planning asks not how wide an area can be brought under the aegis of the metropolis, but how the population and civic facilities can be distributed so as to promote and stimulate vivid, creative life throughout the whole region...It sees people, industry and the land as a single unit.”¹⁷⁶ If this people-industry-land triad sounds familiar, it should. RPAA member and economist Stuart Chase later admitted, “We were mildly socialist, though not at all communist; liberal but willing to abandon large areas of the free market in favor of a planned economy.”¹⁷⁷ Regional plans require significant state interference into the private land ownership regime. As Peter Hall notes, the high degree of state intervention proposed by the RPAA was impractical in 1920’s America, since even the constitutionality of zoning was in question until a definitive 1926 Supreme Court decision.

In the Soviet Union, on the other hand, the nascent planned economy permitted large-scale experimentation. Regionalism was an operative scale because nationalization suddenly permitted thinking beyond the private plot. The state benefitted from organizing, connecting and trading fuel, materials, products and people to optimize its economic output. By the time the Baku general plan was ratified in 1930, the Soviet socialist economy was well on its way to mastering national scale logistics. The system was tested first, however, at the regional scale.

Cartogrammic Invention (Data-poor, Image-rich)

The planning team began their work in late autumn 1924 with fine-grained analysis of the Apsheron Peninsula. This was not an easy task, due to the paucity of information provided

¹⁷⁶ Peter Hall, *Cities of Tomorrow : An Intellectual History of Urban Planning and Design in the Twentieth Century*, 3rd ed. ed. (Oxford: Blackwell, 2002), 161. Original citation from Lewis Mumford, "Regions - to Live In," *The Survey*, no. 54 (1925).

¹⁷⁷ Hall, *Cities of Tomorrow : An Intellectual History of Urban Planning and Design in the Twentieth Century*, 161.

by the client. Ivanitskii characterized the cartographic materials his team was given by Baksovet as “incomplete and outdated,” and the demographic data as “well below standard.”¹⁷⁸ As the Azneft Building Committee had realized back in 1920, there were no accurate topographical and existing conditions plans of the city. Unfortunately, the same situation held in 1924. When the planning team embarked on its work, the Bakkommunkhoz began to capture and compile a detailed survey of the city, a task that stretched through 1925 and ‘26.¹⁷⁹

Certain areas of the city were difficult to survey quickly, and fell out of the planning scope of work as a result. The “fortress” (Icheri Sheher) was the first area eliminated from the general plan, upon Ivanitskii’s recommendation. He advocated for preservation of the neighborhood, and argued that surveyors would be unable to assess all of the archaeological treasures or accurately plot the irregular structures of the old town while under the pressure of time. The Black and White Towns were also excluded from detailed planning, once it became clear that Azneft would not readily open their industrial installations to municipal surveying crews. Ivanitskii cited “administrative obscurity” for this omission from the plan.¹⁸⁰ Surveys of Azneft’s oil-bearing lands were up to date however, and the company willingly shared those with Ivanitskii so that he was able to begin designing the worker settlements at the end of 1924, without delay.

¹⁷⁸ ARDA, f. 2983, o. 1, d. 38, l. 133. 11 January 1930.

¹⁷⁹ “К тому же обязывала далеко не достаточная полнота данных, что является, впрочем, общим условием для огромного большинства, -- если не всех даже, -- городов Союза.” RGALI, f. 2991, o. 1, ed. kh. 4, ll. 270-273. Azneft, on the other hand, with its inherent economic clout, was able to gather enough information that the planning team was able to start planning the workers' villages Bingadinskiy and Montina in detail in 1924. RGALI, f. 2991, o. 1, ed. kh. 1, l. 26.

¹⁸⁰ RGALI, f. 2991, o. 1, ed. kh. 1, l. 18.

The lack of reliable data was a huge stumbling block for a design team working primarily from Moscow. In the absence of site-specific details, Ivanitskii gathered specialists from various disciplines to help frame broad planning objectives. These included public health and municipal services specialists, economists and engineers. He also elicited assistance from Novikov, the Baksovet representative in Moscow, and the Vesnin brothers.¹⁸¹ While waiting for existing conditions surveys of the city proper, the planning team collected old maps of Baku and social-scientific datasets to use as bases for a series of planning diagrams and “cartograms” (*kartogrammy*). A cartogram is a diagram that consciously retains a cartographic base while inserting quantitative data in a novel way.¹⁸² This term, employed in Russian in Baku project materials, likely comes from the French *cartogramme*, a graphic technique attributed to French geographer Pierre Émile Levasseur whose 1868 and 1875 textbooks on economic geography featured this new type of graphic representation. (Figure 2.4) While the provenance of the term within the Baku 1927 Plan is unclear, the deployment of the cartogram confirms that Ivanitskii and his team were well aware of planning currents in Western Europe and the United States. Not only regulatory tools such as zoning, but also emergent representational tools. Scholarly attention to the cartogram as a distinct representational type was not paid until the 1930s. Its use in Baku suggests that the team was summoning largely experimental processes in their planning work, learned from the west, but modified for their purposes.

¹⁸¹ ARDA, f. 2983, o. 1, d. 38, l. 133

¹⁸² According to a standard cartographic glossary, “cartogram” has two main definitions: “1) a small diagram on the face of a map, showing quantitative information. 2) an abstracted and simplified map the base of which is not true to scale.” Engineers American Society of Civil et al., *Glossary of the Mapping Sciences* (New York, NY :Bethesda, Md.: American Society of Civil Engineers ;American Congress on Surveying and Mapping :American Society for Photogrammetry and Remote Sensing, 1994), 77.

For their first graphic output, the planning team used decade-old plans from 1911 and 1913, which were confusing confluences of existing and desired conditions. The 1913 map, for instance, shows with some accuracy the formal complexity and built fabric of the old town, but utilizes the plot layout from the 1898 von der Nonne general plan to describe, inaccurately, the rest of the city. (Figure 2.5) Due to the advanced petro-technical apparatus in Baku certain statistical data was available, and its deployment on top of the outdated maps added a layer of contemporaneity. The combination of two forms of objective data—the survey-based map, no matter how outdated, and statistics—jibed with the assertion of planning as an analytical science rather than an art, a claim that Ivanitskii was at pains to reiterate in many of his published texts.

Ivanitskii's assistants traced the 1913 plan onto sheets of vellum, so that all cartograms shared a common scale of 100 sazhens to 1 diuma. While each of the cartograms could stand alone as a snapshot of some urban condition, the operative benefit of the effort arose through layering different types of data. Ivanitskii described the process of cartogrammic discovery in a 1925 article on the Baku plan:

By comparing these cartograms, which are exactly the same by scale and symbol, it is easy to orient one's self to those places that most need planning intervention, and the character of those interventions. It is easy to see that in a number of parts of the plan surgery (*operativnoe mesbatel'stvo*) is necessary, that is re-planning. It is there, where the cartogram gives layered patches denoting places with primitive (economically worthless) structures, places with boggy territory, places with unfavorable sanitary characteristics and so on. In other situations therapy or prophylactic planning (*terapiia ili profilaktika planirovki*) is needed, that is the regularization of the existing plan or its growth into non-constructed places.¹⁸³

Topics covered in the nine final cartograms included territorial growth from 1850; construction growth and land price; growth and distribution of population; morbidity; “unhealthiness”; soil types; rocky slopes, ravines, wetlands, areas with sandy soil; existing plantings and public

¹⁸³ A.P. Ivanitskii, "Planirovka Goroda Baku," *Gigena i epidemiologiia*, no. 4 (1925): 95.

buildings; factories and plants; main water supply pipes and drains; regions with destroyed buildings, etc. By plotting the individual data sets on semi-transparent sheets, and overlaying them on one another, problem areas in the city emerged. Certain regions, like the neighborhoods that clung to the slopes of the Nagorniy Plateau, were darkened by a density of problematic characteristics such as difficult topography, propensity for illness and morbidity. This toxic combination, seen so clearly on the layered sheets, justified plan surgery—that is, total re-planning. Prophylactic planning, on the other hand, was all that was needed in much of the rest of the city. Minor street widening, grid correction, insertion of plantings and public amenities.

An early cartogram (the only actual cartogram, by definition, in the materials found in the archives) places epidemiological information about the occurrence of cholera, typhus and dysentery in simple bar graphs over various regions of the city. (Figure 2.6) Cholera outbreaks in 1907, 1908, 1909 and 1910 were the result of the city's poor water supply and sewage systems, a problem addressed—but not entirely solved—by the Shollar Pipeline completed in 1917 that carried fresh water 170 kilometers from the Caucasus mountains.¹⁸⁴ In highlighting water-and air-borne disease in the dense city neighborhoods as a primary planning concern, the Baku team was following a rationale set by European planners since at least the 1850s. Baron Haussmann's intensive modernization of Paris, undertaken after a series of cholera epidemics, was justified most convincingly as a public health intervention. In Germany, engineer Josef Stübben's influential 1890 book on city planning *Der Städtebau*, well-studied in Russia, didactically outlined the necessary provisions for urban health: favorable soil, adequate sewage disposal, wholesome drinking water, and fresh air and greenery, all of which are addressed in the first Soviet plan for

¹⁸⁴ Ryszard Zelichowski, "Water - Not a Drop to Drink: How Baku Got Its Water - the British Link - William H. Lindley," *Azerbaijan International* 10, no. 2 (2002).

Baku. Ivanitskii may have also have gained knowledge of hygienic planning much closer to home. In his work for Leontii Benois in St. Petersburg, the young planner likely came into contact with F. Enakiev, an engineer from the Ministry of Communications and the author of *Tasks for the Reform of St. Petersburg* (1912), a book that proposed re-planning the imperial capital according to movement of traffic and hygiene.¹⁸⁵

Although the Baku 1927 Plan clearly fell in line with long-standing hygienic concerns in planning, invention here occurs in the cartogram's graphic language. Faced with limited and sporadic data, the team devised a tool that communicated the common threat of poor urban infrastructure and the unevenness of that threat. While there is no accompanying explanatory text, the one notable graphic aberration on the cartogram occurs in the industrial stronghold of the Black Town, which had spikes for typhus and dysentery that nearly matched those for cholera. The civic danger of overly close proximity of industry and residential life is encapsulated in the map-based cross-comparison the planners produced in spite of limited access to data.

Other diagrams from this early period of the Baku plan are equally instructive. In two simple diagrammatic maps, the planning team demonstrated that Baku, a consummate boomtown, grew in surges. (Figure 2.7) These surges created distinct morphological regions, color coded and dated on the diagram. The simplified graphics reveal the city's general tendency to expand toward the oilfields to the northeast of the old town, a direction that the 1927 plan allowed and yet also harnessed with a new city limit. In the accompanying diagram, Baku is divided into eighteen planning districts whose boundaries are based loosely upon the historical

¹⁸⁵ F.E. Enakiev, *Zadachi Preobrazovaniia S.-Peterburga* (S.-Peterburg 1912). For full discussion see Starr, "The Revival and Schism of Urban Planning in Twentieth-Century Russia."

development surges. (Figure 2.8) Five of the districts deemed most important by the client and planner were addressed as discrete design problems in the 1927 plan.

The interrelation of Baku's oil, demographics, capital construction and territorial growth was the issue addressed in another remarkable diagram produced by the planning team. (Figure 2.9) On the x-axis of the graph runs a common chronology: from 1880—the beginning of the first oil boom—to 1930, five years into Baku's future. The graph charts five distinct data sets. First from the bottom runs a line that follows the fairly shallow rise of the number of structures built within the city (З); the second line charts the absolute urban area as the city limits expanded (Г); the third shows population growth (И). Above a thin line of demarcation are the two prime generators of the city's growth: volume of oil extracted (Ил), and volume exported (Иэ - exportation data commences in 1908). While the choice of these five indicators and their coordination illuminates the planners' desire to cross-reference the particular socio-economic factors at play in Baku's urban growth, the graph also reveals the interests of the client. The planning charge was two-fold: to organize the urban chaos left from the boom and war years, but more importantly, to ensure that the city's physical plant (here understood as the whole Apsheron peninsula) was primed to support a steep rise in the oil economy as the graph aspired.

Urban population control, a particular concern in Soviet planning from the 1930s, is also addressed in the Ivanitskii diagrams.¹⁸⁶ Diagram 2 plots two sets of data: the gross population of Baku beginning in 1859, at 135,000 residents, and the annual change in population growth.

(Figure 2.10) The lines cross at three anomalous moments. The first indicates a drastic loss of

¹⁸⁶ To limit the population growth of major cities, every Soviet citizen was required to have a residence permit, or *propiska*, in their internal passport, indicating their legal residence and allowing housing and work within the city. The internal passport system was put in place on December 27, 1932.

population growth during the Russian civil war (1917). The second marks a dramatic rise in growth during the first year of Bolshevik rule (1920). The last crossing is projective, occurring in 1930. The planning team recommended that Baku's population growth taper from the current 7% annually, to a steady 1.5% fifty years into the future. The last gross population numbers inked onto the drawing anticipated a maximum of 1,256,000 residents in 1967; the chart predicted 1.3M in 1970. The actual population of Baku in 1970, according to the Soviet census, was 1,262,515, making the 1927 estimate a remarkably accurate 37,000 residents off. We know, in hindsight, that the population plateau in Baku was due both to the fall of its fortunes as an oil extraction site and the rise of northern Apsheron city Sumgait as a chemical center (Sumgait showed a 142% population increase from 1959-70).¹⁸⁷ Nonetheless, interdisciplinary analyses such as this population projection drove planning decisions like the rational expansion of municipal territory. The plan's prescience was proven in time: the city limit set by the 1927 plan was untouched in both the 1937 and 1954 general plan revisions. The Ivanitskii plan accurately predicted the direction of growth and territory required to accommodate it.

The Ivanitskii team cartograms and diagrams are particularly valuable evidence of the early Soviet planning process, which was data-, research-based and methodical.

Two Bureaucratic Interludes, 1926 and '27

Ivanitskii went to Baku at the end of May 1926, to update his clients on the status of the general plan. Certain progress had been made, despite the dearth of reliable base materials.

Azneft settlement planning had successfully concluded. The planning team had made conceptual

¹⁸⁷ Chauncy D. Harris, "Urbanization and Population Growth in the Soviet Union, 1959-1970," *Geographical Review* 61, no. 1 (1971): 120.

strides toward understanding how Baku functioned within the context of the entire Apsheron peninsula. Cartograms had marshaled cross-disciplinary expertise to uncover trouble spots in the city, and served as justification for detailed design work to come. Ivanitskii also finally had in hand some of the current surveys of the city provided by the Baku Kommunkhoz, albeit almost two years after his request. Detailed planning could begin, but only after an audience with the Baksovet Planning Commission and the Bakispolkom.

Although the planning project was already a year and half in, Ivanitskii had little graphic material to show his clients. He left the cartograms in Moscow—they were large, unwieldy and would have been ruined in transit. Six of them, along with a sketch version of the Baku general plan, had made their national debut at the first All-Union Sanitary Technical Conference in Kharkov, May 1925, and were not up to a second long trip.¹⁸⁸ (Figure 2.11) Ivanitskii did bring a handful of slides, but the meeting was too early in the day, and the room too light, for his audience to see them. He was forced to detail the team's research conclusions without illustrative backup.

The issues Ivanitskii presented to the Bakispolkom circled around the same question: how might disparate parts of Baku better connect? He stressed first that due to the territorial reach of the oil economy, the Baku Plan was not a city plan but a regional plan. Oil was extracted in the middle of the peninsula; the worker settlements were between the city and the oil; and oil left the city via the Caspian Sea and rail. Networks and interdependencies reached far beyond the city limits, and the plan needed to be large enough to acknowledge and strengthen those linkages.

¹⁸⁸ Ivanitskii read to the group the short presentation he had given at the conference on their behalf. ARDA, f. 1933, o. 1, d. 322, l. 11.

At an altogether smaller scale, urban connectivity in the center of Baku suffered from thick low-rise density. As the demographic chart had demonstrated, Baku's population was expanding at such a steep rate that the city rivaled the industrial centers of the West in terms of growth. In German or American cities high density correlated with tall building; in Baku, it correlated with "dwarf plots" (*karlikovie uchastki*), tiny parcels that resulted from excessive subdivision. In the dwarf plot condition—which accounted for 40% of properties within the city limits—individual low-rise houses were constructed right up to the parcel line to maximize buildable area.¹⁸⁹ Small cobbled together structures sat cheek-by-jowl, which left insufficient open space or fresh air and prohibited the installation of municipal services such as running water or sewer. Disease spread quickly in these parts of the city. The epidemics cartogram charted high levels of cholera throughout Baku in 1921, even after the Shollar pipeline was completed to bring fresh water to the city center. Beyond health concerns, the haphazard pattern of the dense built fabric impeded passage through the city. The solution was to modify these areas carefully, taking "extreme care" to draw lines on the plan that would harm the fewest possible residents. Ivanitskii referred to these sensitive interventions as "surgical measures" (*khirurgicheskie mery*).¹⁹⁰

Lastly, Ivanitskii recommended five regions of the city to receive detailed design attention. These included the Zavokzalnyi (rail station) Region, Armenikend, the Nagornyi Region/Plateau, Bailov/Chemberekend, and the Kirpich-Khana/Kanitapy neighborhoods. (Figures 2.12 – 2.14) These five (really eight) regions encompassed the entire northern and western territory of the city, and required that the planners tackle the most difficult

¹⁸⁹ ARDA, f. 1933, o. 1, d. 322, l. 8-9.

¹⁹⁰ ARDA, f. 1933, o. 1, d. 322, l. 9.

neighborhoods in terms of density and topography. The only portions of the city center that would not receive fine-scaled planning were those that had been removed from the plan early: Icheri Sheher, the oldest part of the forshtadt and the Black and White Towns.

After Ivanitskii's presentations, the Bakispolkom and Baksovet Planning Committee passed identical resolutions that solidified the six key tasks for the general plan. These were:

- a) The city territory must be zoned and distributed into industrial sites and sites for construction (city, semi-urban and settlement-suburban construction);
- b) the city plan must be coherent and align technically with the proposed worker settlements;
- c) the city plan must align with the railroad lines and the port;
- d) a system of public squares and magistrals must be developed;
- e) a system of green planting, playgrounds and sports parks must be composed and grow gradually; and
- f) unobstructed sewage and storm water systems must be installed.¹⁹¹

The administrators took Ivanitskii's proposals and returned them to the planner as formal mandate. At the regional scale, the city was to be zoned into separate industrial and residential areas. The plan of the city was to be cognizant of and align with worker settlements in the periurban regions and with rail and water transportation networks. The urban fabric was to be knit together with magistrals, public squares, parks and planting. Finally, municipal water and waste services were to be provided to all neighborhoods. "Conclusive propositions" from the planning team were to be presented no later than November 1926, five months from the date of the resolution.

¹⁹¹ ARDA, f. 1933, o. 1, d. 345, l. 2 (Bakispolkom); ARDA, f. 1933, o. 1, d. 350, l. 12 (Enlarged meeting of the Baksovet Planning Commission together with the Financial Budgeting and Local Maintenance Sections and specialists). The resolution also specified priority projects that would be completed in the coming five years. "The project should be proposed with the orientation of a five-year plan of work with the achievement of the first phase being the re-planning of the city and the others in order: a) construction of convenient entry to the Nagorniy region, b) regularization and sanitation in the Kanitapy and Kirpich-Khana, c) regularization and paving of the streets in the Zavokzalniy region (rail station), d) construction of the seafront boulevard and regularization of the 26 Commissars Square, e) construction of convenient connections with Bailov and Nagorniy region, f) construction of an entrance to higher Bailov streets, g) expansion of green plantings in the center and outlying parts of the city."

The first Soviet general plan for Baku is commonly known by two names: the 1927 Plan, and the Ivanitskii Plan. As the temporal name suggests, the bulk of the plan was finished in mid-1927, not November 1926 as requested. In March 1927, Ivanitskii wrote to his clients, the Baku Kommunkhoz, to update them on the planning progress and to send along a bundle of working drawings. He was under extreme pressure to complete the work, and certainly wished to do so. The letter made clear, however, that there were many reasons for schedule setbacks, and that responsibility for the delay was shared. Ivanitskii received the long-awaited final survey of the city only at the very end of 1926. The professor had intended to use Baku as the site for an academic planning studio in the fall of 1926, but because the base materials arrived in Moscow so late, student efforts on behalf of the project were lost. Even after the long wait, the Baku survey was imperfect. “A lot of time was wasted dealing with the numerous discrepancies and insufficiencies of the surveys,” Ivanitskii complained. “In order to save money, the survey was not taken exactly along the regions to be planned. Further, old surveys were utilized for some sections that either were difficult or simply impossible to align with the new.”¹⁹² The planning team struggled to determine which aspects of the survey could be trusted, and which could not. Their lack of confidence in the base materials must have produced great anxiety, given that roads were being punched through, houses demolished and trees planted along their pencil lines.

Data deficiencies had plagued the project from the beginning, but three problems emerged and grew over the course of the planning job. These were the expanded scale of the planning territory, decrease in project funding, and the hostility of local design staff to Ivanitskii’s suggestions. Ivanitskii’s personal letter to the new Deputy Director of the Baku

¹⁹² RGALI, f. 2991, o. 1, ed. kh. 89, l. 7.

Kommunkhoz Department of Municipal Improvements (*otdel blagoustroistva*), a Yakov Ospiovich, reveals the emotional distress these three issues in concert caused the planner. To start, the territory covered by the plan increased exponentially over the years. This was partly Ivanitskii's doing. His early analyses determined that the appropriate scale of planning intervention was regional, and he convinced his municipal clients to see Baku as a node that engaged networks beyond the city limit. The resultant scope of work had grown to enormous scale, but funding had decreased. "We are extremely exhausted by the lack of money for the project," Ivanitskii wrote to the Deputy Director. A special Bakkommunkhoz commission had trimmed the estimate for the detailed plan, and Ivanitskii was forced to accept it. "I blame myself," he wrote of his capitulation, "but it doesn't help." The question was, how to finish the project with the little funding that remained? Ivanitskii stressed in his letter the plan needed to be completed professionally and responsibly:

I cannot crumple up the work and make it "something like" ("*ko-e-kak*"). I cannot allow you to deploy the plan as it is now, until all of the planning is processed and applied to the overall master plan.

I do everything to keep your practical work going: punching streets through, planning new neighborhoods, breaking up the land into building plots and so forth. I will send you blueprints as they are ready that will gradually fill in the networks of the new city plan. You will be able to use these for marking out the work on the ground.¹⁹³

The detailed neighborhood plans would be sent to Bakkommunkhoz as they were completed, so that the city could begin construction in targeted areas without waiting for the comprehensive general plan. Ivanitskii suggested that the client send him half of the amount that remained in the project budget to push through this detailed planning work.

¹⁹³ RGALI, f. 2991, o. 1, ed. kh. 89, l. 8.

Ivanitskii was concerned that the city would proceed before the plan was finalized, and he was right to be. Factions within the local technical staff at Bakkommunkhoz appeared to be purposely torpedoing aspects of the plan. Ivanitskii cited two examples. As part of the general planning effort, Ivanitskii and architect Anatolii Samoilov assumed a supplemental job to design housing types for the Baku Construction Commission (*Bakstroikom*), a body also under the umbrella of Baksovet. The planner and architect presented the unit types to the Executive Committee in June 1926, and received permission to move ahead. The designs were then priced by the Bakkommunkhoz, whose exceedingly high estimates “drowned” the project. An executive committee convened by Bakstroikom to investigate the matter revealed that their colleagues in Bakkommunkhoz had purposely overestimated construction costs so that in-house designs by their own staff would be built instead. This episode led to “hostility, a number of quibbles, stopped work and curtailed job estimates,” according to Ivanitskii.¹⁹⁴

Much more dire, however, was extensive tree planting that had already begun in the city—in the wrong place. The long east-west boulevard Ivanitskii placed below the Armenikend district followed the line of the green cross in the von der Nonne plan. In Ivanitskii’s version, the green strip connected institutions and civic squares including the hospital, one of the city’s main reservoirs, Golovinskaia Sq., and the radio tower. Its location was carefully calibrated, noted Ivanitskii, to waste the least amount of buildable land. “Now,” he wrote, “the boulevard has been moved lower by someone, based on the alleged verbal agreement of M.A. Kniiazkov, who energetically denies it. Dragged lower in the plan the line of plantings takes up 4 free blocks

¹⁹⁴ RGALI, f. 2991, o. 1, ed. kh. 89, ll. 8-9

below the reservoir, it falls on the sloping hillside and denies Armenikend its correct shape.”¹⁹⁵ In its incorrect position to the south—already planted with trees—the boulevard threatened to ruin the structure of the whole northern portion of the city. Ivanitskii sent a drawing that reiterated the proper location of the boulevard in protest, and recommended “liquidation” of the erroneous plantings. The final published plan indicates the boulevard in Ivanitskii’s desired location, and a 1943 German aerial photograph confirms that it was built as the planner recommended. Someone in the Baksovet chain of command ensured that the carefully crafted plan was correctly installed.

* * *

Over the course of the Baku Plan process, planner and client developed a collegial working relationship to hammer out the difficult task of transforming the capitalist city in a socialist city. Economy came first (as the Azneft housing campaign revealed), followed closely by basic health and welfare of the citizenry. As Ivanitskii taught both Azneft and Baksovet, good housing, reliable public transportation, sanitary systems and greenery all contributed to public health—and were covered by the umbrella of planning. They may have been painfully slow and inconsistently accurate, but Bakkommunkhoz staffers also developed the skills needed to survey their own territories. Intimate knowledge of the shape of the land previously was the purview of private oil companies alone.

Although interactions between Baksovet and Ivanitskii were often plagued by misunderstandings and misinformation, the tasks for the Baku 1927 Plan conformed to a shape that both parties agreed upon. One of the most enduring results of the first socialist general plan

¹⁹⁵ RGALI, f. 2991, o. 1, ed. kh. 89, l. 9.

for Baku was the emergence of an educated municipal clientele, as evidenced by the shift in the balance of power between contractor and client over the course of the planning effort. The planner, Ivanitskii, entered the scene wielding authority earned through experience. The members of the Baksovet client group, on the other hand, were educated as part of the plan, as had the Azneft client group been over the course of worker settlement planning. Although unheralded, the work Ivanitskii and his planning team undertook to help the Baksovet acquire expertise was a key to the success of the Baku Plan. Non-official deliverables included precedent lectures, travel itineraries, introductions to experts from multiple disciplines, and assistance compiling a technical library. As Baksovet administrators gained knowledge about the concerns, precedents and terminology of planning, their sophistication and confidence grew. By 1926, two years into the planning process, the members of the client group were duly convinced that a reliable data-collection infrastructure was indispensable for planning to be effective, even if that infrastructure remained less than perfect. By 1927, when the design team requested more time to prepare final planning recommendations, Baksovet planning committee members proved educated interlocutors and tough negotiators. With funding running low, and enough detailed drawing materials to proceed with urban improvements, the client group, not the planner, decided when the planning effort should end.

The story of the data collection and research period of the Baku Plan confounds one of the most stubborn assumptions about Soviet planning: that it was centralized—administratively and geographically—from its inception. The Baku planning effort was not driven by the demands of the state apparatus in Moscow, nor was it administered by a state entity in the Soviet capital. Planner Aleksandr Ivanitskii was a private practitioner hired by a local administration, and together client and contractor devised the planning tasks for a peripheral site with little to no oversight from Gosplan, the state planning body. In the end, this locally-based joint effort

would produce a plan that stood the test of time and the vagaries of style. The Baku 1927 Plan effectively shaped the rational growth of the city in the decades to follow, and provided a practical guide for socialist planning after the 1929-30 socialist urbanism debates had run their course.

PART I: BAKU: Defining the Tasks of Socialist City-Building (1920-27 [1930])

CHAPTER 3. Setting the Tasks for Soviet Planning: The Baku Plan 1927

I have stored the whole of Baku in me—in this way Baku is different...
I have had the opportunity to become acquainted with many cities in my
work. But this city, where construction is more lively than in other cities in our
Union—it's magic. Here, new plans are being realized.¹⁹⁶

—Aleksandr Ivanitskii, 1930

Soviet planner Aleksandr Ivanitskii was not prone to poetics. But upon the completion of the Baku Plan, he reflected on what Baku meant to him personally, and underscored its extraordinary status among Soviet cities. Baku, Ivanitskii stressed, was a city in which socialist construction was coming to fruition. Although the 1935 General Plan for Moscow is universally cited as the working model for the Soviet city, Baku, as Ivanitskii intimated, was its proving grounds. In Baku, a geographically peripheral but economically central site, the ten points that drove most Union-wide planning from the first Five-Year Plan onward were formulated and tested. These included state control of housing; planned development of residential areas; spatial equality in the distribution of items of collective consumption; limited journey to work; stringent land-use zoning; rationalized traffic flow; extensive green space; limited city size; and urban symbolism as an integral part of national planning.¹⁹⁷

Baku presented all of the standard characteristics and attendant challenges of the “City of Socialist Man”: a pre-revolutionary urban core, poor worker housing stock, underdeveloped

¹⁹⁶ ARDA, f. 2983, o. 1, d. 38, l. 133. 11 January 1930.

¹⁹⁷ James H. Bater, *The Soviet City: Ideal and Reality*, vol. v. 2, Explorations in Urban Analysis ; (Beverly Hills, Calif.: Sage Publications, 1980), 27-30.

internal transportation and industry within the city limits adjacent to residential areas. But to suggest that Baku was average, in any way, would be to grossly understate the complex local relationship between oil and urbanism and the strategic importance of the Apsheron peninsula within the Soviet economy. Baku was one of the first Soviet cities to undergo an extensive general planning process, in large part because of oil. In 1923, the newly established state oil company, Azneft, enlisted specialists to devise strategies to house extant and projected workers, the concern of Chapter 2. The general plan that grew out of these first studies considered the territory of the entire Apsheron Peninsula and included analysis of various locations for the new worker villages that would capitalize on proximity to oil fields and also connect back to the Black Town where the majority of refining operations took place and shipping piers were accessed. The fate of Baku was, and is, tied to its ability to harness oil production, so the first Soviet general plan, undertaken from 1924-27, had three objectives: to increase industrial efficiency, improve quality of life for the now-reigning working class, and impose order on the chaotic existing fabric. These overlapping goals precluded tabula rasa planning and forced innovative on-the-ground solutions. Baku's plan is also the result of calibrated vacillation between capitalist and socialist impulses and as such represents a transitional practice entirely appropriate to the time of its formulation, the New Economic Period (NEP: 1921-1928). Only by utilizing all planning tools available, regardless of derivation, could the planner, Aleksandr Ivanitskii, bridge the gap between former capitalist petro-city and its socialist progeny.

The 1927 Baku Plan: Stitching the City

Ivanitskii and his planning team completed the final version of the Baku general plan in August 1927. Bakkommunkhoz had narrowed the scope of the plan due to “budget economization,” and simply to get the work in hand. The main deliverables were just six

drawings: a comprehensive plan of the city within municipal boundaries at 50 sazhen to 1 diuma, and five detailed plans of the most troublesome regions of the city at a scale of 25 sazhen to 1 diuma. Ivanitskii made clear in his final report that limitations placed on the plan did not allow for detailed technical development of citywide standards such as the longitudinal and transversal profiles of the streets or the planting system.¹⁹⁸ Nonetheless, he felt confident that the structure of the plan, and the city boundaries set by it, would serve Baku through 1957, when its intense growth would taper.¹⁹⁹

The general plan is a very large pencil drawing, composed of four equal sheets assembled to make the whole. (Figure 3.1) It is a plan thick with information. As the key indicates, the planners divided the city into five height and density zones. (Figure 3.2) The darkest and densest areas correlate with Icheri Sheher and the forshtadt, followed by other built-up sections of the city closest to the Caspian shoreline. The blocks on the periphery of the existing city to the north, west and east are lightly shaded. Unlike the von der Nonne plan, which categorized the blocks by use color only, the 1927 version faintly indicates plot lines beneath the shading. Parcels become larger, more rational and gridded in the newer sections of the city. The shaded blocks are the meat, as it were, of the plan.

The nervous system and organs, however, are where the planners' interests lay; they pop out of the plan in white and black. The white strips and openings that run through the plan make up the network of streets and squares that Ivanitskii referred to as the city's "nerves".²⁰⁰ The longest and widest white strips are the magistrals (main thoroughfares) that connect

¹⁹⁸ RGALI, f. 2991, o. 1, ed. kh. 2, l. 34.

¹⁹⁹ Ibid: RGALI, f. 2991, o. 1, ed. kh. 2, l. 8.

²⁰⁰ ARDA, f. 2983, o. 1, d. 38, l. 135.

disparate parts of the city. Baku's organs are the varied black patches on the plan that indicate parks, sports grounds, planted boulevards and civic institutions. Ivanitskii explained the relationship of the two systems as follows:

The magistral is one important aspect that creates social organization in the city plan. The additional parts are the squares and the locations set aside for public buildings. If we construct a massive system of magistrals and squares, but indicate no proper locations for public buildings where they can command a certain radius, then the plan is not correctly socially organized. We consider in contrast number of European and American cities built by private-capitalist concerns, and we don't see the organization in the plan. There, the plan is completed with an incorrect system of magistrals and plantings.

Indicated on our plan are locations for a square and a public building in each of the city regions. Each region will have its own central square (of cultural or administrative function)—this creates organization in the plan.²⁰¹

According to Ivanitskii's logic, the Baku Plan is socialist because the streets, the squares and the public buildings work together across the breadth and width of the city. Not only that, but because each region is provided its own center, there is equity in the distribution of civic institutions and places of leisure. The unjust hierarchies that Ivanitskii witnessed in capitalist cities are combated by spatial diffusion of important connective streets and public programs, especially green space. Both of these important aspects of the plan will be covered in turn.

Connective Logics / Magistrals

When the Baku plan began, the city's street network was a messy tangle, the result of the medieval Islamic core clashing with the middle-scale Russian colonial grid and the large-scale industrial grid. von der Nonne's 1898 plan attempted to address Baku's problematic connectivity by laying a regulating grid over the entire disordered fabric. But the plan disregarded the considerable grade changes across the urban territory that made movement into and out of the

²⁰¹ ARDA, f. 2983, o. 1, d. 38, ll. 139, 140, rev.

center particularly fraught. In his analysis of Baku's existing conditions, Ivanitskii determined that the dysfunctional street network was the core problem to be solved. He justified this assessment as follows:

The city of Baku as it is built today—from the historical plans of the 1850s, 60s, or the 90's to 1900 as planned by von der Nonne—is a series of isolated units that have no connection to the outlying regions ... Baku, as an industrial city with significant economic activity, needs a structure to its plan that can maximize the links between the outlying regions and the industrial regions that lie to the north, east and south of the city. Further, there is crazy circulation (*besbenaia tsirculiatsiia*) in the city that does not accommodate the moving public masses, trucks, etc. that also need clear magistral. In the city these don't exist.²⁰²

Here Ivanitskii raises two separate street based issues: poor connectivity between the center and the outlying regions, and traffic congestion in the center. To address the first, the planning team had to look at the Apsheron peninsula as a whole to best create linkages between the city, new worker settlements and industrial sites. Careful attention was paid at the regional scale to topography and existing networks (rail, pipeline) to arrive at trajectories that were economical in terms of distance and cost. The second issue of urban congestion was more difficult, as its solution required cutting into dense neighborhoods to remove blockages. Ivanitskii used as a cautionary tale the example of Torgovaia Street (now Nizami) that ran parallel to the Caspian coast from the Black Town to Icheri Sheher. Torgovaia began in the east at 12 sazhens (84') wide and progressively narrowed as it moved westward to 10, 8, 5, 4 (28') sazhens until it landed in the oldest part of the city as Torgovaia Lane. The traffic jams that resulted from this one bottleneck, even in 1927, were intense and led to “catastrophic effects” on city movement.²⁰³

²⁰² Ibid: ARDA, f. 2983, o. 1, d. 38, l. 135.

²⁰³ Ibid: ARDA, f. 2983, o. 1, d. 38, l. 135.

The principal solution to Baku's connective problems, and the main organizational tool of the 1927 plan, was the *magistral*, which is alternatively translated as main road, artery or highway. The purpose of the new magistral network was to create urban holism from Baku's isolated units. The wide arteries served to connect efficiently and clearly main spaces in the center with one another and with primary industrial enterprises outside the city. Surface transportation followed these lines, inscribing them on the collective consciousness. In a plan entitled "Diagram of Development Areas" (*skhema raionov zastroiki*), the magistrals are clearly demarcated by white lines that cut through existing fabric and link the white boxes of civic squares in all corners of the city. (Figure 3.3) In this diagram, the darkest areas are those that the planners recommended to be developed first and most intensively. The majority of first-phase construction remains close to the Caspian shoreline, in the underdeveloped area between Icheri Sheher and the Black Town. The magistrals are anomalous to this trend, however. They are indicated as dark arms that reach into poorly developed areas to set the stage for future growth. On the general plan as well, magistrals are lined with a shaded tone to designate where plantings and initial construction should be located. In effect, the magistrals defined the city's priority development sites. While the 1927 plan did not locate all of the Baku's civic, economic and political institutions, later Soviet general plans used the magistral skeleton to situate strategic capital improvements along the routes. The magistrals on the 1927 plan became the linear drivers of Stalinist ensemble planning.

The 1927 planning team designed six magistrals in detail. These ranged from the seaside boulevard, to the long east-west link between Black Town and the Nagornyi Plateau, to the road perpendicular to the shore that connected through the city to Bingady and the middle of the

Apsheron peninsula.²⁰⁴ The magistral that received the most design attention, however, was Iur'evskaia Street.²⁰⁵ Iur'evskaia ran north-south through the Nagornyi Region, along the steep topography that fell from the Nagornyi Plateau down toward Icheri Sheher. (Figure 3.4) Ivanitskii stressed time and again the crucial nature of this link, which would finally connect Bailov and the southern coast to the city center. Because of its difficult topography, the Nagornyi region was one of the most poorly planned and constructed neighborhoods in Baku. It suffered from microparcelization, such that the majority of the tiny houses sat haphazardly in relation to one another, and to routes of passage. To “punch through” (*probivat'*) the neighborhood to create a magistral for tram and bus traffic meant engaging in planning surgery.

Ivanitskii and his team drew detailed plans to determine the ideal route for Iur'evskaia. (Figure 3.5 – 3.6) Vellum sheets that the drafters laid over the recent survey would have shown the ghostly footprints of each structure affected by the proposed urban surgery. Analysis of the quantity and quality of properties to be demolished followed. Ivanitskii noted that “the results of this work convinced us that for the proper construction of the network of magistrals and main streets you would need to remove 496 properties, and for the construction of squares and open space...an additional 214 properties [710 in all].” These 710 affected properties accounted for just 6.5 % of all properties in the city, which in 1926 was around 11,000. The team further evaluated the age, height, character and monetary value of the 710 affected properties and

²⁰⁴ Per Ivanitskii's presentation in 1930, the six magistrals designed in detail were: the seafront boulevard; an inland magistral parallel to the shore that linked Black Town to Nagornyi Plateau; Balakhanskoe shosse (now Heydər Əliyev prospekti); exit from Kishli to Baku-1 rail station; from the 9th parallel to the Black Town; from the seminary/nursery (ПИТОМНИК) to the Sarainskoe Shosse in industrial region (through Bingady). ARDA, f. 2983, o. 1, d. 38, l. 136.

²⁰⁵ Iur'evskaia was renamed Sovetskaia, c. 1929 and Nərimen Nərimenov pr., c.1991. For an excellent key to street name changes in Baku over the last century, see: http://www.window2baku.com/Streets.htm#t_str

determined that 552 (77%) sat on dwarf plots of just 6-8 square sazhen (42-49 s.f.). “This fits one room,” Ivanitskii told his clients, “and in that room sometimes there is one apartment, sometimes a few. These are unbelievable (*neveroiatnye*) structures in terms of quality and anti-sanitary conditions!”²⁰⁶

In the summer of 1928, local photographer Lavrentii Bregadze documented the neighborhood, the structures and the Bakuvians affected by the magistral clearance project. These photographs follow the 19th century practice of capturing the process of urban modernization midstream. Like the Charles Marville photographs of Haussmann’s Parisian modernization project, Bregadze’s images provide a view of a transitional moment during which ad hoc urbanism is eclipsed by the rationalized city. It is unclear who hired Bregadze, a self-proclaimed artist-photographer, but copious—and often identical—photographs from his Iur’evskaia expeditions sit in both Ivanitskii’s personal archive and the Azerbaijan State archive.

Bregadze captured the Nagornyi region at various points along the path of the future magistral. Almost all of the shots are taken from a slightly elevated vantage point to provide deep views of the ongoing transformation of the landscape. The long views also distance the photographer from his posed human subjects, who are objectified in the shots. One photograph, likely taken from the rooftop of a building not yet destroyed, shows overlapping layers of single-story stone and wood houses as they recede into the distance and climb the hill to the west. (Figure 3.7) Piles of dirt, stone and wood sit on the edges of an emerging pathway through the dense quarter; women wrapped in black abayas stand out against the light colored footpath. In another image captured four days later, a multigenerational group stands in the middle of a

²⁰⁶ ARDA, f. 2983, o. 1, d. 38, ll. 136-37.

cleared passage. (Figures 3.8 – 3.9) A line of children takes the front: a white-shirted child before a fully covered woman, two barefoot boys and a potbellied naked toddler. In the background, clearing work proceeds. Pairs of men carry planks piled with rubble, and mules and carts stand ready to transport it away. Another photograph further along the magistral's path, captures a scene in which clearing had concluded (the southern end of Iur'evskaia needed little demolition, per Ivanitskii's plan). (Figure 3.10) The generous width of the street is measured by more than a dozen neighborhood residents who stand in a single line across the clearing and still do not reach the buildings on either side.

What was all of this surgery in service of? The Bregadze photographs reveal that the punching through of Iur'evskaia was a painstaking, disruptive act made possible only by hard physical labor. Ivanitskii was not inured to the difficulty of the task. He argued, however, that, “the experience at Iur'evskaia proved that it was the right thing to do.”²⁰⁷ The scale figures in the Bregadze photographs sent from Baku were the citizens most sorely in need of municipal services. The magistral would be their lifeline, the planner argued, providing modern transportation links, pedestrian infrastructure, greenery and open passage for installation of electricity, water supply and sanitation.

Convincing his client to fund better public transportation infrastructure was relatively simple. Azneft had come early to the realization that moving workers efficiently into, through and out of the city was a key to economic optimization; Baksovet simply concurred. The planning team had to argue for better pedestrian infrastructure through their own observation and charts of pedestrian counts at some of the busiest intersections of the city. (Figure 3.11) At

²⁰⁷ ARDA, f. 2983, o. 1, d. 38, ll. 136-37.

the noontime peak, the corner of 28th of April and Morskaia saw 1,824 pedestrians. Widened and shaded sidewalks were in order.

The planning team devised a taxonomy of street sections for the Baksovet that covered eight possible widths and configurations. (Figure 3.12) All of the dimensions were given in feet, and indeed, the profiles were adapted from American data and precedents.²⁰⁸ Type I, the widest typical profile, was a 154-foot wide boulevard that accommodated four lanes of auto traffic, two tram lines, a generous tree-lined pedestrian walkway in the center and ample shaded sidewalks on either side. On the other end of the spectrum was Type VI that at 56 feet wide held just three auto lanes, one tree-lined sidewalk, and another narrow unshaded sidewalk. Iur'evskaia, for all of the trouble, came closest to the modest Type VI. According to Ivanitskii, “the width of Iur'evskaia is taken at 56 feet, so that in the future it can handle 3-story structures along its edge, and at the corners with transverse streets it can even handle 4-story buildings.”²⁰⁹ The western side of the street was given an 11-foot tree-lined sidewalk intended to shade houses and pedestrians from the scorching sun. The eastern side was provided a 7-foot unshaded sidewalk. Iur'evskaia's reconstructed profile, roadbed and slope were designed to handle tram and bus traffic to bring the neighborhood, finally, into the citywide street network.

Iur'evskaia was one of the first, but certainly not the last, of Baku's streets reconstructed to make way for modern services. Magistrals and secondary streets were widened throughout the urban center in accordance with a new “red line” determined by the planning team. The red line, a planning term used throughout the Soviet period, marked the boundary between the public

²⁰⁸ “According to American data that were collected based on knowledge of directing traffic, 10 feet are needed for each lane on streets with large traffic volume; for parking lanes, 8 feet are needed. For a street with a lower traffic volume 9 or 8.5 feet are needed. I propose to try this scale here [in Baku].” ARDA, f. 2983, o. 1, d. 38, l. 147, rev.

²⁰⁹ ARDA, f. 2991, o. 1, d. 89, l. 4, rev.

way and the building plot—no structure was permitted to broach that line. The Baku plan dictated that 1,200-1,300 properties would have to be “cut” to abide with the new red line, a long-term project for the Baksovet.²¹⁰ Streets not dimensionally adjusted were nonetheless upgraded with asphalt paving, proper sidewalks and street trees. Bregadze returned to urban documentation to capture the process of street modernization. His photos show that in February 1933, Karl Marx and Gogol streets were muddy trenches ready for the installation of the concrete water and sewer pipes that lay to the side. (Figures 3.13 – 3.14) Mounds of discarded cobblestones sat on the obstructed sidewalks. Workers are nowhere to be seen in either construction image, but there are traces of hard labor nonetheless. In the Gogol Street image a pile of primitive two-person moving pallets holds the right foreground, and a lonely donkey and cart stand in the middle of the trench. (Figures 3.15 – 3.16) By May, reconstruction of both streets was complete. The smooth asphalted surface of the street bed is separated from the asphalted sidewalk by a curb. The street trees and electrical poles sit safely in the pedestrian zone.

Greening the City

Each typical street section for the 1927 plan made room for street trees. But trees were just one ingredient in an ambitious plan to increase open space and planted zones throughout the city. Green spaces—rendered in black on the general plan—were noted on the key as municipal plantings, which included parks, squares and playgrounds. Together with planted boulevards and sports fields, these spaces became the green lungs of the city to filter particulates, create much needed shade and a more civil urban condition. Greenery, Ivanitskii stressed, “is

²¹⁰ ARDA, f. 2983, o. 1, d. 38, l. 137.

important from the perspectives of social health, city improvement and to increase the cultural conditions of life (*kul'turnyi uslovii zhizni*).²¹¹

Ivanitskii gathered extensive transnational data on the benefit of plantings to urban residents. To use German and American examples, Ivanitskii first had to argue that greening was an issue that transcended difference between economic frameworks:

Where working masses have a voice in the direction of municipal economics, they want more plantings closer to the houses, to shade the playgrounds and within 500-600 meters from workplaces. Plantings are necessary for life—democratic and proletarian populations value them in the construction of the city...When we realized this, we thought we need to widen this part of city planning, set more money aside to buy land. If land is free, we still have to understand that land has a value as a part of a wider territory.²¹²

As Ivanitskii noted, when capitalist and socialist workers were given the opportunity to share desires for their environment, they requested more green. For planners in capitalist countries, the land on which greenery sat had a monetary value that they had to account for in the project budget. Socialist planners did not have to factor in land costs, but still had to convince the client to leave space open that could otherwise be built upon. For Ivanitskii and his colleagues, the value of green space was qualitative: greenery increased the desirability of all programs that surrounded it. In an equitable socialist city plan, greenery had to be fairly and regularly distributed.

Baku was an extreme case in which harsh climatic conditions significantly increased the qualitative value of greenery. Ivanitskii wrote: “The hot climate, the dry and dusty air, the incredible density of construction, and most of all fast industrial growth all contribute to the

²¹¹ ARDA, f. 2983, o. 1, d. 38, ll. 138-39.

²¹² ARDA, f. 2983, o. 1, d. 38, ll. 138-39.

unhealthiness of the population. For this reason, city greenery takes on a much greater degree of importance in Baku than in any other city of the USSR.”²¹³

In making his case for green Ivanitskii summoned data from European and American sources, most notably a 1923 report from the Pittsburgh Planning Commission. The Pittsburgh report compared open space ratios (green space per capita) for all significant American cities. These ran from 5.92 in New York City, to 51.33 for Washington DC; the average for North America settled at 12.0. Although a target ratio of 4.2 square meters of green space per resident had been established in the Russian Republic (Baku’s ratio was a paltry 1.8), Ivanitskii went further. To incite the competitive spirit of Soviet policy makers he advocated for an American-sized ratio of 12.0 for Baku. The Baku plan finally settled at a ratio of 6-7 square meters of green space per resident on the regional and the city scale.²¹⁴

Ivanitskii also cited the Americans for their novel park classification system, which ranged in scale from regional reserves to local playgrounds for small children. Parkways and boulevards were also included in this system, to connect the parks together well as the center with its regions.²¹⁵ “We have paused on this question—the question of classification of open spaces—because this is not at all the way we work in the USSR,” Ivanitskii wrote. “But it is well known that such classification plays a great role in general planning and especially the planning of green

²¹³ RGALI, f. 2991, o. 1, ed. kh. 2, ll. 298-99.

²¹⁴ R. M. Efendizade, *Planirovka I Zastroika Zhilykh Raionov Baku (1920-1967 Gg.)* (Baku: Elm, 1971), 13.

²¹⁵ The entire American classification system of open spaces was as follows, in RGALI, f. 2991, o.1, ed. kh. 2, l. 253:

- Reserves
- City parks
- Suburban parks
- Regional sports complexes for children and adults, for a larger radius of use
- School yards, for children, local radius of use
- Playgrounds for children under 5 years, placed in each residential quarter
- Parkways and boulevards that connect the parks together as well as the center with its regions.

spaces.”²¹⁶ The rational categorization of open space types in the American system was in fact not so different from the system of street profile types the Baku team had devised. Both examples show a tendency toward standardized urban design components. By utilizing standardized modules—street types, park types—the unknowns in a planning project were limited. Planning could become more scientific with typological design: an equitable spread of square footage across territory was easier to calculate, and pricing simplified.

In his discussion of open space cost ramifications, Ivanitskii focused on three parks for which he had obtained pricing data: Warinanco, Cedar Brook and Echo Lake Parks. All three were located in greater Elizabeth, NJ, and were designed in 1923 by the Olmsted Brothers landscape architectural firm. In a small chart included in the explanatory notes for the Baku project Ivanitskii hand wrote the English names for the parks, and provided information on the area, cost per acre and overall cost of each example. He noted that the land cost doubled the overall cost in each case, such that the final price tag for Warinanco Park, the largest of the three, was almost \$700,000 once land and construction costs were bundled. Lest they be warned off such expenditure, Ivanitskii employed a cunning capitalist argument for his NEP-era clients. “The Americans,” he wrote, “whose wealth of experience with park issues we utilized here, have a saying: ‘Parks pay the city back.’ The Bakuvian saying will be the same, such that in Baku, parks will ‘pay.’”²¹⁷

The 1927 Baku Plan provided exhaustive area calculations in page after page of fold out spreadsheets so that the recommended capital improvements could be accurately priced.

(Figure 3.17) Ivanitskii and his team tallied the price of greening and came to the following

²¹⁶ Ibid: RGALI, f. 2991, o. 1, ed. kh. 2, l. 253.

²¹⁷ Ibid: RGALI, f. 2991, o. 1, ed. kh. 2, l. 300.

conclusion: it was not going to be cheap. “In Baku, this [planting scheme] means a lot of money,” Ivanitskii admitted. “Going way back, the city of Baku has been unlucky when it comes to the development of plantings. But, since the installation of the Shollar waterway, finished under Soviet power, plantings are now possible, and should be used to the greatest degree possible.”²¹⁸ Realizing the planting plan would take 20-25 years, and the Baksovet was expected to expend 250-300,000 rubles to make it happen. This was, however, just a small amount more than they were spending at the time for a non-coordinated collection of street trees and open spaces. What they would be getting for their rubles was a green network, designed to boost the health and culture of Baku’s working class. The first new neighborhood to benefit from integrated green space design was the model urban settlement of Armenikend, completed in concert with the Baku 1927 Plan.

Armenikend: Worker Settlement in the City

The Armenikend neighborhood sat at the northeast edge of the city in the very area reserved by the Baku city дума in 1897 as a charity village. (Figures 3.18 – 3.19) The neighborhood had been gridded and assigned numerical plot assignments by the von der Nonne plan, but it remained poorly served by the city and was sparsely developed. By the 1920s, not more than 89 hectares worth of plots were built upon (out of a possible 590), and the existing built fabric consisted of dilapidated one-story structures. Because of its relatively flat topography,

²¹⁸ ARDA, f. 2983, o. 1, d. 38, ll. 138-39.

the planning team considered Armenikend to be Baku's "most capacious and valuable land bank."²¹⁹

Baksovet had slated Armenikend for redevelopment before the Ivanitskii plan began, but design was halted at the end of 1924 in deference to the general planning effort. By 1926, Ivanitskii and his team, in collaboration with Moscow engineer-architect Anatolii Samoilov, commenced design on a single urban block (*kvartal*) in Armenikend. This supplemental task that tackled unit, building and block scales was prompted by the inefficient economics of stand alone single-family housing units like those built at Stepan Razin. *Sovremennaia Arkhitektura*, the monthly journal for Constructivist architectural organization, OSA, cited the Stepan Razin "house-cottage" as a prime example of a *non*-socialist housing type. Speaking for the architectural profession, author V. Kuz'min wrote that, "we built a huge number of houses, increased the cost of construction, and wasted the workers' funds by not taking into account the difficulty of repairing and maintaining these houses."²²⁰ The houses were too expensive, not dense enough, too ornamented, and difficult to keep up. Azneft's decision to move from individual cottage-type houses to denser multiunit buildings was, according to *SA*, indicative of a maturation of the socialist approach to housing. Baksovet was also interested in higher-density housing solutions, especially ones that could be deployed close to existing infrastructure.²²¹ Block 171—the experimental test case—would thus be made up of "typical residential houses [that

²¹⁹ Armenikend was officially renamed "Shaumian" in the 1920s, after the Armenian Bolshevik leader Stepan Shaumian. Colloquially, and in the 1927 Baku Plan documentation, it retained its traditional name. RGALI, f. 2991, o. 1, ed. kh. 1, l. 113.

²²⁰ V. Kuz'min, "O Rabochem Zhilishchnom Stroitel'stve," *Sovremennaia Arkhitektura*, no. 3 (1928): 82, and note 1. On Azneft's switch to denser housing types, Kuz'min cited the newspaper "Izvestiia VTsIK" from August 4, 1927.

²²¹ Khan-Magomedov and Cooke, *Pioneers of Soviet Architecture: The Search for New Solutions in the 1920s and 1930s*, 276.

incorporate] more modern methods of development suited to local conditions.”²²² These multi-unit housing types would address new modes of socialist organization within the pre-existing urban structure.

In the first round of site planning diagrams, capitalist real estate logic held sway. (Figure 3.20) The Ivanitskii team lightly traced individual plots onto twelve diagrams of the same long rectangular block, and proceeded to populate them with site planning variations that utilized small-scale housing types. The first four options were labeled “unacceptable” because they built up to and along the long centerline, which prohibited through ventilation of the block. The remaining “acceptable” site planning options decreased building coverage to create porous blocks with ample shared open space on the interior. All of these “acceptable” options were most densely built around the perimeter—although relieved by regular openings—and the block interiors were largely left open except for the sparse placement of smaller-scaled housing types. These were block-scaled compositions that began to dissolve plot-based structure.

While working out the compositional characteristics of a typical block in Armenikend, the design team was also crunching numbers. (Figure 3.21) One sheet of diagrams tested four options that met varying targets. Block coverage in these schemes ranged from 44%-24%, and population density ranged from 940-600 residents per hectare. Each diagrammatic scheme was predicated on block scaled composition, and each was focused inward on a communal landscape. These schemes had no memory of individual plots. Although they still met the street, the blocks were designed as internally focused urban units; interior open spaces were for the common use of all block residents. These diagrams marked a drastic shift in the way the housing

²²² RGALI, f. 2991, o. 1, ed. kh. 1, l. 34.

delivery was conceived in Baku, insofar as the block, not the apartment, was the new unit of measure. The block was designed in one fell swoop by a single design team, and it held additional programs necessary for a certain degree of self-sufficiency.

Armenikend block 171 relied on typological design at nesting scales. From 1925-32, a period that spanned the Armenikend project, architect Anatolii Samoilov worked variously at Gosplan SSSR, at the Building Commission of the Council of Labor and Defense (STO) and at the Scientific-Research Institute for Norms and Standards.²²³ He was deeply engaged in the Union-wide effort toward architectural typification, norm-setting and rationalization of construction, and his type-driven rigor is evident in Armenikend block 171. Included in the team's initial report to the Baksovet were data about block density, open space ratio per resident, unit mix, price per unit/family and dimensional information for common programmatic elements like ceiling heights, kitchen and stair widths. The design team proposed just four unit types for Armenikend (A, Б, В, Г) that ranged from one to three rooms, plus kitchen.²²⁴ All apartments were designed with double exposure to permit natural ventilation, balconies, bay windows and loggias.²²⁵

In June 1926, Ivanitskii and Samoilov presented their initial proposals for Armenikend to the Baksovet Committee for Workers' Housing Construction, after which the committee sanctioned the team to proceed with detailed planning of experimental block 171. Provided all went well, slightly tweaked versions of the test case would be installed on Armenikend blocks

²²³ N. Kolli, "Pamiati Anatoliiia Vasil'evicha Samoilova " *Arkhitektura SSSR*, no. 12 (1954): 37.

²²⁴ All of the buildings on Block 171 were to be three-story, with a unit mix as follows: 27.5% 1-bedroom; 45% 2-bedroom; 27.5% 3-bedroom. The average cost of one apartment was 3,824 rubles (based upon the Building Committee's estimate of 16 rub/square meter). Taking that number to a single family, they arrived at a cost of 2,224 rubles/family. ARDA, f. 1933, o. 1, d. 353, ll. 30, 32.

²²⁵ ARDA, f. 1933, o. 1, d. 353, l. 25, rev.

172, 221, 222, 223 and 224. By November, however, a counter proposal for Armenikend was on the table, designed by a local technician (*tekhnik*) named Kniazev. The Baksovet Control-Audit Commission deemed Kniazev's design, tallying in at 91.16 rubles per square meter, more economical than the Ivanitskii-Samoilov's design at 123.22 rubles per square meter. This, undoubtedly, was the unpleasant episode Ivanitskii referred to in his letter to the Deputy Director of the Bakkommunkhoz.²²⁶ The estimates did, indeed, "drown" the Ivanitskii-Samoilov experimental block design. The five additional blocks earmarked originally as copies of 171 were instead to be built on the cheaper Kniazev design.²²⁷

Despite the fact that block 171 turned out to be a one-off installation in Baku, Ivanitskii regarded the repeatable urban block, well-designed and -serviced, as the key to socialized planning:

What was created by our revolutionary overturn must...manifest as the decision to build whole blocks, precisely as is being done in Armenikend. When resolving the matter of the block, group of blocks or even an entire neighborhood of the city, dwellings, laundries, kindergartens, etc. can be rationally distributed. But if you must resolve the issue separately per lot—nothing good will come of that, of course.

Before everything else, I recommend the construction of blocks or groups of blocks as fully serviced complexes. Further, I recommend designating space within the boundaries of this block for household garden plots—that will still exist even with a fully socialized economy—clean inner-block courtyards, gardens and children's playgrounds.²²⁸

The urban block as described above was socialist on two accounts. First, planning entire blocks, for an entire urban region, was possible only by virtue of land socialization. Under a socialized land regime, planner and municipality had the luxury to disregard the fine grain of individual

²²⁶ RGALI, f. 2991, o. 1, ed. kh. 89, l. 8.

²²⁷ ARDA, f. 1114, o. 1, d. 7246, l. 22.

²²⁸ ARDA, f. 2983, o. 1, d. 38, ll. 146, + rev.

plots and instead focus on larger, more comprehensive solutions. Second, each of these carefully designed blocks would incorporate essential supplementary social programs such as laundries, kindergartens, allotment gardens and common use green spaces. Other neighborhood-scale programs like upper schools, markets, etc. would be allocated by larger catchment areas. For a practitioner like Ivanitskii who lauded rationality, the benefits of repetitive block planning were immense. State-sanctioned block types could be easily deployed and their use would save time, money and effort in both planning and construction phases of socialist city development.

If the urban block's inherently socialized nature was not reason enough for local administrators to support its use, Ivanitskii supplied them with economic justifications. In a typical prerevolutionary neighborhood of Baku the block size (if one could construe the traditional fabric as block-like) was extremely small. Small blocks require many streets, and in a modern city streets are paved, have sidewalks and streetlights, all of which are paid for and maintained by the local municipality. A very large block—say a 20 hectare block—“from a point of view of city improvements and planning, takes up four blocks in the old system, but eliminates four unnecessary streets. This means that the city economizes on the length of piping, paving, interior sidewalks, street lighting, etc. An extremely interesting prospect opens up if we go toward this type.”²²⁹

The interesting prospect to which Ivanitskii referred was the superblock. As we shall see, the large residential block supplied with dedicated sociocultural and educational institutions, sports facilities, central park and administrative center became a standard urban unit throughout Soviet territories. Beginning in the late 1920s, “urbanist” theorists like Leonid Sabsovich

²²⁹ ARDA, f. 2983, o. 1, d. 38, l. 153.

advocated for the housing combine (*zhibkombinat*), a population limited superblock affiliated with sites of industrial production. (Figure 3.22) The Moscow General Plan of 1935 proposed to solve the capital city's housing woes through the residential superblock (*kvartal*), and in the Khrushchev era the housing crisis was finally addressed systemically with ubiquitous superblock *mikroraiony* (micro regions) on Soviet city outskirts. (Figures 3.23 -3.24) Although Armenikend block 171 was small compared to these later examples, it was nonetheless exemplary. It tested the viability of the workers' settlement in the city and demonstrated that the sociocultural and open space amenities enjoyed by garden city settlements were possible within a dense urban setting.

The general plan for block 171 shows the Armenikend test scheme more or less as built. (Figure 3.25) Four unit types were distributed in three-story buildings that sat along the perimeter of the block and that were separated periodically to create freestanding buildings that allowed passage into the block interior. With the exception of three small residential pavilions on the interior, again composed of standard unit types, the center of the block was left open for common use. Landscaped plazas at multiple levels and small garden plots organized this communal open space. Plans and sections show that interior stairwells served two units per floor, six units per entryway; only units of the same type shared stairwells. (Figures 3.26 -3.27) One service building at the center of the block's north edge appears to have been a laundry, kindergarten and/or cooperative store (it is divided into three sections). There is no text on the plan to confirm the structure's use, but these programs were referred to in various texts on Armenikend.

Armenikend's location at the developed edge of Baku, and the imposition of the pre-existing grid, tied it to the city center. But its fringe condition also allowed for a greater degree of aesthetic experimentation. The architectural language of block 171 was decidedly modern, as

aerial views of the neighborhood attest. (Figures 3.29 -3.32) Samoilov, the architect of record, was based in Moscow and ran in the same circles as the Vesnins (with whom he collaborated on the designs for Stepan Razin) and other architects whose work fell under the Constructivist label. In keeping with Constructivist rationality, buildings in block 171 feature spare, pared facades, large windows and flat roofs. Although only four apartment types were utilized to create the block, it was a number that nonetheless was sufficient to generate variation at the building scale. The apartment types had protruding stairwells, covered porches and balconies that, when assembled linearly, created volumetrically dynamic buildings whose facades alternated in light and shadow. (Figures 3.33 -3.35) Kniiazev's residential blocks, the Constructivist dormitory featured in many contemporary images of the neighborhood, and other structures in Armenikend took Samoilov's cue regarding architectural style. (Figures 3.36 -3.37) As the crenellated multi-story buildings marched east-west along the linear park of Armenikend Boulevard, they marked the threshold into a new, socialized Baku. (Figure 3.38)

Ratifying the Plan

The so-called 1927 Plan was still incomplete by the end of that year, but funding for the project had run dry. The planning team finished the critical deliverables, which included the general plan drawing and detailed designs for five city regions. Once the drafters completed these drawings, they put their pencils down.

Much work remained, however, to describe what had been accomplished. Over the course of 1928, Ivanitskii compiled a massive four-volume report entitled "Planning the city of Baku: explanatory notes on the project." (*Planirovka g. Baku: poiasnitel'naia zapiska k proektu. chast' 1-4*). The report's table of contents described the planning team's working process and disciplinary preoccupations exhaustively. Ivanitskii's introduction laid out the goals of the

planning effort, a chronology of decisions taken, and the overall structure of the proposed general plan. Seven sections followed, each of which described a separate research effort that contributed to the final recommendations. These included chapters about the history of Baku as read through previous city plans; climate; topography; correlated data/cartograms and diagrams; greenery; regional population and growth; and research on various means to redevelop the built-up areas of the city. The final chapter unveiled the New Plan for Baku of 1927. Drawings—and page after page of cost estimates for the recommended improvements—accompanied the text.

The report was a necessary requirement for the plan's official approval process. In late 1928, the Bakkommunkhoz engaged an expert panel of three eminent planners to adjudicate the plan.²³⁰ All three experts worked in Leningrad and were members of Ivanitskii's generation. Professor G.D. Dubelir taught at the Institute of Transportation in Leningrad, and was the author of the influential 1910 manual *City Planning (Planirovka gorodov)* that first introduced Russian engineers to planning trends in Western Europe and the United States. In the Soviet period, Dubelir specialized in the optimization of road networks in his position as director of the Leningrad and Moscow Highway Institutes. Professor Z.G. Frenkel' was the author of a 1926 book entitled *The Fundamentals of General Urban Improvements (Osnovy obshchego gorodskogo blagoustroistva)*, a text that emerged from a series of 1924-25 lectures given at the Leningrad City Museum. Frenkel' knew Baku well. In his lectures and texts, he cited Baku as the only city in the Soviet Union with a modern system of daily garbage collection.²³¹ Third expert panel member,

²³⁰ RGALI, f. 2991, o. 1, ed. kh. 90, l. 3. The letter from the Bakkommunkhoz requests their professional opinion on the Baku Plan, to be submitted no later than November 1928 (a month from the date of the letter).

²³¹ From Frenkel's book: "...There was an extremely successful system of daily garbage collection in 1924-25 by the Baksovet. Until 1924 garbage was put in the courtyard in wooden barrels, usually open to the air... Now it is collected in covered metal cans and is collected by a light Ford truck ... For the whole city 31 trucks and 40 horses with a workforce of 150 people have completely changed the 'sanitary conditions' of the city of Baku for the

L.A. Il'in, was Chief Architect of the city of Leningrad at the time of the expert review, but his influence in Baku was greatest over the long term. Il'in moved to Baku in 1929 shortly after participating in the plan's adjudication, and over the next few years he adjusted the Ivanitskii plan to meet the new demands of Moscow-influenced ensemble planning.²³²

The expert opinion submitted in January 1929 was brief and complimentary. The panel found the project “reasonable and in good faith, in accordance with local physical geographic, economic, demographic and social conditions, as well as with the provisions of modern science and art of urban planning.”²³³ In other words, the Baku plan managed to be both local and universal; it was tied to the particulars of its site and also in line with international planning standards. The panel singled out seven aspects of the plan for particular praise:

1. Economic justification of uses within the project area, including proposed construction and improvement schemes.
2. Establishment of urban districts based upon natural boundaries and oil-bearing lands.
3. Integration of the new plan with future priorities, taking into account suburban areas and the whole Apsheron peninsula.
4. The high intensity of development and population density adopted in the project, which is in accordance with the limited project area and the high cost of urban improvements.
5. Regularization of the old parts of the city based on partial redevelopment, consolidation of small blocks, gradual installation of “red lines” and reduction of residential building destruction.
6. Orientation of new neighborhoods and buildings to reduce the direct impact of northerly winds on their facades.
7. Development of the planting system at 6 ½ - 7 square meters per capita, or 10 % of the first phase plan, with construction of a wide

collection of garbage, in the place of 200 horses and 300 workers. For now the garbage is collected in Baku center city. The city hauls it to a barge and sends it far into the sea, and the rest is sent to a landfill, where they bury it deeply. A small amount of garbage is set aside to feed hundreds of pigs. A garbage incinerator is still not planned for Baku, but it is expected that it will be necessary in the future for such a large amount of trash.” Z.G. Frenkel', *Osnovy Obshchego Gorodskogo Blagoustroistva* (Moskva: Glavnogo Upravleniia Komnal'nogo Khoziaistva NKVD, 1926), 144.

²³² For Il'in's perspective on planning in Baku see: L. A. Il'in, ed. *Arkhitekturnye Problemy Planirovki Baku*, vol. t. 2, kniga 1, Problemy Arkhitektury (Moskva: Izdatel'stvo vsesoyuznoi akademii arkhitektury, 1937).

²³³ RGALI, f. 2991, o. 1, ed. kh. 107, ll. 1-6.

seaside boulevard that occupies a large stretch of the city.²³⁴

The experts effectively ratified the seven sections of Ivanitskii's report, albeit in a modified order. What is notable here is the convergence of viewpoints. Read together, the planner's report and the experts' opinion distilled the tasks of Soviet planning. At the fore was the economy. In the case of Baku, mastery of the location and needs of oil-bearing territories was crucial. The Baku plan organized the entire Apsheron peninsula to accommodate density where it was appropriate for the oil industry. Fruitful plots were left free for future exploitation, and proximate housing and services for the oil workers was provided. The plan was also responsive to the limits of the nascent socialist economy. By recommending dense construction and adjustment to the existing fabric instead of destruction, the plan's authors made the most of restricted capital funding. Lastly, the plan sought to improve urban dwellers' quality of life through sensitive building orientation and increased greenery. The experts' final determination was that the plan "should be seen as a general project of redevelopment of the city...that can be taken as the basis for the development of working drawings necessary for implementation."²³⁵

In January 1930, an entire year after the expert opinion was submitted and five years after the planning work had begun, the Presidium of the Baku Executive District Committee summoned Ivanitskii to Baku to give a final presentation on the plan for official approval. Ivanitskii opened his remarks with gracious acknowledgement of the many collaborators who worked on the plan over the half decade. "This is not an individual work, but a seriously collective work," he stressed. "I am the one presenting this report formally, but I speak for the whole Bakkommunkhoz...I feel myself to be a worker of the Bakkommunkhoz—if not forever,

²³⁴ Ibid: RGALI, f. 2991, o. 1, ed. kh. 107, ll. 1-6.

²³⁵ Ibid: RGALI, f. 2991, o. 1, ed. kh. 107, ll. 1-6.

at least for the past 5 years, which is a long period of time. I have stored the whole of Baku in me—in this way Baku is different. I can't judge it myself, but can only say that the interests of Baku have become very close to my heart.”²³⁶ Ivanitskii presented the plan’s chronology and explained the causes of the protracted process. There were insufficient data on existing conditions. An accurate survey of the city had to be completed (a long task undertaken by the Bakkommunkhoz). The scope of the plan expanded to the region, then contracted to just a few neighborhoods. Despite the setbacks, however, the plan was a tenable long-term proposal for controlled urban growth, and this was the aspect of the Baku Plan that the Executive Committee needed to consider and approve. “This is in no way a negative condition to find yourselves in,” Ivanitskii assured his clients. “You should make those desires [for the future] known now, when there are a lot of ideas, a lot of options on the table, when you can be objective, while the project is just one of any number of variants. City planning, which comes to fruition over 20-40 years, is not affected by the fact that we are deciding on the plan so far in the future.”²³⁷ Most importantly, he stressed, the plan required quick ratification. Although Baku was one of the first cities in the Soviet Union to begin a general planning process, it now faced competition from other cities for limited state funding. “To accelerate the implementation of your plan it is necessary to deal with lending credit. I know Tsekombank (the state housing lender): they would rather give money when they know that the plan is well developed and that no other significant changes are coming.”²³⁸ The stage was set for the Executive Committee to give the 1927 Baku Plan its stamp of approval.

²³⁶ ARDA, f. 2983, o. 1, d. 38, l. 133.

²³⁷ ARDA, f. 2983, o. 1, d. 38, l. 134, rev.

²³⁸ ARDA, f. 2983, o. 1, d. 38, l. 154.

Not so fast. In the five years between Ivanitskii's first appearance in Baku and this final one, the balance of power had shifted. Newly acquired knowledge of and experience with the science of city planning empowered the members of the Executive Committee to interrogate the plan and the planner—and they did so. The questions they posed ranged from the programmatic to the climatic to the operational. Was Ivanitskii convinced that the stadium was on the optimal site? Why was no public beach included in the final scheme? On what basis were schools sited on the plan? Was the allocation of 7.5 square meters of green space per person sufficient for decent quality of life in the city? Was the plan in line with anti-aircraft defense measures, and were representatives from the military command consulted as experts? How were Baku's harsh northerly winds to be mitigated, and how were landslides in the hills above Bailov to be prevented? What did the city need to do to ensure that the plan would be followed?²³⁹

The tenor of the meeting changed once the barrage of questions tapered and the floor was given back to Ivanitskii. Placed in a position to speak off script, the planner addressed the questions one by one with answers that exhibited the breadth of research and deep knowledge of place that contributed to the plan under consideration. The client group had proven its capacity to absorb the complexity of the planning task, so Ivanitskii did not shy from technical details. He cited international norms from memory and provided statistics where needed. He spoke at length about the characteristics of each of the regions planned in detail, and ranked them in terms of desirability to justify the phasing for municipal improvements. Ivanitskii also made clear that the plan was not complete. He urged the clients to understand his urban-scale deliverables as pieces a larger plan for the entire region, yet to be undertaken:

²³⁹ ARDA, f. 2983, o. 1, d. 38, l. 142 – 143.

All of Apsheron should be planned, the main highways need to be laid out, and the land must be zoned. We must determine which land will be for military purposes, which will become industrial land, which will be set aside for railways, the port, beaches and, finally, we need to determine where the population will settle, and plan these areas in more detail. This is the general operating procedure—we will approach with pencil and compass in hand and have a plan within 2-3 years time.

This is a giant undertaking but you yourself understand what kind of results it will yield. While in other places planning generalities are sufficient, this little Apsheron peninsula presents such a valuable territory [for our Union] that we must develop a thorough technical plan.²⁴⁰

Although Ivanitskii had insisted from 1925 that the Baku plan must encompass the entire peninsula, the project's many schedule and funding setbacks limited the ultimate scope to the urban core. Professional ethics forbid him from presenting his work as more comprehensive than it was.

Ivanitskii's answers quelled the committee, whose chair, Frolov, opened the debate and moved to vote on the language of the final resolution. At 10 o'clock at night on January 11, 1930, the Presidium of the Baku Executive District Committee approved the 1927 Baku Plan with three addenda. First, Torgovaia St was to be extended to merge with Gubernskaia. Second, the Planning Committee was, in the future, to engage economic issues alongside physical planning issues. Lastly, the Presidium resolved that, "the main task of the Planning Committee is to consider measures for the organization of socialist everyday life (*byt*)."²⁴¹ Going forward, any adjustment to the space of the city would be judged against its ability to instill suitably socialist habits in Baku's citizens.

²⁴⁰ ARDA, f. 2983, o. 1, d. 38, ll. 145-46.

²⁴¹ ARDA, f. 1933, o. 1, d. 752, l. 5.

Socialist Urban Theory Arrives in Baku

In all of the archival documentation about housing and planning Baku—from 1920-1930—there is sparse mention of socialist ideology. The concerns of Azneft and Baksovet were practical and immediate. Baku’s growth was dependent on oil, and the city’s importance to the Union fluctuated with its ability to extract this primary resource. Reliable labor was needed to get the oil industry back up and running, so Azneft and Baksovet built housing, transportation and limited social services to draw and retain this labor pool. When Ivanitskii arrived in Baku at the end of 1924, he introduced his clients to a more complex set of concerns. Most importantly, he taught them to conceive of planning as a tool to plot future expansion. Building a single house, or even a whole workers’ settlement like Stepan Razin, was myopic, he stressed. Planning, on the other hand, optimized the overlapping systems of oil, transportation, sanitation, public services, housing and greenery to make the most of capital expenditures.

Why then, after five years of planning and at the very end of a long ratification meeting was the relationship of physical planning to socialist ideology suddenly of utmost concern to the Presidium of the Baku Executive District Committee? The final written question submitted to Ivanitskii provides context. The planner read the question aloud to the client group, then offered a curt answer:

Q: You are closely acquainted, no doubt, with the new questions of city building as published in *Economic Life* (*Ekonomicheskaia zhizn'*). Namely, shouldn't we avoid piling ourselves up large cities and instead build small towns for 10-15 thousand people?

A: This is an issue that keeps coming up. Personally, I think that we are not 'piling things up' in this plan, but are instead creating a place that will be good for life. Many different organizational patterns are possible that still completely satisfy the demands of socialist *byt*. Let us end with this.²⁴²

²⁴² ARDA, f. 2983, o. 1, d. 38, l. 151.

Socialist city building kept “coming up,” as Ivanitskii put it, because all of a sudden it was a topic of intense debate in the national press. The questioner referred to *Ekonomicheskaiia zhizn'* in particular, the daily newspaper published by the Council of Labor and Defense (STO). Starting on December 3, 1929, the newspaper kicked off a regular series entitled “Toward a socialist *byt'*” (*Navstrechnu sotsialisticheskomu bytu*). In more than thirty articles published over the course of December, economists, architects and politicians weighed in on the construction of socialist cities that were rising chaotically and poorly planned during the fulfillment of the first Five-Year Plan. The socialist city debates were centered in Moscow, where the state institutions invested in solving the problem were located. There is no evidence that Ivanitskii played an active role in these discussions, but as a Moscow-based planning practitioner and colleague of some of the most vocal participants, like the Vesnins, he was undoubtedly well versed in the main points of the discussions. The following chapter covers the details of the 1929-30 socialist city debate at length; here it is sufficient to flag it as the Baku Executive District Committee’s reason for discomfort. They were concerned that the project they were about to adjudicate might not align with emerging trends in socialist city planning.

Before the vote on his plan, Ivanitskii requested the opportunity to offer a conclusion on the “ideological status of the socialist city.” He opened with an exegesis of the Moscow debates. There were two prevailing concepts for the socialist city that were diametrically opposed to one another, he explained. One concept, the brainchild of economist Leonid Sabsovich, was for a city with socialist infrastructure and *byt'* that consisted of large residential buildings—communal houses (*doma-kommuny*)—with separate units for each of the 2-2,500 residents. The private rooms in the *doma-kommuny* were of minimal dimensions, as they were to be used for rest, sleep, and for intimate life only. All other daily activities would take place in public institutions embedded in the building. The second socialist city concept, promoted by sociologist Mikhail Okhitovich,

proposed single-room, individual houses strung linearly through open territory. “If the other city had an expression of vertical volume, this one has a horizontal volume,” Ivanitskii explained. They both derived from the same principle of the full socialization of *byt* and total socialist organization, but they arrived at different conclusions regarding the overall form of residential building, and following this, the project of the city plan.²⁴³ In the official transcript for the meeting, the surnames of both socialist city protagonists were misspelled as “Sapsovich” and “Akhotovich”, and none of the signatories to the minutes caught the mistakes. Socialist city ideas may have circulated among the Baku administration, but the particulars were fuzzy at best.

Ivanitskii divided his analysis of these concepts into two categories: issues emerging from unresolved population caps and those having to do with block size. The population critique was aimed directly at Sabsovich, whose outside limit for a socialist city unit was set at 50,000 residents. Ivanitskii used the socialist city at Zaporizhe, near the massive Dneprostroi hydroelectric dam, as an example of how difficult population caps would be to institute in practice. In Zaporizhe, planners designated an initial population for the city at 250-300,000 with predicted urban growth at 500-600,000 residents. “But if you stop at a city plan for 50,000 residents, then it’s clear that the real tasks required to run a huge energy station are complicated on the basis of an artificially fragmented population, converted into groups of small cities,” Ivanitskii argued. “This may even be contrary to the necessities of a healthy economy.”²⁴⁴ By raising the specter of economy, Ivanitskii spoke directly to the concerns of the assembled. If Baku’s workforce was forcibly fragmented into population-capped housing combines, municipal transportation would need to expand yet again. In the Sabsovich scheme, the city would also be

²⁴³ ARDA, f. 2983, o. 1, d. 38, l. 152.

²⁴⁴ Ibid. ARDA, f. 2983, o. 1, d. 38, l. 152.

required to provide potentially redundant public services for each urban unit. Ivanitskii noted that he had discussed with Sabsovich personally these and other issues prompted by forced urban fragmentation, but that the Gosplan economist could not answer the concerns satisfactorily.

New housing types proposed by the socialist city proponents also raised the question of standard block size. Ivanitskii explained to the group that city block length was set at 250 meters for the Main Department of the Municipal Economy, while for the Council of Labor and Defense a settlement block was limited to 2.5 hectares and “no more.” But an excellent example of a *dom-kommuna* design by the Vesnin Brothers required a much larger 400 x 500 meter, or 20-hectare block. The economic benefit to the city of larger block size was evident: four unnecessary streets would be eliminated, which would permit the city to economize on piping, paving, sidewalks and street lighting. Ivanitskii had made similar arguments for his proto-megablock design at Armenikend. Ivanitskii warned, however, against the extreme block size in evidence in Okhitovich’s single-room pavilion scheme. The theory, architecturalized by Moisei Ginzburg, “has had unfavorable results in terms of the sanitary-technical systems,” Ivanitskii told the group, “because to install a sewer in a city which consists of individual rooms is a task that cannot be solved.”²⁴⁵

In closing, Ivanitskii sympathized with the members of the committee before him who were tasked to choose a system for urban organization but who were faced with “undeveloped schemes on which the highest party and state echelons, specifically Gosplan, has not even yet

²⁴⁵ Ibid. ARDA, f. 2983, o. 1, d. 38, l. 153.

made their own judgment.”²⁴⁶ Common frustration with the nebulous, evolving goals of Soviet city planning united the planner and his clients in their final meeting. It was a frustration echoed in all corners the USSR during the 1929-30 building season, as the theoretical ground continued to shift while construction targets for the first Five-Year Plan loomed.

* * *

The process by which Baku was planned was an example of praxis, *par excellence*. Empiricism begot theory. The planning team began with intense research on the city’s morphology, economy and demography, social and cultural practices. They then moved on to sketch design and final recommendations. Two years then separated the completion of deliverables from the plan’s final ratification, ample time for Ivanitskii to synthesize the effort’s most important take-aways—to turn practice into theory. There were many issues that the Baku Plan brought to light and pushed forward. First, the plan advocated regionalism. Both planner and client recognized the entire Apsheron peninsula as the proper scope of planning work for the city of Baku. Second, housing and industry were acknowledged as inextricable. Worker settlements, the first priority of the Baku plan, were located proximate to, but not on top of, valuable oil-bearing lands. Hundreds of units of worker housing were designed and constructed with hygiene, comfort and economy in mind. Third, linkages across urban space and into the periphery were highlighted as crucial. Long clear lines of communication—magistrals—were inscribed on the city to connect neighborhoods previously divided by topography, density and distance. Four, public institutions and services were evenly distributed throughout the plan and acted as local centers of gravity. Five, a planting plan was instituted to bring quality of life to the

²⁴⁶ Ibid. ARDA, f. 2983, o. 1, d. 38, l. 152, rev.

dusty city and provide spaces for public leisure. Finally, the urban superblock was flagged as a promising solution to socialized city making.

We must remember that Ivanitskii was actively engaged as planning consultant for the city of Baku during NEP, a relatively fallow period for Soviet urban development. The speed, then, with which the Baku oil industry modernized, with which worker housing was designed, constructed and occupied, and with which the face of prerevolutionary Baku was transformed was unparalleled in the USSR. Baku was not “magic”—it was just ahead of the curve. Other Soviet cities and far-flung industrial sites would reap the benefit of planning lessons learned in Baku as they strove to meet the extraordinary development targets of the first Five-Year Plan.

PART II
MAGNITOGORSK

Toward the Problem of Socialist Space (1929-30)

PART II: MAGNITOGORSK: Toward the Problem of Socialist Space (1929-30)

CHAPTER 4. The Great Debate

We are building our industry from the bottom.
We can construct everything in the light of the very latest word in technology. Our factories will, therefore, be equipped with the newest, the strongest, and the best machines.
We build on a vacant lot.
Well, what of it? There we can build according to a plan.²⁴⁷

— from a 1931 Soviet children's book on the first Five-Year Plan

Aleksandr Ivanitskii was summoned to Baku more than two years after completing Baku's first general plan to assuage his clients' political panic. The Baku Plan was completed quietly in 1927. It was less developed than Ivanitskii would have liked, but was thorough enough to provide his client, Baksovet, with direction for municipal improvement projects for the foreseeable future. Baksovet's request to see Ivanitskii in January 1930 can only have been prompted by the Union-wide debate on the proper organization of industry and labor at the onset of the first Five-Year plan. Socialist urban form suddenly was a topic of great interest at the highest levels of Soviet power, and Baksovet was in possession of a general plan that did not directly address concerns raised in the Moscow debates. As chronicled in the previous chapter, Ivanitskii confronted their anxiety with measured critique and dismissal of the most radical socialist city models in circulation. While his assurances permitted Baku's Soviet leaders to ratify the 1927 Baku Plan, the clients acknowledged the debate in their final vote. At the January 11, 1930 meeting of the Presidium of the Baku Executive District Committee, the group stipulated

²⁴⁷ M. Ilin, *New Russia's Primer: The Story of the Five-Year Plan*, trans. George S. Counts and Nucia P. Lodge (Boston: Houghton Mifflin, 1931), 76. Original: M. Il'in, *Rasskaz O Velikom Plane*, 3rd ed. (Moskva: Ogiz - Molodaia Gvardiia, 1931).

in closing that going forward, “the main task of the Planning Committee is to consider the measures for the organization of socialist *byt*.”²⁴⁸

The great socialist urbanism debate was, in fact, a very recent development. The Council of People's Commissars (Sovnarkom) ratified the first Five-Year Plan in April 1929, a year and a half into the Plan's term. VSNKh and Gosplan had to scramble to define a physical planning platform for the new industrial sites already under construction and those slated to commence. We can trace the beginning of the debate to around this time, when VSNKh economist, Leonid Sabsovich, began to lecture and write about possible socio-spatial implications of the Plan. In working sessions for the first Five-Year Plan, Sabsovich, Gosplan Chair Krzhizhanovskii, and other non-gradualists argued for extreme haste toward industrialization. The Soviet Union could catch up to and overcome capitalist countries in just 10-15 years if—and only if—the USSR mobilized a fully socialized labor force. How would this socialized citizenry be created? Through the construction and inhabitation of carefully crafted physical environments designed to instill socialist practices.

Although he was not the first to make the link between space and habit, Sabsovich renewed a call for radical reconfiguration of everyday life (*byt*) in the design of housing and social services. He argued that it behooved the state to utilize the massive sums spent on capital construction simultaneously to shape social practices. Sabsovich coined, among other terms, *sotsgorod* (socialist city) and *zhibkombinat* (housing combine) to name the unprecedented spatial organizations he envisioned. His controversial proposals sparked the first intellectual discussion about how and

²⁴⁸ ARDA, f. 2983, o. 1, d. 752, l. 132.

why socialist and capitalist spatial practices needed to differ from those inherited from capitalism.

The following two chapters concern the socialist city attached to the Magnitogorsk Iron and Steel Works, a first Five-Year Plan show project. In this chapter, which follows the unfolding socialist urbanism debate, the material and geographic specificity of Magnitogorsk matters little. This is not to say that the grounded particularities of the site are inconsequential—the second chapter of this pair insists that they are. Instead, I propose that for the authors of the first Five-Year Plan, and the discussants in the socialist urbanism debate, Magnitogorsk was foremost a *concept* rather than a physical place. Actual Magnitogorsk, located on the east side of the Ural Mountains at the edge of Asia, was incomprehensible to the urbane Muscovites plotting its development. Conceptual Magnitogorsk, on the other hand, was a blank slate waiting to be populated with aspirational ideas. This conceptual Magnitogorsk played an important role in the evolving settlement debates: it was held up as the prime site to test models of socialist space making. While theorists battled over the proper location, density and form of socialist settlement, conceptual Magnitogorsk floated above the fray as a site of possibility. The Union-wide design competition for the socialist city of Magnitogorsk—launched in December 1929 at the height of the debate and the focus of the Chapter 5—provided the chance for all sides to apply physical form to their ideas.

Before exploring either the settlement debate or the Magnitogorsk competition, this chapter delves into the economic and political circumstances that suddenly made such massive capital projects possible. If Baku can be characterized as a typical NEP-era planning effort—in which the fiscal balance sheet was regularly examined to determine the feasibility of construction—Magnitogorsk marks the beginning of a radically different economic model. At the onset of the first Five-Year Plan the Soviet Union shifted to a full command economy, and

market forces were disregarded in favor of rapid industrialization. This shift enabled headlong transformation of the Soviet built environment.

From Genetic to Teleological Planning: Toward a First Five-Year Plan

How was it possible for Union-wide capital construction to accelerate so precipitously at the start of the first Five-Year Plan? What fundamental change in the Soviet Union's economic outlook made extensive capital outlay possible where it had not been just months before? As the Baku chapters remind us, to engage in physical planning and infrastructural improvement under NEP, state enterprises and municipal administrations needed to secure either self-generated (Azneft) or local collective funding (Baksovet). National and local budgets had to be balanced, and plans had to pay for themselves.

A skim through Gosplan's monthly journal, *Planned Economy (Planovoe khoziaistvo)*, from the NEP years of 1923-1926, reveals that the planning committee gave little press to theoretical or practical questions of socialist capital construction. Over these three years, the sole author of articles on capital projects was L.N. Bernatskii, head of Gosplan's Building Section (*stroiseksion*), a department launched in March 1922.²⁴⁹ Bernatskii struck a circumspect note in his inaugural article as head of section, writing that, "construction is not a self-sufficient sector of the economy, or an end in itself, but one that is performed only on the instructions of other

²⁴⁹ The first department dedicated to construction under Soviet rule was the Central Commission of National Construction Planning (Tsentral'nyu komissiyu obshchegosudarstvennogo plana stroitel'stva (TsGOLS)) under Glavkomgosoor and directly subordinate to STO, which was established on March 17, 1921. TsGOLS was disbanded in early 1922, and its staff scattered among other Gosplan departments. On Feb 15, 1922, a Building Section was established in the Transportation Section of Gosplan (since most of the questions of construction fell to them), and on March 30, 1922 the Building Section of Gosplan was made independent, under Bernatskii's leadership. Most of the employees were carry overs from TsGOLS, and the work remained largely the same. L.N. Bernatskii, "Kratkii Obzor Deiatel'nosti Stroiseksii Gosplana," *Planovoe khoziaistvo (Biulleteni Gosplana)*, no. 3 (1923): 56.

sectors.”²⁵⁰ He revised his attitude toward construction’s role over the course of his tenure as section head, and increasingly advocated for construction projects as a means to jumpstart the Soviet economy. In 1924, in the midst of an attenuated financial crisis, Bernatskii stressed that the rise of Soviet socialism depended on investment in the built environment. “Construction is one of the primary factors in the economic and cultural development the country; without the latter, construction can not move forward, but the successful development of the country is also impossible without construction,” he wrote. “The state is obliged to take this into account and mobilize all possible to measures to assist with construction of all types.”²⁵¹ If the economic downturn limited construction possibilities, Bernatskii continued, then it was important to prioritize building in the regions most likely to spur economic development: the Central-Industrial, Ural, and Caucasian oil-bearing regions. In other areas of the USSR, construction of individual objects of strategic importance would have to suffice. He need not have tempered his argument by proposing a more limited scope of expenditure; he was speaking into the void. The majority of his colleagues at Gosplan, and the economists at the People’s Commissariat of Finance (Narkomfin) were of a different mind where allocation for capital expenditures was concerned: large-scale construction projects would occur when and only when the national budget was stable.

Gosplan’s primary task, as directed by the Politburo, was to achieve this stability in the Soviet economy by balancing supply and demand. A fiscally conservative approach known as “genetic” (*geneticheskoe*) planning prevailed for most of NEP. Genetic planners sought to achieve economic equilibrium (*ravnovesie*) by looking at past economic trends and monitoring current

²⁵⁰ Ibid.

²⁵¹ "Osnovy Planirovaniia Stroitel'stva," *Planovoe khoziaistvo (Biulleteni Gosplana)*, no. 1-2 (1924): 3.

international market conditions to plan forward according to historic probabilities. The means to this end were “control figures” (*kontrol'nye tsifry*). Grigorii Grinko, Gosplan vice-chairman, defined them for an American audience: “What are these control figures? Annually in advance they assign to every branch of state industry definite tasks with regard to the development of its production during the coming year...they fix the amounts of capital to be invested in industry, transportation and agriculture, in housing and public construction. In a word, the control figures lay down a general economic plan for this huge country with a population of 150 million people for a year in advance.”²⁵² As Grinko explained, control figures predicted annual revenues for each branch of industry, which in turn set hard limits on that branch’s expenditures for the year. In summoning all 150 million Soviet citizens in his definition of control figures, Grinko revealed not just the importance, but also the *supremacy* of these tabular sheets to set the course of the Soviet Union’s economic futures from year to year.

Control figures played such a critical role in NEP economy because longer-term planning efforts had failed. Three economic planning teams had commenced work at Gosplan in 1925, each tasked to draft a plan for a different temporal scope. The General Plan team was to consider 10-15 year prospects for the Soviet economy; the five-year or “perspective” plan team was to take on half a decade; and the control figures team was to deal with annual budgetary concerns, as they had since 1923. Because the General Plan never got off the ground, and the first Five-Year Plan was not ratified until mid-1929, control figures effectively directed all Soviet economic policy for seven years.²⁵³ An economy predicated on year-to-year planning is a

²⁵² G. T. Grinko, *The Five-Year Plan of the Soviet Union, a Political Interpretation* (New York: International Publishers, 1930), 22-23.

²⁵³ Carr, *Foundations of a Planned Economy, 1926-1929*, 809.

shortsighted one. Under such a regime, Soviet administrators could address only the issues immediately before them, and large-scale capital construction projects with multi-year completion schedules were impossible to entertain. The stop-gap manner in which Azneft handled housing shortages in early Soviet Baku befits this broader economic context.

Like Azneft, Building Section head Bernatskii recognized that housing was the construction type most appropriate to tackle under the strict control figure system. The granular scale of housing could be addressed with targeted, small-scale offensives that might include renovation of existing housing units, renovation of other building types into housing, and as a last resort, new construction.²⁵⁴ In his discussion of new construction, Bernatskii took care not to overstep the fiscal bounds of the “current transitional period.” Although the time had not yet arisen for such holistic solutions, Bernatskii did broach the subject of architectural typification as early as 1925, a subject that gained prominence in the first Five-Year Plan and figures heavily in Chapters 6 and 7 about Kharkiv. Crucially, he linked the domestic scale of housing to national scale planning via standardization: “The question of the choice of types becomes a planning question...especially if one takes into consideration that the development of housing types allows for standardization, which with mass production is one of the keys to affordable, quality construction...This is the healthy foundation on which a better plan for capital construction can be brought to life.”²⁵⁵ In the meantime, Bernatskii proposed immediate construction of cheap, one- to two-story wooden houses instead of more costly multi-story brick or reinforced concrete structures. He acknowledged that such structures were “not altogether modern,” but that a

²⁵⁴ L.N. Bernatskii, "Zhilishchnyi Krizis I Zhilishchnoe Stroitel'stvo," *Planovoe khoziaistvo (Biulleteni Gosplana)*, no. 6 (1925): 36.

²⁵⁵ *Ibid.*, 42.

“truly economic form of capital construction—built not on capitalist, but socialist foundations—will take some time.”²⁵⁶

By 1928, a small chorus of voices began to challenge the perspicacity of control figure planning for capital construction. In the previous five years *Planovoe khozjaistvo* published just twelve articles related to capital construction; in 1928 alone, there were fifteen. The author of one particularly astute article, entitled “The Problem of the Plan and Capital Construction,” put his finger directly on the problem. In author A. Gordon’s assessment, control figure planning crippled capital construction projects in two interrelated ways. First, because ratification of control figures was often delayed well into the year they were intended to plan, the state’s fiscal planning timeline wreaked havoc on the seasonal construction industry. Before annual construction could begin—ideally in March—contracts needed to be signed and building materials procured. Due to the lag in plan ratification, building trusts were left guessing how much funding they would be allotted, which led to “an element of randomness” in how projects were estimated and run. Second, and related to the first issue, was the conservative psychology of the control figure system that tamped down aspirational projects. Gordon highlighted the problem as follows:

Drafting a financial plan begins with the control figures. But for companies, trusts, local organs of VSNKh and local planning authorities, the control figures that they draw up are nothing but a claim to a certain share of material and financial resources; a claim that is made with the assumption that it will be trimmed back. In this way the plan cannot escape the actual state of things (the status quo), because “claims” are limited not only the by the planning assumptions of the coming year, but by the estimates (supposedly the balance sheet) for the current year.²⁵⁷

²⁵⁶ Ibid.

²⁵⁷ A. Gordon, "Problema Plana I Kapital'noe Stroitel'stvo," *Planovoe khozjaistvo*, no. 2 (1928): 68.

Simply put, even though the control figures were a sorely inaccurate prediction of fiscal activity, they were taken as a reflection of an inescapable economic reality. Those wishing to make budgetary claims for the coming year were forced to hew very closely to the previous year's request. In order that their budgets not decrease from one year to the next, local administrations might pad the claim with new, sacrificial line items, but radical expansion of revenues or expenditures was not expected. In such a way, as Gordon notes poetically, it was impossible to escape the actual state of things.

This pointed critique of “status quo” control figure planning was representative of a philosophical shift occurring within Soviet leadership concerning the purpose of economic planning. Leading the charge, and methodological change in tenor, were two economists at the top of the Gosplan hierarchy: two-time Director Gleb Krzhizhanovskii, and statistician and theorist Stanislav Strumilin, who worked together to draft the first Five-Year Plan. Both economists advocated the teleological (*teleologicheskoe*) method of planning, which was concerned with the *telos*, or endpoint of the planning effort. VSNKh deputy chairman and Central Committee Member, Yuri Piatkov, described the new projective planning attitude as follows:

We deliberately depict a model of industry to ourselves as we want it, so that it may be brought into existence; in other words, we set ourselves a definite purpose and a task dictated by our will (*volevaia zadacha*); we free ourselves to a considerable extent in the given circumstances from the clutches of what is given by history; we break the old bounds and gain a considerably greater creative freedom.²⁵⁸

Compared to genetic planners—who looked to past indicators to keep the economy in equilibrium—teleologists planned forward, striving toward unprecedented goals. Teleological planning was a matter of willing change by setting aspirational targets.

²⁵⁸ *Materialy osobogo soveshchaniia po vosstanovleniiu osnovogo kapitala pri Presidiume VSNKh SSSR*, Serii II, I (1926), 4, as quoted and translated in Carr, *Foundations of a Planned Economy, 1926-1929*, 792.

At the second Gosplan conference in March 1927, Strumilin explained that with the new teleological approach, the first Five-Year Plan would “*redistribute* the productive forces of society, including labor and the material resources of the country...*at the most rapid possible tempo*, with the goal to *maximally* satisfy the current needs of the working masses and to *very quickly* bring about the full reconstruction of society on the principles of socialism and communism.”²⁵⁹ Strumilin’s “redistribution” proposition exploded the sector-based structure of control figure budgetary distribution to consider the Soviet economy holistically. The productive inputs of labor power and material resources would be shared between branches of the economy and could be shifted around as needed to support those sectors—mainly industrial sectors—tasked with the most ambitious goals. Teleologists like Strumilin viewed rapid industrialization as the most expedient means to achieve economic self-sufficiency, which would in turn enact the transformation to the ultimate *telos*: communism. Fuel and power, iron and steel, and the machine building industries were thus given top priority in the first Five-Year Plan. Strumilin also stressed that construction of a “new social order” required entirely new methods. “Where it is a matter of conscious creation of a *new future*, there are much more appropriate methods - *the methods of engineering project design (metody inzhenernoy proektirovki)* for building new social structures.”²⁶⁰ Labor, expertise, capital and material resources would be mobilized and shifted to those engineering projects like the Magnitogorsk Iron and Steel Works deemed best able to move the Soviet Union toward autarkic, fully socialist status.²⁶¹

²⁵⁹ S. G. Strumilin, *Ocherki Sovetskoi Ekonomiki: Resursy I Perspektivi* (Moskva: Gosudarstvennoe izdatel'stvo, 1928), 422. Original italics.

²⁶⁰ Ibid., 428.

²⁶¹ Carr, *Foundations of a Planned Economy, 1926-1929*, 789-90.

Soviet socialism in the earliest years had been an explicitly expansionist project, one that was cognizant of the conditions outside of its temporal and geographic boundaries. Although Trotsky continued to push for permanent revolution after Lenin's death in 1924, Stalin by that time was advocating a temporarily isolationist approach following the defeat of communist revolutions in Europe. As history reveals, Stalin won the debate and "socialism in one country" became Soviet state policy after the XV Party Congress in 1927.²⁶² While the shift from genetic to teleological planning does not map exactly onto the debate concerning the proper scope of the Soviet Union's socialist ambitions, these political disagreements were certainly in the background. The task of the first Five-Year Plan was to enact industrial self-sufficiency within a severely limited time frame: teleology and autarky went hand in hand.

Understanding the redefinition of control figures in teleological planning is the key to understanding the extraordinary surge in capital construction at the year-late start of the first Five-Year Plan in 1929. In August of that year, Gosplan Director Krzhizhanovskii wrote that, "recently, our attitude toward planning the economy has changed—toward its methodology and toward the assessment of those materials that we choose to utilize...we no longer look with such credulity at the columns of control figures..."²⁶³ Control figures did not disappear in teleological planning, they simply took on a different role. According to Gosplan vice-chair Grinko, they evolved "from a mere *estimate* of the general progress of the national economy during the coming year...into *the annual plan* for the development of the national economy."²⁶⁴ In other

²⁶² "The struggle against Trotskyism went on for a number of years and culminated at the XV Congress of the Communist Party of the Soviet Union, in 1927, in a decisive defeat for its ideas as well as its organizational ventures." Grinko, *The Five-Year Plan of the Soviet Union, a Political Interpretation*, 54.

²⁶³ G. Krzhizhanovskii, "Zametki O Planirovanii," *Revoliutsiia i kul'tura*, no. 8 (1929).

²⁶⁴ Grinko, *The Five-Year Plan of the Soviet Union, a Political Interpretation*, 23-24. Original italics.

words, control figures transmogrified from statistical reflections of “the actual state of things” to prescriptive, aspirational targets. If we take Grinko’s figures for the first Five-Year Plan, we see that overall capital investment in the USSR for the 1928-33 period was expected to more than double from the 1923-28 allocations (from 26.5 to 64.6 billion rubles), while investment in industry alone would nearly quadruple (from 4.4 to 16.4 billion rubles).²⁶⁵ Unsurprisingly, economists characterized the period from 1929-31, when budgetary caution was thrown to the wind, as the “period of exaggeration” (*period uvelicheniya*).²⁶⁶ In that exaggerated space of budgetary difference was 12 billion rubles to spend toward building industrial facilities and the housing and social services to accompany them.²⁶⁷

Acknowledging the Problem of Socialist Space

Aleksandr Ivanitskii’s on-the-ground approach to solving Baku’s housing, transportation, public health, and social service deficiencies aligned with a utilitarian general line in Soviet planning discourse that characterized the 1920s. NEP-era publications devoted to city-planning concerns reveal that before 1929, Soviet city-planning was largely an engineering enterprise. Practitioners like Ivanitskii, trained as civil engineers, summoned proletarian rights as needed to ensure that sanitation, connectivity, and other nuts-and-bolts municipal issues were addressed. Even experimental architects like Grigorii Barkhin (author of the Constructivist *Izvestiia* building in Moscow) became technocrats when larger-scale planning was concerned. His 1925 book, *Contemporary Worker Housing*, opened with a chapter dedicated to “General Sanitary-Technical

²⁶⁵ Ibid., 58.

²⁶⁶ Davies, "Gosplan," 36.

²⁶⁷ The electricity and transportation infrastructure required to serve industry were separate line items in the budget.

Requirements and Norms,” and it was no less technical as it proceeded. Socialist urban theory, as such, simply did not exist.

Until the first Five-Year Plan, the spatial precedents used in Soviet territories were taken from elsewhere. As Frederick Starr has argued, and Chapter 1 discussed, both imperial Russian and early Soviet planners cited the English Garden City model as the appropriate model to counteract the density of industrial urban cores, a professional orientation that spanned the revolutionary divide.²⁶⁸ As late as 1925, the book *Garden-Cities and Villages for Workers*, by V.F. Ivanov, held up garden city, and low-rise, low-density housing, as the answer for the socialist working class.²⁶⁹ The spatial relationships between natural resources, heavy industry, and housing—addressed masterfully in Baku—remained under theorized.

Finally, mid-1928, economist S.A. Bessonov rang the alarm. Tasked to analyze railroad tariff reform, Bessonov discovered that the issue of transportation mobility was virtually untouched in Marxist theory. In “The Problem of Space in the First Five-Year Plan,” Bessonov investigated the potential implications of large-scale, cross-regional systems like rail under socialism. In the process, he determined that the poverty of Soviet spatial theory would lead to misappropriation of first Five-Year Plan funds:

We will invest about 20 billion rubles in coming Five-Year Plan. It should be obvious that we need to determine the spatial characteristics of such a huge capital investment alongside quantitative and qualitative terms...The masses do not live by industry, or by region. They live non-districted lives—they are spaceless, so to speak. Capital construction, as it is now considered, does not speak to the minds and hearts of the workers and peasants.”²⁷⁰

²⁶⁸ Starr, "The Revival and Schism of Urban Planning in Twentieth-Century Russia."

²⁶⁹ V.F. Ivanov, *Goroda-Sady I Poselki Dlia Rabochikh: Planirovka, Vodosnabzhenie, Kanalizatsiia* (Leningrad: Akademicheskoe Izdatel'stvo, 1925).

²⁷⁰ S.A. Bessonov, "Problemy Prostranstva V Perspektivnom Plane," *Planovoe khoziaistvo*, no. 6 (1928): 77.

Rail, electricity, and people were naturally fluid and territorially unhampered; regional districting, therefore, was an unnecessarily limiting construct. If the drafters of the Plan considered only quantitative columns, or even qualitative texts, and disregarded the massive spatial implications of their work, the opportunity to dissolve regionalism—to take advantage of the socialization of land ownership and the vast territorial expanse of Soviet space—would be lost.

Enter Leonid Moiseevich Sabsovich, the critical figure who would bridge the gap between economic and physical planning during the first Five-Year Plan. From 1927-1930, Sabsovich, economist in the planning department of VSNKh, was one of the most prominent and articulate advocates for teleological planning and rapid industrial growth-rates. Sabsovich stood out for this ability to use quantitative data to address social concerns. For the purposes of our story, Sabsovich is pivotal as the inventor of two key concepts: the socialist city (*sotsgorod*), and socialization of everyday life (*obobshchestvlenie byta*).²⁷¹ He arrived at these concepts through critical analysis of the Soviet economy that connected economic and social transformation.

Sabsovich's first so-called "hypothesis" on the proper orientation for the Soviet economy, from August 1928, argued that the version of the first Five-Year Plan under debate at Gosplan was not nearly ambitious enough. The USSR did not need decades to overtake advanced capitalist countries, to destroy class structure and build socialism—fifteen years would

²⁷¹ Although he was well published, and his ideas had remarkable traction for three to four years, Sabsovich's biography both before and after this period of intense public exposure remains vague. A recent book devoted to the Sabsovich family tree could not confirm his dates of birth or death, or locate a photograph of Leonid Moiseevich. The authors did manage to ascertain that he was arrested on Trotskyist charges (likely in the late 1930's) and died in a gulag camp. See V.Ia. and S.V. Vershinin Fain, *Taganrogskie Sabsovichi I Ikh Potomki* (Moskva: Izdatel'stvo Triumf, 2013), 169. Some information about Sabsovich's professional timeline can also be found in D.M. Khmel'nitskii, "Leonid Sabsovich Ili Kto Pridumal Obobshchestvlenie Byta? (Leonid Sabsovich or Who Invented the Socialization of Everyday Life?)," in *The Family in Traditional Culture and the Modern World*, ed. Iu. M. Smirnov, www.archi.ru (Vladimir: Transit IKS, 2011).

suffice.²⁷² Sabsovich's initial intervention into socialist spatial theory was to link industrialization—the most apparent goal of the Plan—with the construction of socialist culture. “In creating the general plan of development of our country, we must be planning the construction of socialism broadly,” he wrote in the pamphlet *USSR in 15 years (SSSR cherez 15 let)*. “The working class has to understand that socialism is not some kind of ideal, far into the future, but is instead a practical goal that is feasible to reach in the next one and a half decades. The working class has to understand that under the leadership of the Communist Party it can, for instance, in 15 years build socialism and understand how to build it.”²⁷³ Wrapped into these statements was a conviction that industrial self-sufficiency was not an end in itself; that the construction of socialist culture also needed to advance apace. If the working class understood the urgency to affect cultural change at the same rate as factories were rising, social and economic transformation would progress hand in hand.

This message resonated with many Party officials, who understood NEP as seven years marred by cultural compromise. No matter their potency, Sabsovich's ideas were disseminated only at the pleasure of officials the top of the Party hierarchy, and indeed, directly behind Sabsovich stood Valerian Kuibyshev, Chairman of VSNKh and one of Stalin's principal economic advisors. In a period characterized by paper shortages, *USSR in 15 years* enjoyed three

²⁷² His first article appeared in *Commerce and Industry* newspaper (*Torgovo-promyslennaiia gazeta*) on August 19, 1928; follow-ups were published on November 7 and 29. These and other articles were re-published as *SSSR cherez 15 let (USSR in 15 years)* in March 1929.

²⁷³ L. M. Sabsovich, *Ssr Cherez 15 Let : Gipoteza Generalnogo Plana, Kak Plana Postroeniia Sotsializma V Ssr*, 2. izd. ed. (Moskva: "Planovoe khoziastvo", 1929), 8, 13.

printing runs in 1929, the last two at 13,000 and 30,000 copies each.²⁷⁴ The pamphlet and the ideas that it held ultimately were markedly influential in setting the accelerated pace of industrialization ratified in the final version of the Plan.

Sabsovich's message was optimistic and aspirational—excessively so, his critics argued. To help his readers grasp the scope of his predictions he quantified the results of steep and steady industrial growth fifteen years hence. In the final chapter in *USSR in 15 years*, entitled “The Era of Great Works and the Problem of Creating a New Man,” he used the Magnitogorsk Iron and Steel Works—the most ambitious and prominent capital construction project of its day—as his example of a “great work” (*velikaia rabota*). By fiscal year 1942-43, he explained, the budget for heavy industrial construction would be 33 times that undertaken in in year of the pamphlet's publication. In other words, if the equivalent of 7.5 Magnitogorsk factories were built in 1927-28, fifteen years in the future the Soviets would be building approximately 240 such factories per annum.²⁷⁵

For Sabsovich, the increased tempo of the plan could accomplish more than just the installation of socialist industry; it could create socialist citizens. In the same chapter, he began to formulate a theory regarding the relationship between environmental and social transformation:

The new structure of life, even the construction of this new life, requires a new type of person. We need to remake man. Of course this is a task of extraordinary difficulty. But it is being (*bytie*) that determines consciousness. *The notion that a person is inherently conservative and difficult to alter is patently false.* You could say that man is inert—and this is true, but not in the everyday sense of the word. In an environment of technical, economic and social stagnation, a person acquires the inertia of stagnation and becomes a so-called conservative. *In an atmosphere of rapid technical, economic and social transformation a person acquires forward momentum and undergoes*

²⁷⁴ Nikolai Miliutin's *Sotsgorod* (1930), in comparison, was given a single 7,000-copy run. Khmel'nitskii, "Leonid Sabsovich ili Kto Pridumal Obobshchestvlenie Byta? (Leonid Sabsovich or Who Invented the Socialization of Everyday Life?)."

²⁷⁵ Sabsovich, *Sssr Cherez 15 Let : Gipoteza Generalnogo Plana, Kak Plana Postroeniia Sotsializma V Sssr*, 156.

*rapid change and adaptation to meet the changing conditions of his existence.*²⁷⁶

Here, Sabsovich insisted that Soviet citizens living in “stagnant” physical circumstances—cities constructed under the capitalist system, communal apartments carved out of bourgeois residences—were destined to retain old modes of everyday life and interpersonal interaction. Conversely, radical alteration of the environment could induce new citizens into being.

This was not a new idea, but rather a restatement of the Marxist postulate that matter determines consciousness. Trotsky devoted an entire book to this issue in 1923, after posing the question in a short *Pravda* article. “On the question of everyday life (*byt*),” Trotsky wrote, “it is patently obvious that each individual is the product of his environment rather than his creator. The conditions and customs of everyday life, even more than economics, develop ‘behind people's backs’ as Marx says.”²⁷⁷ Logic follows that if space shapes behavior, everyday environments are key sites of political intervention. To ensure the ascendance of a *new* everyday life (*novyi byt*), traditional household relations and responsibilities would have to be completely reconceived. The two “intimately connected” processes that would pave the way to the new socialist interpersonal relations were a) increase in education and cultural levels of the working class, and b) state-organized improvement of their material conditions.²⁷⁸ In describing the Soviet vision, Katerina Clark put it quite beautifully: “Through its *byt*, that is, thorough the ordinary and everyday, society would, paradoxically, attain the extraordinary.”²⁷⁹ Whether or not

²⁷⁶ Ibid., 154. Original italics. For a fuller discussion of *byt* versus *bytie* see Svetlana Boym, *Common Places: Mythologies of Everyday Life in Russia* (Cambridge, Mass.: Harvard University Press, 1994), Chapter 1, “Mythologies of Everyday Life”.

²⁷⁷ L. Trotskii, “In Order to Rebuild Everyday Life, It Is Necessary to Know It (*Chitoby Perestroit Byt', Nado Poznat' Ego*),” *Pravda* 11 July 1923.

²⁷⁸ “From the Old Family—to the New (*Ot Staroi Sem'i— K Novoi*),” *Pravda* 13 July 1923.

²⁷⁹ Clark, *Petersburg, Crucible of Cultural Revolution*, 251.

material betterment manifested as full-fledged house-communes, Trotsky argued that it was incumbent on the state to install facilities that would relieve women of housekeeping and childcare duties at the very least.

Alexandra Kollontai, Director of the Women's Department of the Communist Party (*zhenotdel*), advocated dissolution of the nuclear family altogether under socialism, a proposition that would require total reconfiguration of domestic spaces. "There is no escaping the fact: the old type of family has had its day," she wrote in 1920. "In place of the individual and egoistic family, a great universal family of workers will develop."²⁸⁰ Like the institution of the state under complete communism, the family would "wither away not because it is being forcibly destroyed by the state, but because the family ceases to be a necessity."²⁸¹ The road to emancipation for Soviet women was destined to be a hard one, however, until physical spaces emerged to support the new modes of living. Kollontai's heroine from *Love of Worker Bees* (1923), Vasya, fought to organize "a model house filled with a genuinely communist spirit," one with a common kitchen, dining room, laundry, crèche, and library-meeting room.²⁸² Feuds over cleanup, complaints about utility bills, and general ill will toward Vasya—who was forced to censure her neighbors' poor behavior—resulted in collapse of the commune. The possibility for Vasya and other working women to take advantage of emancipating spaces and programs was likewise lost.

Although the attack on *byt* was primarily framed as a social issue, an equally crucial economic dimension motivated the transformation. The reconfiguration of domestic life would

²⁸⁰ Alexandra Kollontai, "Communism and the Family (1920)," in *Selected Writings of Alexandra Kollontai* (London: Allison & Busby, 1977), 258-59.

²⁸¹ Ibid.

²⁸² *Love of Worker Bees* (1923), trans. Cathy Porter (Chicago: Academy Press, 1978), 24.

provide the influx of workers needed to drive Soviet industry to Western standards. Through redesign of everyday spaces, architecture became implicated in the construction of the socialist state. Gender-balancing programs advocated by Trotsky and Kollontai—canteens, laundries, live-in and drop-off nurseries—would permit Soviet women to practice domestic independence and, crucially, to enter the workforce. At the Fifteenth Congress of the Communist Party, held December 1927 in Moscow, architects were among those pointedly addressed to help construct the *novyi byt*. Female Comrade Zaborskaia spoke on the design implications of a report by Sovnarkom Chair Rykov and Gosplan Director Krzhizhanovskii. “In preparing a practical plan it is not enough to pose the problem of the cultural revolution for women in general terms. We have a huge job to do, and in working out the five-year plan we must emphasize the need for serious attention to the cause of the emancipation of women. We must strive to...avoid a situation in which industry is developing along socialist lines while new apartments still have the same old kitchens, the same troughs, and the same washtubs...If the same old philistine trash is piled up in the new apartments, who is going to speak for socialist construction?”²⁸³ In Zaborskaia’s opinion, a worker surrounded by outmoded material culture would perpetuate a pre-revolutionary mode of living. In this way, washtubs joined the ranks of items that threatened to overwhelm the potential for systemic social change.

Because the Soviet consumer goods industry was in such a poor state, the sparse material detritus of prerevolutionary life was often all that was available for domestic use. (Sabsovich also advocated for betterment of the Soviet consumer goods industry as a means to increase quality of living, satisfaction and ultimately productivity for the working class.) In his two-month stay in

²⁸³ Kuz'min, "O Rabochem Zhilishchnom Stroitel'stve," 82. Also translated and discussed in Kopp, *Town and Revolution; Soviet Architecture and City Planning, 1917-1935*, 145.

Moscow, Walter Benjamin underscored the myriad ways in which scarcity was simply a fact of life for Soviet citizens in 1926: scarcity of consumer goods, scarcity of living space, scarcity of privacy, scarcity of comfort. After visiting the rooms of fellow writers, he compared the Soviet interior to the standard bourgeois interior:

Like all the rooms I had seen so far...it contains only a few pieces of furniture...Completeness is an essential feature of the petit-bourgeois interior: the walls must be covered with pictures, the sofa with cushions, the cushions with coverlets, the consoles with knickknacks, the windows with stained glass. Of all this only a few items here and there have indiscriminately survived. If people manage to bear rooms which look like infirmaries after inspection, it is because their way of life has so alienated them from domestic existence. The place in which they live is the office, the club, the street.²⁸⁴

Benjamin's notes on the spartan Soviet domestic realm ended with allusion to the new way of life being constructed: a life lived in the office (not the factory: he was, after all, an *author*-producer), the club, and the street. Interior architecture ceased to matter not necessarily because the new way of life was so compelling, but because "depressing" domestic space pushed Soviet citizens into the public realm.

Domestic spatial conditions were indeed grim during NEP, when workers and peasants flooded into cities ill equipped to handle the population influx. Stopgap solutions like the communal apartment (*kommunalka*) were put in place, in which extended families were granted a single subdivided room within a prerevolutionary bourgeois or aristocratic residence. Common entry, corridor, kitchen, and bathroom facilities became battlefields for interpersonal conflict.²⁸⁵ Newly arrived peasants who lived in such overcrowded housing contributed to a "ruralization"

²⁸⁴ Benjamin and Smith, *Moscow Diary*, 26.

²⁸⁵ For discussion of the sociology and psychology of the Soviet era communal apartment, see Boym, *Common Places: Mythologies of Everyday Life in Russia*, Chapter 2, "Living in Common Places: The Communal Apartment".

(*okrest'ianivanie*) of Soviet cities.²⁸⁶ Village moral codes became entrenched in urban contexts.

Overall, these were inauspicious conditions for crafting new Soviet citizens, as Sabsovich noted.

Now that the first Five-Year Plan was superseding NEP, Sabsovich picked up where Trotsky, Kollontai, and Benjamin left off. It was precisely within the realm of everyday socialist life—from the urban scale to the domestic unit—that Sabsovich developed a body of theory that sparked the great socialist spatial debates of 1929-30.

The Problem of the City and Victory Over Distance

Acute awareness of the problem of socialist city making erupted in July 1929, a month in which Sabsovich published the essay “The Problem of the City” (*Problema Goroda*) in *Planovoe khoz'iaistva*, and read the essay as a speech to the All-Union Association of Scientific and Technical Workers to Assist Socialist Construction in the USSR (VARNITSO).²⁸⁷ Tracing Sabsovich’s ideas is an iterative effort: a single text may appear under altered titles, published by different organizations, in varying formats. The Gosplan journal essay, the VARNITSO speech, and the pamphlet *Cities of the Future and the Organization of a Socialist Way of Life* (*Goroda budushchego i organizatsiia sotsialisticheskogo byta*, published shortly after) are identical. Why such redundancy?

By mid-1929 the inaugural building season of the Five-Year Plan was underway, and progress toward its ambitious goals was proving inauspicious. The first year of the Plan, when the relative growth of capital construction industry would be the greatest, was destined also to be

²⁸⁶ Moshe Lewin, *The Making of the Soviet System : Essays in the Social History of Interwar Russia* (London: Methuen, 1985), 220.

²⁸⁷ The title of the VARNITSO speech was “The Problem of the City – as a Settlement of a Socialist Type.” Sovnarkom established VARNITSO in February 1928 as a political organization for scientific and technical workers. Their opening resolution stated that, “the intelligentsia should not be neutral, but should participate actively in the planning and of the capital construction of the whole industry of the country.” Carr, *Foundations of a Planned Economy, 1926-1929*, 620-21.

the most difficult. If the Soviet building industry was barely functional before the Plan, now that ambitious targets were paired with cost-reduction mandates gaping cracks in the project delivery system were revealed. Technical difficulties were made more intractable by the glaring absence of theory. As Catherine Cooke wrote, “to people who needed to intellectually understand the place of their small actions within the total context of their social and political purposes, the lack of any Marxist-theoretical description of how the total environment-building process related to those larger purposes was more than unsatisfactory: it too had a crippling effect on their real activity.”²⁸⁸ The technical staff and workers laboring on poorly advancing construction sites were provided no vision to motivate their work. Without spatio-ideological directives from above, construction workers on the Donugl, Beketov and Avtostroi sites had taken it upon themselves to organize “socialist settlement” working groups, to talk through the ways in which socialism might affect architecture, planning, and the building industry. “The abnormality of this situation is obvious,” Sabsovich wrote of the theoretical vacuum in which these workers toiled. “It should be clear that we must devise ways to penetrate the consciousness of the increasing range of workers involved in the construction of new workers' settlements.”²⁸⁹ Large-scale, structural thinking about the territorial organization of industry and housing was critically needed.

The flood of Sabsovich texts in circulation by the end of 1929 began to paint the picture of socialist space so sorely missing. The texts also gave their readers a clear schedule for when substantive societal changes would be felt: 15 years. The Presidium of the Moscow branch of VARNITSO explained that their decision to publish *Cities of the Future* was driven by the

²⁸⁸ Cooke, "The Town of Socialism," 110.

²⁸⁹ L.M. Sabsovich, *Goroda Budushchego I Organizatsiia Sotsialisticheskogo Byta* (Moskva: Gosudarstvennoe tekhnicheskoe izdatel'stvo, 1929), 9-10. All italics in the following citations are original.

timeliness of the “problem of the city”—it was a topic that demanded the attention not only of the technical intelligentsia, but of the general Soviet public as well.²⁹⁰

Cities of the Future / “The Problem of the City” was the first well-disseminated text to address the issues inherent to socialist settlement. Sabsovich made three main points. First, he asserted that economic, cultural and urban arenas were interdependent. As such, he advocated for serious intellectual debate and proper formulation of the *problem* of the socialist city. Second, he insisted on solely future orientation for all spatial interventions. Third, he argued for decentralization, a process made possible by modern technology.

“The problem of the city is one of the least developed problems of the future growth of our Union,” Sabsovich began—a statement would have been difficult to refute at the end of 1929.²⁹¹ Continuing, he argued that the first Five-Year Plan (ratified three months prior) should have been a plan for economic development *and* for building socialism, and further, that unless the national economy, socialist culture and the city were considered as interdependent spheres of activity, none would succeed. Culture and everyday life (*byt*) were only cursorily addressed in the Plan; as a result the fundamental question of how people and industry should be spatially disposed to inculcate socialist culture remained unformulated. There was a sense of urgency to address the issue, given the tempo of change. If socialism were to be built in 15 years, the socialist development of cities would have to be implemented in the same period, “*for if development of industry, agriculture, and transportation should create the material basis for the possibility of building socialism, the restructuring of our towns and villages should also create conditions for the direct*

²⁹⁰ Ibid., 3.

²⁹¹ Ibid., 11.

implementation of the socialist way of life.”²⁹² In this formulation, the problem of socialist space and the achievements of the general plan were inexorably linked.

The rapid tempo of socialization should not, however, lead Soviet economic and physical planners to fall back on tested urban models. Historical precedent was a specter that needed to be exorcised in any urban interventions going forward. Sabsovich highlighted the pitfalls of building—and Soviet cities were indeed being built—without correctly formulating the problem:

In considering [the problem of the city], our ideas are extremely constrained, and we are prone to design our future using stencils given to us by our past or by contemporary capitalist countries. Such an approach to this problem is totally incorrect. It does not account for the magnificent and unimaginable economic, social, and cultural shifts in our near future. If we want the correct approach to the problem of the city, we must pay much more attention to our future than our past or present.²⁹³

Soviet cities looked and acted a lot like capitalist cities both because they originated as capitalist cities and because, in the absence of theory, Soviet physical planners continued to utilize non-socialist urban precedents. Ivanitskii and other pre-revolutionary trained *gradostroiteli* understood precedent as malleable; their adaptation of outside models was in itself a subtle type of experimental practice. Urban organizational systems that derived from capitalist contexts, like that of the English industrial villages Bournville and Port Sunlight could, in this schema, be used in socialist contexts with appropriate adjustments. Sabsovich’s text proposed an entirely new mode of practice in which planners’ intellectual engagement with the “magnificent and unimaginable economic, social, and cultural shifts” would lead to unforeseen urban forms. His

²⁹² Ibid., 12.

²⁹³ Ibid., 11-12.

was a fundamentally avant-garde philosophy: if planners put on blinders to the past, they could invent spatial forms as unprecedented as the advent of Soviet socialism.

What to do with existing cities and those being built upon old models? They required immediate and “radical restructuring” at the very least, wrote Sabsovich. The dense and centralized modern city was the product of capitalist epoch. It was the hub of industry, trade, transportation, economic power and population concentration; it was the “control center,” for administrative, spiritual and cultural life. It was also the site of inequity and disease. In considering a radical restructuring of the urban condition under socialism, “the first question that we must ask is whether the city will continue to play the same role in the country as it is currently playing.”²⁹⁴ What if instead of allowing economic development to cluster in cities, per the Weberian law of agglomeration, other concerns entered locational decision-making, like the wellbeing of the working class?²⁹⁵ “Enormous overcrowding, living in stone cells cut off from nature—all this ugliness associated with the capitalist system...are we forced to continue to build in this way? This question can easily be answered in the negative: we should not and can not do this!”²⁹⁶

Sabsovich’s main spatial proposal was to “transform NEP Russia into socialist Russia” through decentralization, effectively instantiating Engels’—then Lenin’s—prognosis of diffuse spatial organization under socialism.²⁹⁷ In 1914, Lenin wrote that the socialization of labor would

²⁹⁴ Ibid., 13-15.

²⁹⁵ German economist Alfred Weber’s law of agglomeration states that industry tends to cluster to take advantage of the cheaper production, transportation and marketing costs resulting from concentration. See Claude Ponsard, *History of Spatial Economic Theory* (Berlin: Springer-Verlag, 1983), 27-29.

²⁹⁶ Sabsovich, *Goroda Budushchego I Organizatsiia Sotsialisticheskogo Byta*, 14-15.

²⁹⁷ Ibid., 60.

lead to “redistribution of the human population (thus putting an end both to rural backwardness, isolation and barbarism, and to the unnatural concentration of vast masses of people in big cities).”²⁹⁸ In Sabsovich’s plan, new socialist settlements (*poselenii*), associated with industrial and agricultural complexes, would take the place of existing cities and villages altogether. Technology was the key to enacting this decentralized spatial model:

The condition that will assist us in realizing these objectives, is above all the "victory over the distance" (*pobeda nad rasstoianiem*)...[with] the vast number of large power plants and the possibility to transmit energy over long distances, we can to a large extent free ourselves from the attachment between industry and the fuel base and we will be able to distribute industrial enterprises with much greater territorial freedom, in the interest of placing settlements in the most suitable location for the workers.

In this way, increasing industrial production by several dozen times and enormously increasing and improving means of transportation and communication, we will build new factories, scattering them over a wide area, closer to nature... *In our victory over distance, we will destroy the economic advantages of large cities as industrial and commercial centers...* and the enormous cultural growth of the entire population *will deprive the city of its current monopoly over culture.*²⁹⁹

Finally, with the “victory over distance,” an appropriately revolutionary slogan for socialist spatial practices was coined. What did it mean? First, as Sabsovich explained, conquest of the vastness of Soviet territories was made possible by the continuing eastward expansion of the Soviet electric grid. In citing the emancipatory potential of electric power, Sabsovich tapped into enduring Party enthusiasm for electrification that first emerged in the GOELRO (State Commission for the Electrification of Russia) Plan of 1920, the one utopian project Lenin

²⁹⁸ Vladimir Il'ich Lenin, "Karl Marx: A Brief Biographical Sketch with an Exposition of Marxism," vol. 21, *Collected Works, Moscow, 1974, Volume 21, pp. 43-91*. (Moscow: Progress Publishers, 1974), <https://www.marxists.org/archive/lenin/works/1914/granat/ch04.htm>. Used as the opening epigraph in Sabsovich, *Goroda Budushchego I Organizatsiia Sotsialisticheskogo Byta*.

²⁹⁹ *Goroda Budushchego I Organizatsiia Sotsialisticheskogo Byta*, 15-18.

supported.³⁰⁰ (Figure 4.1) The map for the GOELRO Plan showed blue dots for each existing generation station, each of which radiated light pink circles to indicate service area. The pink circles overlapped and melded together to create contiguous—though still partial—electrified territories. The map cut off at Cheliabinsk (the closest existing city to the future steel plant at Magnitogorsk), however, leaving the entire eastern three-quarters of the Union out of the plan. In addition, while Sabsovich conceded that the general plans for transportation and communications were still incomplete, these infrastructural systems also made dispersed settlement possible. The rails, roads, and telephone/telegraph wires that crisscrossed the geographical expanse of the Union could connect far-flung nodes. Instead of being tethered to sites of fuel extraction or urban rail hubs, settlements could be founded in remote corners of the country, close to nature (and extractable natural resources). The nascent Soviet science of logistics would ensure that the fruits of industrial and agricultural labor could travel where needed.³⁰¹

³⁰⁰ “The revolutionary pathos and Promethean arrogance of this dream [of rapid electrification of the Soviet Union] were put on full display in 1920, when before an assembled audience in the Kremlin, Lenin demonstrated by means of a huge map of the country, studded with bulbs, how electrification would look. During the demonstration, all the electricity in the city of Moscow had to be cut off in order to provide sufficient power for this show.” Richard Stites, *Revolutionary Dreams : Utopian Vision and Experimental Life in the Russian Revolution* (New York: Oxford University Press, 1989), 48.

³⁰¹ Sabsovich’s “victory over distance” seems to have philosophical affiliation with Marx’s “annihilation of space by time,” although the Soviet economist did not cite this concept in his work—and it is difficult to parse how they align with or contradict one another (Sabsovich: socialist space; Marx: capitalist space). The complexity of the Marxist concept is discussed in David Harvey, *The Urban Experience* (Baltimore: The Johns Hopkins University Press, 1985), 179-80. Original citation in Marx: “While capital must on one side strive to tear down every spatial barrier to intercourse, i.e. to exchange, and conquer the whole earth for its market, it strives on the other side to annihilate this space with time, i.e. to reduce to a minimum the time spent in motion from one place to another. The more developed the capital, therefore, the more extensive the market over which it circulates, which forms the spatial orbit of its circulation, the more does it strive simultaneously for an even greater extension of the market and for greater annihilation of space by time...” Karl Marx, *Grundrisse*, trans. Martin Nicolaus (London: Penguin Books in association with New Left Review, 1973), 539.

Cities of the Future refrained from making concrete urbanistic or architectonic proposals. This was because the problem of the socialist city, while undoubtedly “a problem not of tomorrow, but of today,” still needed great development, according to Sabsovich. His choice to remain in the realm of abstraction was wise: as he provided no images to scrutinize, critiques of the material effects of his proposition were suspended. He did begin to make some of the programmatic recommendations that were to elicit harsh criticism in his later book, *Socialist Cities* (*Sotsialisticheskie goroda*, 1930), but all of these were restatements of ideas devised by Kollontai and other early Soviet social theorists. A section on child rearing, for instance, proposed that children live independently from their parents, in “Baby Homes” and “Children’s Cities,” that were better equipped to raise the next generation in proper socialist fashion.³⁰² Communal food preparation, dining, laundry, etc., would also forward the socialization of everyday life.

Sabsovich revealed his interest in Magnitogorsk in a section entitled “New Factories and New Cities.” Large Five-Year Plan show projects like Magnitogorsk, Krivoi Rog, and Dneprostroi, sited by proximity to natural resources, did not have “ready-made villages” to accommodate factory workers. Instead, settlements large and comfortable enough to attract an outside cadre of workers had to be “erected completely from scratch on a practically empty site.”³⁰³ This simplified the design issue—there was no existing urban fabric or village culture with which to contend—but building a truly socialist *byt* required greater cultural amenities, and the Soviet government had to be extremely careful how it spent its limited funds. The majority of capital in the first Five-Year Plan should go to building the industrial complex, Sabsovich

³⁰² “In socialist conditions, in the socialization of education, children will no longer be the ‘property’ of their parents: they are the ‘property’ of the state, which will take over all the tasks and care for the education of children.” Sabsovich, *Goroda Budushchego I Organizatsiia Sotsialisticheskogo Byta*, 37.

³⁰³ *Ibid.*, 52.

stated. But if new factories were built according to the latest foreign technology they would be more efficient, needing fewer—probably half—of the workers currently projected. A fully socialized city would also lose a dependent, a gain a worker, when women’s domestic and childrearing responsibilities were lifted. Therefore, for each working couple willing to relocate to one of these remote, efficient factories, twice the typical housing allowance could be spent to construct the amenities needed to enact a socialist *byt*.³⁰⁴ With this optimistic economic logic, Sabsovich laid the groundwork for Magnitogorsk to become the site of a groundbreaking socialist city.

Not a City, But a New Type of Settlement: Okhitovich and OSA

In the apocryphal tale, a young man entered the Stroikom RSFSR Section for Typification unannounced, and asked to consult with section chief, Moisei Ginzburg. The stranger “drew attention to himself by his extraordinary appearance—he looked like some American-Jules Verne-like character with the clothes he was wearing and the beard beneath his chin.”³⁰⁵ Mikhail Okhitovich, the stranger, was a sociologist at the Marx-Engels Institute who had decided to seek out architectural collaborators for the theory of socialist spatial organization he was formulating. In his job at the Institute—a vast repository of manuscripts, books, pamphlets and ephemera related to socialism and organized labor—Okhitovich discovered anew Engels’ argument that cities inevitably would “wither” under socialism. According to

³⁰⁴ Ibid., 54.

³⁰⁵ Okhitovich, the son of a tsarist bureaucrat, joined the Party in 1917, served in the Red Army from 1918-25, and was expelled from the Party on Trotskyist charges in 1928. When he visited Ginzburg in 1929, he had recently been absolved of those charges. The meeting story, recounted by architect and OSA member Mikhail Barshch in his autobiography, was quoted in S. O. Khan-Magomedov, *Mikhail Okhitovich*, *Tvortsy Avangarda* (Moskva: Russkii avangard, 2009), 37. Okhitovich biographical information from Hugh D. Hudson, "Terror in Soviet Architecture: The Murder of Mikhail Okhitovich," *Slavic Review* 51, no. 3 (1992): 453.

architectural historian Selim Khan-Magomedov, Okhitovich was the first theoretician to bring Engels' argument to its logical conclusion: socialism would result in a rejection of compact settlements altogether.³⁰⁶ In making this logical leap, Okhitovich hurdled over the proposals of his contemporaries—like those in the Sabsovich texts—that held communality as the ultimate goal of socialism. He was instead interested in the potential of socialist space to proffer complete individual freedom. He named his concept “new resettlement” (*novogo rasselenië*), a term that soon became synonymous with the more descriptive label, “disurbanism” (*dezurbanizm*).

In its earliest form, Okhitovich's “new resettlement” theory was predicated on the fact that, under mature socialism, industry would disperse to reach raw materials and energy resources. The electric grid needed to support industry would gradually cast a net over the entire territory, destroying once and for all the need for people and production to cluster in cities. Although they arrived at different morphological conclusions, Okhitovich and Sabsovich agreed that technology was the key to future settlement patterns. “New resettlement” could be so radically diffuse because modern transportation, communications, and electricity systems were indifferent to spatial concentration. Before he entered into discussions with architects, Okhitovich imagined that individual dwelling for “new resettlement” would occur in single-story, light metal, moveable structures connected to national networks along a single road. The expensive centralized sanitary-technical services of the capitalist city would be replaced by small local biological cleaning plants connected to the little metal houses by short plastic piping. The theory of spatial dispersal was original and sound per Marxist ideology; the architectural resolution was naïve. Hence Okhitovich's decision to seek out Ginzburg.

³⁰⁶ Khan-Magomedov, *Mikhail Okhitovich*, 36.

Along with the Vesnin Brothers, whom we encountered in Baku, architect Moisei Ginzburg was one of the founders of OSA, the Association of Contemporary Architects (*Ob"edinenie sovremennykh arkhitektorov*), and a theorist of socialist space in his own right. Under Ginzburg's leadership, OSA concerned itself with the role architecture might play in installation of the *novyi byt*. Internal debates over the appropriate programmatic and spatial constitution of this new social order figured heavily in the first couple of years of publication of OSA's journal, *Contemporary Architecture* (*Sovremennaia arkhitektura*, hereafter *SA*) published from 1926-1930. *SA* was the most prominent Soviet architectural journal in the late 1920s, and also the only architectural journal that published into the first Five-Year Plan.

Ginzburg was firmly in support of architectural communality up until his meeting with Okhitovich. Under his editorship, *SA* held a "Comradely Competition for Communal Housing" in 1927, with the charge to design the so-called *dom-kommuna* or house-commune.³⁰⁷ (Figure 4.2) The eight published competition entries promoted the entire residential complex not as simply an agglomeration of individual units, but as a "social condenser," a collective space in which new social relations might be inculcated. At the same time, the entries capitalized on the designers' control of space, specifically the phenomenological asset of sectional generosity within the tiny footprint of the individual living cell. (Figure 4.3) The promise of the competition entries prompted the Stroikom RSFSR (Building Committee of the Russian Republic) to found a special commission to create standardized unit types. Ginzburg was tapped to head the division, and was assisted by a small group of OSA colleagues. Over a few months in 1928 the group designed

³⁰⁷ The *dom-kommuna* competition was announced in *SA*, no. 5-6 (1926) and the competition entries were published mid-1927. For a discussion of their merits, see A. Pasternak, "Noviye Formy Sovremennogo Zhil'ya," *Sovremennaia Arkhitektura*, no. 4-5 (1927).

six standardized unit types, all of which took the *dom-kommuna* competition entries as points of departure. (Figure 4.4) Six projects that utilized Stroikom units were built, the most notable being the Narkomfin Communal House in Moscow (Figure 4.5)

This background should make clear that the alliance that developed between the architect and sociologist on the proper organization of space under socialism was unlikely, indeed. Ginzburg was leading the state's laboratory for communal unit types; Okhitovich summarily dismissed the *dom-kommuna* as belonging the “prison or workers' barrack” classification.³⁰⁸ While their ideas about form may have differed, Ginzburg and Okhitovich did share a belief in process as a way to reach form—for Ginzburg and OSA this was the functional method and Okhitovich it was the process of disurbanization.³⁰⁹ Discussions between the two proceeded, Ginzburg was won over, and he and the majority of OSA members became staunch advocates of disurbanism.³¹⁰ On Ginzburg's request, Okhitovich expounded his dispersal theory in the essay “Toward the Problem of the City” (*K probleme goroda*), published in *SA*, no. 4, 1929. Okhitovich's own sketch diagrams illustrated this most thorough statement of disurbanist theory.

Okhitovich was a sociologist. He was interested to probe the *social* functions of city, housing and settlement, and was keen to intervene into a discipline—architecture—so primed to effect societal change yet at such great risk of conservatism. His essay ranged widely, but it carried two main themes. First, architects needed to understand that the epochal shift to

³⁰⁸ Khan-Magomedov, *Mikhail Okhitovich*, 39.

³⁰⁹ For a full discussion of OSA's functional method see Cooke, *Russian Avant-Garde Theories of Art, Architecture and the City*.

³¹⁰ The Vesnin brothers never became advocates for disurbanism.

socialism required new methods of design, not just new programs. Second, the concentrated form of the capitalist city was outmoded and inappropriate to socialism. His ultimate proposal, laid out in the final paragraphs, was to enact total decentralization, to allow industry and individuals complete territorial and social freedom.

First: new epoch, new method. Okhitovich claimed that the architect had the potential to play a special role in the construction of socialism, but only if he correctly understood the tasks at hand. Where would he gain this proper outlook? From Marx, of course:

Karl Marx (we are talking about the scientific method of Marxism) is the only preparation needed at present for the architect who is interested in the proper formulation and possible resolution of the problems of today and tomorrow's architecture. Because his 'client' is the common interest; his 'master' today is the proletariat, tomorrow: classless humanity... And so, while even today it is impossible to build without capital (in small letters), in the future it will be impossible to build without *Capital* (with a capital letter).³¹¹

In this, the only Marxist architecture joke that I have ever come across, Okhitovich stressed the importance of reformulating the architect-client relationship to align with the new socialist mode of production. If the architect viewed humanity, writ large, as his client, he would be more apt to consider the social, rather than economic or technical impacts of his design decisions. As a concrete example, Okhitovich cited the contemporary trend in Soviet architecture to set sanitary-technical norms to economize on worker housing. "It appears that houses are built to meet public rather than physiological needs... Six cubic meters [per person]—the bare minimum; ten—better, twenty—wonderful, but ideal? What is ideal is to live in the fresh open air, outside of cubic capacities altogether."³¹² By focusing on technical details, he warned, the

³¹¹ In Russian these terms are also twinned: *kapital* / *Kapital*. M. Okhitovich, "K Probleme Goroda," *Sovremennaiia Arkhitektura*, no. 4 (1929): 131.

³¹² *Ibid.*

designer abdicated responsibility to the future occupant. It was imperative, he continued, to let go of the specialist's mindset if a new architectural epistemology was to be established.

Okhitovich claimed that the capitalist architect (the “architect-specialist”) had no choice but to carry out orders for particular buildings, to repair, to re-plan existing cities. Socialist architects of the coming epoch, on the other hand, could and should “specialize by being non-specialized.”³¹³ This meant that their task was “not to construct buildings, but to ‘construct,’ that is to devise the social relations of production.” An enlightened architect who “constructed” considered how any given structure was linked to the means of production. This required consideration of national systems. “Even individual cabins can be constructed only as a result of the construction of entire industries (automotive engines, buildings and food first). The interior structure of the cabin as a whole will depend on which of these industries are outside of it.”³¹⁴ The socialist architect's duties thus spanned from the intimate to the continental scale, which were inextricably connected.

The dense, centralized city was in Okhitovich's crosshairs. The first two hand-drawn illustrations in the essay indicted the “Historic Concept of the Contemporary City,” and the “Regional-Concentrated Contemporary Capitalist City.” (Figure 4.6) The first was undoubtedly a diagram of Moscow, with its three concentric rings and a “feudal kremlin” at the very center. The second diagram was only slightly modified to include subregions within the concentric structure. The wealthiest citizens lived centrally near the seat of power and institutions and the working class was relegated to the industrial suburbs. In subsequent “decentralization” diagrams, the center is evacuated, and its components—first institutions, then housing—flung to the netherworld beyond the outer ring. (Figure 4.7) “We ask ourselves,” he wrote, “where will we

³¹³ Ibid., 132.

³¹⁴ Ibid., 132-33.

resettle these ‘unloaded’ people and businesses? Answer: not on the basis of clustering, but on the principle of maximum freedom, ease, and the speed of connections and communications.”³¹⁵

In Okhitovich’s vision, the city would empty and its liberated population would move off into the landscape and attach loosely to far-flung industrial enterprises. Again, the key was to understand the whole of the Soviet Union as a productive machine:

The distributive planning of business enterprises must form the possibility to organize assembly line production on the scale of the entire national (then the world) economy...Cultural institutions will be planned and will specialize in relation to the "interests" of the production plan. Service institutions are also included that may not be fixed to a particular place.³¹⁶

His description evoked an image of a massively expanded Fordist assembly line draped over the Eurasian continent (he cited Fordist spatial expansion as a model). In this layered image, the rail, roads, and electric lines of the USSR coincided with Ford’s factory conveyor belts—lines which, in both systems, shuttled increasingly complex assemblies to their final destinations. Okhitovich added cultural institutions to this arrangement that, like the items on the production line, traveled along the same networks to meet the needs of a dispersed working population. One would be hard pressed to call this system city-like. But, anticipating his critics, Okhitovich conceded that his new complex was composed of the same elements as a traditional city, albeit in radically dissipated—not to say planetary—form:

All these linked functions make up a single organizational complex. But the city was also a complex. Having destroyed one form of city, will we not be creating a new city? If you like a quarrel about terminology, let this complex be a city. Let us call it, shall we say, the Red city of the planet of communism.”³¹⁷

³¹⁵ Ibid. Okhitovich claimed that here was simply no need for concentrated settlement, since “the whole world is at our service, transportation first of all.” The autonomous automobile, more than fixed rail, made spatial dispersal possible and desirable.

³¹⁶ Ibid., 134.

³¹⁷ Ibid.

He became more ardent about terminological change in the coming months, jettisoning the “Red city” in favor of “new resettlement.”³¹⁸

The essay’s concluding paragraphs put forward an extraordinarily provocative and original spatial theory. It was here that Okhitovich inserted a definitive separation between his proposal and those of the other discussants in the settlement debate, like Sabsovich, who envisioned new socialist programs organized in fixed architectural vessels. Okhitovich’s proposal did not advocate *form* of any kind, but instead identified an historical *process* that would enact continual shifts in spatial relationships:

If one talks about its essence, then this new complex will be called not a point, a place or a city, *but a process, and this process will be called disurbanization.*

Urbanization is the phenomenon of universal gravitation to production centers, of production centers to each other, of trade centers to production centers, cultural centers to population centers, housing to production, commercial activity to places of work, etc. The farther from the center, the worse the housing conditions.

Disurbanization is the process of centrifugal force and repulsion. It is based on just such a centrifugal tendency in technology...[which] reverses all former assumptions. With disurbanization, proximity is a matter of distance and community is a matter of separation. By eliminating congestion we correct all of its products: queues, crowding, smells, noise, visual overstimulation and other traumatic effects of urban crowding.³¹⁹

In its obsession with process and transformation over time, disurbanism became the most Marxist of all spatial propositions. In the latter diagrams (cited above), the arrows that point away from the urban ring represented the disurban process, that centrifugal force of technology that would spin programs away from the center and from each other. Modern transportation and technology obviated the need for either physical proximity or community. Therefore, future socialist society would be territorially liberated.

³¹⁸ See "Ne Gorod, a Novyi Tip Rasseneniia (Not a City, but a New Type of Settlement)."

³¹⁹ "K Probleme Goroda," 134.

The antagonistic relationship between urbanism and disurbanism—between Sabsovich and Okhitovich—also found its origin in these statements. In Okhitovich’s view, any system that clustered programs, tended toward a center and fostered communality was simply replicating old forms of settlement.

The process to eliminate the contradiction between city and countryside is not the process of urbanizing the village, as some supporters of the socialist city believe, nor is it agrarization of the city...

Neither horizontal (territorial), or vertical (airspace) crowding nor congestion is eternal. They arose out of the centripetal character of capitalism. The theory of socialist cities is a theory of the bourgeois form of socialism, and therefore it is utopian, reactionary.³²⁰

Although he does not mention Sabsovich by name, this comment reveals Okhitovich’s familiarity with the socialist city concept that was suddenly garnering so much press. In allying Sabsovich’s socialist city with Utopian (bourgeois) socialism, Okhitovich threw down the gauntlet.

Okhitovich did not have access to high officialdom like Sabsovich, and thus had more difficulty spreading his views to a larger audience; he commenced speaking and writing engagements where he could find them. On October 1, 1929, he gave a speech at the Cooperative section of the Communist Academy entitled “Socialist Method of Settlement and the Socialist Type of Dwelling,” which elicited three sessions worth of discussion on the implications of his presentation.³²¹ By December parts of, and commentary on, this speech was published in the very official venue of *Ekonomicheskaiia zhizn’* (*Economic Life*), the daily newspaper

³²⁰ Ibid.

³²¹ The discussions on Okhitovich’s ideas at the Cooperative section of the Communist Academy continued over three sessions: October 1 and 31, and November 5, 1929. Khan-Magomedov, *Mikhail Okhitovich*, 83.

of the Council of Labor and Defense (STO), as a kick-off to their regular series on socialist city-building.³²²

Heated debate between the two theorists continued in tit-for-tat essays and articles, but Sabsovich and Okhitovich were soon joined in their efforts to formulate a socialist urban platform by a host of experts who gathered under Gosplan's auspices at a watershed November conference.

The Experts Convene: A Discussion at the Club for Planning Workers

At the beginning of November 1929, with reports streaming in on the poor results of the building season and the 1930 building season looming, a heightened sense of urgency developed within the Party to rationalize planning and construction. On November 4, *Pravda* published an article entitled "Lack of Planning and Anarchy in City Construction," accompanied by a cartoon. The text was an invective that chronicled myriad planning and construction snafus in cities throughout the Union. In Dzerzhinsk, a new workers' settlement built near a factory had to be demolished when it became clear that prevailing winds were blowing harmful chemicals directly into the residential quarter. Also in Dzerzhinsk, it was discovered that the town water supply was located immediately down river from the factory's chemical outfall. In Novorossiisk, a new rail line cut the city center in half, such that the only way for citizens to travel between the two halves was by boat across the harbor. The list of absurd planning mishaps went on. The accompanying cartoon made light of the geographically dispersed examples by crowding them together in a single fictional space of disaster. (Figure 4.8) The actual situation was more tragic

³²² "Problema Sotsialisticheskogo Rasseleniia (the Problem of Socialist Settlement)," *Ekonomicheskaiia zhizn'*, December 5 1929, 3.

than comic—not only for the inhabitants of these and many other poorly planned sites, but also for the state’s fiscal officers. The article’s author noted that, “it is decidedly unhelpful to throw away tens of millions of rubles on schemes that worsen the conditions of the working class,” a clear if mild statement of a systemic planning crisis.³²³

In light of the crisis, Gosplan convened a “discussion” on the problem of the socialist city at the Moscow Club for Planning Workers named after Krzhizhanovskii, held over two sessions on November 26 and 29, 1929. The stated purpose was to “gather together those active in the field, theorists, architects, pedagogues, doctors, political organizers, and participants from all institutions and organizations who, in some way or another, deal directly or indirectly with the question of city building;” to elicit concepts, debate, and ultimately to hash out a general line for socialist physical planning.³²⁴ The list of conference speakers reveals heterogeneity of expertise. In addition to a number of Gosplan representatives, there were participants from Narkomtorg (People's Commissariat for Trade), Narkomzdrav (People's Commissariat for Health), NKPS (People’s Commissariat for Transportation), NKVD (People's Commissariat for Internal Affairs), VSNKh (Supreme Soviet of the National Economy), as well as architects, engineers, an electrical factory worker, and not least, Nadezhda Krupskaja—Lenin’s widow—representing Narkompros (People's Commissariat for Education). Leonid Sabsovich was present as the representative from VSNKh, and he gave a speech on the first day that advocated for full and rapid socialization of life through entirely new types of settlements. Mikhail Okhitovich did not

³²³ B. Rev, "Besplanovost' I Anarkhiia V Stroitel'stve Gorodov," *Pravda*, November 4 1929.

³²⁴ N.A. Paskutskii, "Vstupitel'noe Slovo," in *K Probleme Stroitel'stva Sotsialisticheskogo Goroda*, ed. Gosplan SSSR (Moskva: Izd-vo Planovoe Khoziastvo, 1930), 6. This book, *Toward the Problem of Constructing the Socialist City*, was a transcription of the speeches given at the November conference. It was published at the start of 1930 by the Gosplan press.

participate. Despite the increasing amount of press each theorist was receiving at the time of the conference, the conflict between urbanism and disurbanism was little addressed during the proceedings.³²⁵ Most of the discussion was of a measured and practical bent.

Twenty-one speakers held forth over two days of meeting, each addressing the planning crisis through the lens of a particular area of expertise such as health, transportation, and social reformation. The speeches were typically short and contained few new ideas, but the fact that many inputs to planning were discussed in a common forum was itself a step toward the establishment of a comprehensive Soviet planning platform. As *Pravda* had revealed in numerous reports of mismanagement on specific building sites, lack of coordination between overlapping agencies and organizations—from the state to the local level—was the source of many construction gaffes. Miscommunication plagued the practical/logistics side of socialist city-building, and the same held for socialist urban theory. In his conference speech, Gosplan economist G.V. Puzis noted that by his “rough accounting there are 21-22 institutions working on the questions of the construction of new cities. I have recently had the opportunity to work with six of them. Discussions always begin: ‘we build poorly, without planning, putting houses in the wrong places, incorrectly utilizing the territory, etc.’ All come to the conclusion that it is necessary to build in some other way, to build according to a plan that is agreed upon by all parties concerned with constructing the socialist city.”³²⁶ But that “other way” was left unresolved, feeding more mishaps. At the end of the first day Deputy Chairman of Gosplan,

³²⁵ Strumilin summarily dismissed the urbanism/disurbanism debate in his speech, calling both schemes unnecessarily extreme. Gosplan-SSSR, *K Probleme Stroitel'stva Sotsialisticheskogo Goroda*, 72.

³²⁶ *Ibid.*, 39.

Stanislav Strumilin (and head of the teleological planning camp) agreed that, a year into the first Five-Year Plan, “we are seriously late in posing these questions, Comrades.”³²⁷

The opening paper "Construction of Socialist Cities," by Narkompros architect A. Zelenko, laid out a number of administrative (which is to say non-formal) proposals that subsequent speakers referred to and generally agreed with.³²⁸ To generate a sense of urgency, he stressed that the establishment of a consistent and intelligent city-planning platform was key to the macroeconomic health of the USSR (Zelenko used similar data to that cited by Bessonov in *Planovoe khoziaistvo* a year before). Despite the fact that 1.35 million rubles were spent on residential construction in 1929, and 8 billion would be spent in the following four years, engineers and architects addressing socialist housing were working in a vacuum of “any kind of directive data—they are helpless.”³²⁹ They were helpless on two fronts: they had no guiding principles to drive their design work, and no recourse to stop the chaotic and poor quality housing that was being built nonetheless.

The first order of administrative business was to create Union-wide architectural and planning norms under the direction of Gosplan SSSR. Zelenko’s list of norms ranged in scale, and included the design of industrial and agricultural city types; standard residential buildings for

³²⁷ Ibid., 71.

³²⁸ Because he both opened and closed the conference (with N.A. Paskutskii from Gosplan), Zelenko was likely a key organizer behind the event. Like Ivanitskii and Aleshin (the architect for the KhTZ *sotsgorod* in Chapter 7), Zelenko graduated from the Institute for Civil Engineering St. Petersburg and had a robust Moscow architectural practice before the revolution. During the early Soviet period he worked as an architect at Narkompros (People’s Commissariat for Education) under the leadership of Nadezhda Krupskaiia. Zelenko visited the United States three times—before and after the revolution—and was well acquainted with American architecture and planning precedents. Biographical information from V.U. Zhukov, Associate Professor, St. Petersburg State University of Architecture and Civil Engineering; http://www.spbgasu.ru/Vypusnikam/Stud_Vip_Prep/ZELENKO_Aleksandr_Ustinovich/

³²⁹ A.U. Zelenko, "Stroitel'stvo Sotsialisticheskikh Gorodov," in *K Probleme Stroitel'stva Sotsialisticheskogo Goroda*, ed. Gosplan SSSR (Moskva: Izdatel'stvo "Planovoe Khoziaistvo", 1930), 7-8. This speech was also published as A. Zelenko, "Problema Stroitel'stva Sotsialisticheskikh Gorodov," *Planovoe khoziaistvo*, no. 12 (1929): 16-31.

each of these city types; and temporary housing of a demountable character (space for construction workers, space for workers while permanent housing was being completed). In addition, he proposed that rules be established for the distribution of communal services and for the relationship between green space and built fabric.³³⁰ The second order of business was to widely disseminate these norms as enforceable planning laws. Any project that deviated from the norms would be disallowed or subject to immediate work stoppage.

Zelenko also offered a general indication of what formal and social shapes these types might take. His was the only illustrated paper; the four primitive diagrams that accompanied the talk would exert significant impact on the plan for the socialist city at KhTZ, as discussed in more depth in Chapter 7. In short, Zelenko proposed cities of a linear form that would be strung along a transportation or communication line and organized according to the principles of industrial production. The residential quarter would be made up of repetitive “blocks” or housing combines, each designed to accommodate 2,000-3,000 residents. His typical block diagram showed a symmetrical scheme: the four corners were held by residential clusters (each holding three housing blocks radially disposed). Two blocks connected in the middle to dedicated nursery building, and at the center of the whole composition was a kindergarten shared by all four blocks. Although Sabsovich had refrained to date from giving graphic form to his proposals, the Zelenko scheme nonetheless affirmed both the concentrated density and the terminology of Sabsovich’s socialist city building block, the *zbilkombinat*.

On other issues, particularly childrearing, Zelenko flatly rejected Sabsovich’s more radical *byt*-reforming proposals. In a section entitled, “Where and how will children live?”

³³⁰ Zelenko, "Stroitel'stvo Sotsialisticheskikh Gorodov," 25-26.

Zelenko recommended a robust system of nurseries, kindergartens and schools to support working mothers, but made no recommendation to separate children's and parents living quarters. This restrained approach suited other conference participants like Nadezhda Krupskaja, who advocated transitional societal change instead of rapid cultural overturn, especially where the family was concerned. In her speech Krupskaja asked incredulously, "so we send the children away to special children's homes where they can pick flowers or work in workshops away from society? Neither the children nor the working mothers would agree to this. Children belong in the thick of life. It is important, therefore, that children be close."³³¹ Sabsovich rebutted this direct swipe in his speech, noting that where the constitution of the socialist family was concerned, "Nadezhda Konstantinovna approaches the problem much too bashfully."³³² Sabsovich and Krupskaja represented polar positions, but many opinions were presented over the course of the conference regarding the proper physical and interpersonal relationship of children with their birth parents under socialism. By the end of the conference the question of socialist child-rearing remained unresolved.

To reiterate, the main themes of the Gosplan conference aligned with those outlined in Zelenko's opening paper. Planning of the socialist city must be driven by the needs of industry. Union-wide architecture and planning norms must be set, published, and policed. Standardized types will guide all design decisions at all scales, in all contexts. Local density (block-based housing) will help to economize residential construction. New cities will provide communal servicing to support the socialization of life.

³³¹ Gosplan-SSSR, *K Probleme Stroitel'stva Sotsialisticheskogo Goroda*, 71.

³³² *Ibid.*, 64.

Notably, none of these points was inherently spatial nor did they speak to the relationship between the inherited city and the vast geographic territory of the Union. These were practical administrative steps, immediately implementable planning solutions of a policy bent that steered clear of global theory. Decentralization, dispersal, urbanization, and disurbanization—the concepts that threaded through the writings of Sabsovich and Okhitovich—were all active processes that implied spatial transformation, but they were also abstract and performed at a scale difficult to cognize or act upon.

While actionable spatial proposals were largely absent from the conference, the event as packaged for publication nonetheless gained a distinct positioning: forward. The conference proceedings were published within a couple of months by the Gosplan press under the title *K Probleme Stroitel'stva Sotsialisticheskogo Goroda*, or *Toward the Problem of Constructing the Socialist City*. “K” (toward) implies a bodily and/or intellectual orientation—a distinct lean in the direction of the future or the unknown. It is also possible (though impossible to substantiate) that the book’s editors sought to suggest intellectual allegiance with another forward leaning text well known in Soviet architectural and planning circles: Le Corbusier’s *Vers Une Architecture* from 1923 (a title translated in Russian as *K arkhitekture*).³³³ By the time the socialist settlement debate was in full swing the Paris-based architect had visited the Soviet capital, gained a notable commission (the Centrosiuz building), and exerted even more pointed influence on the Moscow architectural scene through burgeoning friendships with Soviet colleagues. Le Corbusier’s critical commentary

³³³ The first Russian-language review of *Vers Une Architecture* was published in September 1924 in the journal *Pechat' i revoliutsiia* 4, no. 55, and a entire debate on the merits of the book soon followed in *Stroitel'naia promyshlennost*, No. 12, 1924. Cohen, *Le Corbusier and the Mystique of the Ussr: Theories and Projects for Moscow, 1928-1936* 22.

on OSA's disurbanist schemes, and his own plan for Moscow, were a year into the future.³³⁴ In the meantime, and regardless of its provenance, the intention of the conference publication title was clear: the experts on socialist city-building had convened and together they were turning to face the future.

The Debate Goes Public: A Journalistic Fever Pitch

In his closing remarks at the November conference, Gosplan Presidium member N.A. Paskutskii proposed a publicity juggernaut to stimulate a Union-wide discussion on socialist city-building. First, the conference proceedings should be published with haste (as they were, by the Gosplan press). Second, serious public debate should commence with the help of the Soviet press.³³⁵

The response by the press was immediate. *Pravda* reported on the conference after each day of proceedings, and began a regular feature entitled "Socialist City" on the day after the conference closed. In the following month of December, major newspapers like *Pravda*, *Izvestiia*, *Komsomol'skaia Pravda*, *Ekonomicheskaiia Zhizn'*, *Vechernaia Moskva*, and *Za Industrializatsiia* began carrying regular articles devoted to the topic of the socialist city. Architectural and cultural journals *Sovremennaia Arkhitektura*, *Stroitel'stvo Moskvy*, *Literatura i Isskustvo*, and *Revoliutsiia i Kul'tura* opened their 1930 publishing seasons with sections or entire issues on socialist city-building.³³⁶

³³⁴ Ibid., Chapter 6: Response to Moscow and the Origins of the 'Ville Radieuse'.

Gosplan-SSSR, *K Probleme Stroitel'stva Sotsialisticheskogo Goroda*.

³³⁵ *K Probleme Stroitel'stva Sotsialisticheskogo Goroda*, 122.

³³⁶ Meerovich, "Neoffitsial'noe Gradostroitel'stvo: Tainyi Aspekt Sovetskoi Industrializatsii (1928-1932)," 396. *Revoliutsiia i Kul'tura*, 1930, no. 13-14 (whole section on socialist cities).

Here I will focus on the socialist city debate as it unfolded in *Ekonomicheskaiia zhizn'*, the Union-wide daily newspaper of the Council of Labor and Defense (STO), in the month between the Gosplan conference and the publication of the Magnitogorsk competition brief. The purpose of this circumscription is straightforward. We know from the discussion that followed Ivanitskii's presentation in Baku in early 1930 (Chapter 3) that municipal administrators—even in a far-flung republic like Azerbaijan—were following this newspaper's thorough journalistic coverage of the socialist city debate. That *Ekonomicheskaiia zhizn'* took on the issue with such aplomb is not surprising: Gosplan was the permanent advisory subcommittee on economic issues within the STO hierarchy, so the paper was, in effect, Gosplan's main popular publication venue.

Ekonomicheskaiia zhizn' published a review of the conference's first day of speeches, and after the close of the conference commenced a regular series entitled "Toward a Socialist Byt" (*Navstrechu sotsialisticheskomu bytu*). In December alone there were five installments of the series, each with multiple articles that addressed many facets of the socialist urbanism debate. Unlike *Pravda*, which buried articles on the socialist city in its back pages, *Ekonomicheskaiia zhizn'* placed the debate up front, on page 2 or 3.

What is remarkable about this regular series is the degree to which it left the question of socialist settlement open for debate. Two of the series' installments commenced with the same neutral title: "New cities, settlement and housing: Materials for the discussion. Practice and experience sharing."³³⁷ The polemical positions on Soviet city-building arose not from the paper's editors directly, but from the wide-ranging experts selected to weigh in on the topic.

³³⁷ *Ekonomicheskaiia zhizn'*, 7 December 1929, No. 282 (3303), 3; 20 December 1929, No. 293 (3314), 3. ["Toward a socialist byt" series]

Non-experts were also invited to the discussion. The People's Commissariat of the Workers' and Peasants' Inspectorate (NK RKI) established a special commission on the question of socialist *byt*, the paper reported, that would consist of nine subcommittees: cooperative services; residential construction; standardization, new businesses types; children's *byt*; recreation; professionalization; finance; education and consultation.³³⁸ An open call for ideas—communicated with enthusiasm in bold caps—was published the day following this announcement:

SHARE YOUR EXPERIENCE, YOUR PROJECTS, AND PROPOSALS
ON ALL QUESTIONS RELATED TO THE ORGANIZATION OF
SOCIALIST BYT. TELL US ABOUT ALL OF YOUR PRACTICAL ATTEMPTS
AND ACHIEVEMENTS IN THIS REALM, DOWN TO EVERYDAY
TRIFLES.

THE PAGES OF EKONOMICHESKAIA ZHIZN' WILL BE OPEN
FOR PERMANENT COVERAGE OF THESE QUESTIONS. WRITE TO
EKONOMICHESKAIA ZHIZN', COMMUNICATE YOUR PROPOSALS
AND WISHES.³³⁹

The call ended with a promise that the NK RKI Commission on Socialist *byt* would use the material in its practical work to develop official recommendations. Whether or not they succeeded in collating worker comments, the energy that went into separating and giving name to the nine subcommittees set up by the NK RKI gives us a decent map of the complexity and depth of the *byt* question.

In the December pages of *Ekonomicheskaiia zhizn'* theoretical-architectural alliances finally crystallized in the public eye. The architects asked to participate in the debate included Aleksandr

³³⁸ "Komissiiia Po Bytu Pri Nk Rki Pristupila K Rabote (Commission on Byt' under the People's Commissariat of the Workers' and Peasants' Inspectorate Has Begun Work)," *Ekonomicheskaiia zhizn'*, December 7 1929.

³³⁹ Commission on the Question of Socialist *byt* under NK RKI and the Editors of *Ekonomicheskaiia zhizn'*, "Sotsialisticheskaiia Peredelka Byta - Real'naia Problema Segodniashnego Dnia (Socialist Alteration of Byt - a Real Problem of Today)," *ibid.*

Vesnin and Moisei Ginzburg who, despite co-editorship at *SA*, found themselves on opposing sides.

Aleksandr and Viktor Vesnin's article "The prerequisites for the construction of new cities" stressed the need "first to resolve the general questions of the organization of *byt* – only then can we plan cities."³⁴⁰ They were particularly concerned that socialist familial structure was not resolved, which made housing typologies impossible to design. The Vesnin proposals, as they were, chose to hew to Sabsovich's recommendations. By this time Sabsovich's views were well known to those following the socialist city debate. His only contribution to *Ekonomicheskaiia zhizn'*'s "Toward a Socialist *Byt*" series was a scathing takedown of Okhitovich. In his article "Rabid petty bourgeois' or the automotive company salesman," Sabsovich attacked what he saw as the disurbanist's reliance on automotive transport and his vision of solo living. "Okhitovich does not understand 'our conditions,' the country's conditions, that are to be reconstructed along socialist lines. But he does know (and is this good?) trends in urban development in capitalist countries, many of which he describes in his reports, and from which he derives his 'decentralized' settlement and his 'automobile' socialism."³⁴¹ As previous sections have stressed, Sabsovich advocated rapid and significant transformation of the Soviet built environment during the first Five-Year Plan, and believed that new settlements should be designed to instill socialist habits. His social proposals—like full state assumption of child-rearing—were controversial. But at the core of Sabsovich's urbanism was extreme communality, and he just could not square individualism with socialism, as Okhitovich was attempting to do. The Vesnins, ideologically

³⁴⁰ V.A. and A.A. Vesnin, "Predposylki Stroitel'stva Novykh Gorodov (Prerequisites for the Construction of New Cities)," *ibid.*, December 6, 2.

³⁴¹ L. Sabsovich, "'Vzbesivshiisia Melkii Burzhua' Ili Kommivoiazher Avtomobil'noi Firmy," *ibid.*, December 20.

aligned with Sabsovich, called for new population-limited settlements of 20,000-50,000 residents in which workers would be housed in residential combines made up of house-communes, because “collectivization of *byt* is possible only when large numbers of people live together and are able to create regular social connections.” Though their text in *Ekonomicheskaiia zbirn'* was not illustrated, their housing combine designs for Stalingrad later served as illustrations for Sabsovich’s book *Socialist Cities*, published in 1930. (Figure 4.9)

Moisei Ginzburg, on the other hand, allied himself with Okhitovich; articles by both authors appeared on the same page. The “Toward a Socialist *Byt*” series gave Okhitovich his first opportunity to spread the disurbanist vision to a Union-wide audience. Okhitovich’s October speech to the Cooperative Section of the Communist Academy was summarized (if not endorsed) in the first installment of the series. He soon followed up with an article entitled “Not a city, but a new type of settlement,” that took aim at Sabsovich:

The difficulty with the problems of settlement and housing in our time is the result of a few people trying to resolve them in an overly simple manner. Instead of destroying the contradiction between village and city (K. Marx), they suggest that we place a *city* of industry and a *city* of agriculture; in place of *new resettlement* to destroy village life and urban congestion (Lenin) insert *old* settlement—of an urban type. The second part of the problem is just as simplistically understood—the type of dwelling.

It is for some reason believed that under socialism this type will be the house-commune (*dom-kommuna*). Why?

The *dom-kommuna* - again, it is only a *new name* for an old thing...

Socialist resettlement, the only one possible, will put an end to the idiocy and barbarity of rural life. The means to make this happen is the automobile and not the “socialist” crush proposed by L. Sabsovich.³⁴²

Whereas in earlier texts (like “Toward the Problem of the City” published in *SA* in April) Okhitovich was not concerned with “terminological quarrels,” by the end of the 1929 terminology had become a cudgel to use against Sabsovich. The moniker “socialist city”

³⁴² M. Okhitovich, "Ne Gorod, a Novyi Tip Rasseneniia," *ibid.*, December 7, 3. Original italics.

(*sotsialisticheskii gorod, or sotsgorod*), Sabsovich's invention, pointed right back to the same congested agglomeration that characterized capitalist cities, Okhitovich claimed. The dense house-commune, furthermore, was a housing form destined in its crush of residents to instill the same everyday habits that traditional crowded urban dwellings had done. What form of settlement and housing was most appropriate to socialism, then? He continued,

In place of urban congestion, urban clusters, urban concentration of people, buildings, we will have non-urban, *decentralized* resettlement. In place of the forced proximity of people in an urban setting—the maximum distance of dwellings from each other should be based on auto transportation. In place of a separate room for each worker create *a separate structure*.

Okhitovich envisioned light single-person structures arranged along roads traversed by automobiles (this was the article that caused Sabsovich to shoot back with such venom).

Parroting Okhitovich's recommendations, Ginzburg advocated the decentralization of large cities and new settlement composed of small, non-monumental, portable structures strung along lines of transportation.³⁴³ Slightly confusing the architectural implications of his proposal were the illustrations of "Western European projects for planning the city of the future" around which his article wrapped (Ginzburg did not refer to them in his text). (Figure 4.10) Two perspectives from Le Corbusier's *Ville Contemporaine* (1923) showed the mid-rise residential quarter and the highway leading into the city's high-rise business core. Since the images appeared without commentary, it is difficult to know what the editors meant by including them. The wide highway in Le Corbusier's drawings might have called to mind the disurbanists' linear organizing element, but the office skyscrapers in the distance certainly did not align with their architectural call for population dispersal. The drawings may well have indicated how *not* to build.

³⁴³ M. Ia. Ginzburg, "Sotsialisticheskoe Rasselenie: Detsentralizatsiia Krupneishikh Gorodov (Socialist Settlement: Decentralization of Large Cities)," *ibid.*

Magnitogorsk at the Center of the Debate

Magnitogorsk appeared in *Ekonomicheskaiia zhizn'* mid-December, in collection of articles entitled, "How we build new cities." A single page bundled pieces on Stalingrad, where a Ford tractor factory was under construction, Magnitogorsk, and Nizhnii Novgorod, the future site of a Ford automobile factory. Magnitogorsk sat in the middle of this trio, both temporally and conceptually. Stalingrad was nearing completion, and Nizhnii was months into the future.³⁴⁴ Magnitogorsk floated in a paradoxical state of concrete uncertainty. The non-authored article was a tickertape-like accounting of the specific elements to be installed in the socialist city adjacent to the Iron and Steel Works, complete with price tags for each.³⁴⁵ Magnitogorsk would be composed of a variety of commune types in which each adult would be allocated 7-10 square meters of living space in a centrally heated building with modern water and sewer (38-40 million rubles for housing, 6.5 for plumbing infrastructure). Common services would include canteens, workers' clubs, libraries, and reading rooms. Although the schooling system for school-aged children was unresolved, a proposal to construct boarding schools had been floated and was under consideration (a 9 million ruble budget for school infrastructure was expected). Each house-commune would have a dedicated round-the-clock nursery, and services would be provided to relieve women from housework. These specific details and budgets indicated that

³⁴⁴ Groundbreaking for the Stalingrad "Avtostroii" factory took place in June 12, 1926, although the project long stalled and did not begin producing tractors until late spring 1930. Kurt Stephen Schultz, "The American Factor in Soviet Industrialization: Fordism and the First Five-Year Plan, 1928-1932" (The Ohio State University, 1992), 100-06. The construction of the socialist city at Nizhnii Novgorod had siting and design problems similar to those that plagued Magnitogorsk. Groundbreaking for this project occurred on April 11, 1930. Lewis H. Siegelbaum, *Cars for Comrades: The Life of the Soviet Automobile* (Ithaca: Cornell University Press, 2008), Chapter 2: GAZ, Nizhnii Novgorod-Gorkii-Nizhnii Novgorod. Additional information on this project can be found in DeHaan, *Stalinist City Planning: Professionals, Performance, and Power*; Richard Cartwright Austin, *Building Utopia: Erecting Russia's First Modern City, 1930* (Kent, Ohio: Kent State University Press, 2004).

³⁴⁵ "How Magnitogorsk Will Be Built (Kak Budet Postroen Magnitogorsk)", *Ekonomicheskaiia zhizn'*, December 15 1929, 2.

the program for the workers' residential area was set, but the article abruptly concluded with no indication of groundbreaking or completion date.

Magnitogorsk's specificity was the result of blowback from a failed schematic city plan designed in the fall of 1929 at Gosproekt under the leadership of architect S. Chernyshev.³⁴⁶ The scheme presented to the Sovnarkom at the end of October showed a two-phase plan made up of a temporary settlement (and the future municipal administrative center of the city) and a permanent city that included the factory, factory administration and worker housing. Housing came in two main variants: 4-story buildings that lined streets (hitting a density of 300 people/hectare), and small cottages at the city's periphery (50 people/hectare). Wide boulevards connected the two city sections. Chernyshev made clear in his accompanying report that the central difficulty with planning the city was the constantly changing population target: 20,000, then 50,000, 60,000, and finally 70,000 residents.³⁴⁷

Nikolai Miliutin, former Commissar of the People's Commissariat for Finance (Narkomfin) and member of the Lesser Sovnarkom (*malyi sovnarkom*), immediately took umbrage with the Magnitogorsk schematic plan, which he viewed as unforgivably traditional and petty-bourgeois. Writing from his position as Chair of the State Commission on the Construction of Socialist Cities (*pravitel'stvennoi kommissii po stroitel'stvu sotsgorosdov*), Miliutin wrote a withering

³⁴⁶ Gosproekt was a factory design bureau within the VSNKh RSFSR, set up in August 1928. Chernyshev would go on to become the Chief Architect of the city of Moscow from 1934-41, and one of the primary authors of the 1935 General Plan for Moscow. I.A. Kazus', *Sovetskaia Arkhitektura 1920-X Godov: Organizatsiia Proektirovaniia* (Moskva: Progress-Traditsiia, 2009), 227.

³⁴⁷ The population stipulated in the 1929/30 competition was 50,000 residents. See Chapter 5. Konyseva and Meerovich, *Ernst Mai: Proektirovanie Sotsgorosdov V Gody Perykh Piatiletok (Na Primere Magnitogorska)*, 29.

critique in *Izvestiia* a few days after seeing Chernyshev's scheme.³⁴⁸ The perceived offenses of the design are best conveyed in Miliutin's own words:

We really have not fully posed the question about the social character of the construction of our cities, of soviet urbanism. As a result we are witnessing a phenomenon that should be inconceivable under the dictatorship of the proletariat: in our new construction we are following the worst traditions of the last century. *The construction of our cities (including new ones) is completely saturated with the spirit of the petty-bourgeois, and emerges from their vulgar byt.* There is not even a hint of a new social order ... We can and we must sweep away and obliterate the concept of home ownership, we can and we must build on the basis of social order, we must demand from our housing and public works binding decisions on the tasks of organizing the new socialist way of life... *To the new generation we must provide new houses...*

On October 23 the Sovnarkom RSFSR listened to an informational report "On the progress of the construction of Magnitogorsk." *The authors correctly set the tasks of the plan, but could not solve them.* Complete services were planned for the convenience of the new city's population, including nurseries, schools, hospital care, kindergartens, factory kitchens, etc. The social order was given. But how was it solved? Yes, the old way. The workers' village was made up of a group of houses and cottages with kitchenettes and small flats, half of which face north... The calculation of population was taken from typical capitalist relations... with "overhead" consisting of the wife and children. In other words, one person engaged in productive labor shall feed three dependents, half of which are able-bodied.

Where is the organization of a socialist way of life? Where is the hygienic location of dwellings? Where is the emancipation of women? Where is even a hint of the public education of children? In Magnitogorsk—the first purely Soviet city in the USSR, we are not bound by the past. We must demonstrate to the world the will of the proletariat to build a new collective life!

Now, before it is too late, we must definitively redesign this plan...

We must break with the past. We must fight back every conciliatory move backward, including in our everyday life.

We must build our new world.³⁴⁹

Miliutin made two critical points in his diatribe, starting with the assertion that demographic accounting is at the heart of urban design. As long as the population projections for Magnitogorsk were based upon a traditional nuclear family unit, architectural solutions would tend toward larger traditional unit types, whether communal servicing was provided or not. In

³⁴⁸ He held the position of Chair of the State Commission on the Construction of Socialist Cities in 1929 alone. Dmitrii and Miliutina Khmel'nitskii, Ekaterina, *Arkhitektori Nikolai Miliutin* (Moskva: Novoe Literaturnoe Obozrenie, 2013), 497.

³⁴⁹ N. Miliutin, "Bor'ba Za Novyi Byt I Sovetskii Urbanizm (Fight for the New Way of Life and Soviet Urbanism)," *Izvestiia*, October 29 1929. Original italics.

addition, he noted that novel program is not enough to overcome poverty of architectural imagination. Even when the planning team for Magnitogorsk was working with the correct programmatic building blocks—from communal nurseries to factory kitchens—they fell back on traditional forms. As the client for the Narkomfin building, Moscow’s most celebrated Constructivist house-commune, Miliutin wrote with first-hand knowledge about the architectonic potential of a fully socialized *byt*. If Magnitogorsk was to be the project that exemplified a new world order, forward thinking, inventive architects (like the Milinis-Ginzburg team at Narkomfin) had to be running the show.

The October scuffle over the correct form and programs for the socialist settlement of Magnitogorsk may well have prompted Gosplan’s November conference. It certainly alerted the Sovnarkom to the seriousness of the problem. Miliutin’s critique had its desired effect, for two weeks later, on November 12, the Sovnarkom issued a corrective decree on the construction of Magnitogorsk. The decree stipulated that Magnitogorsk should be a “purely proletarian city, fully linked with the work of the Magnitogorsk plant...a significant experiment in constructing the new type of city, which will provide maximal socialization of *byt* to the degree possible during this transitional period.”³⁵⁰ It went on to prescribe the same programs reported in the *Ekonomicheskaiia zhizn’* article a month later, with enough detail to provide direction to architects of the future city. For instance, the communal services and cultural programs were to be placed in the center of the city with close ties to the residential buildings. Children of all ages would be accommodated in a “special children’s city” (*spetsial’nyi detskii gorod*), made up of nurseries

³⁵⁰ “Iz postanovleniia Sovnarkoma RSFSR o stroitel'stve Magnitogorskogo kombinata i g. Magnitogorsk” (November 11, 1929). Oblastnoi ispolnitel'nyi komitet. Arkhivnyi otdel Cheliabinsk, *Iz Istorii Magnitogorskogo Metallurgicheskogo Kombinata I Goroda Magnitogorska, 1929-1941 Gg.; Sbornik Dokumentov I Materialov*. (Cheliabinskaia oblast' (Russia): Iuzhno-Ural'skoe knizhnoe izd-vo, 1965), 219. Also: "Sotsialisticheskie Goroda V Sovnarkome Rsfpr" (Socialist Cities in the Sovnarkom Rsfpr)," *Pravda*, November 12 1929, 6.

through boarding schools. Interiors would be designed to provide ample sunlight as well as sanitary technology. Finally, in designing the buildings, full account was to be taken “to utilize all achievements of advanced modern architecture—in particular, the work of the Stroikom RSFSR.”³⁵¹ Miliutin’s direct influence on the language of this official pronouncement comes in this final stipulation. His friend, Ginzburg, was at the time the head of Stroikom RSFSR’s special commission to create standardized residential unit types. The efficient, spare, modern architectural forms that the commission devised would be the building blocks for the most prominent new socialist city in the Union: Magnitogorsk.

* * *

The *Ekonomicheskaia zhizn'* articles devoted to the problem of the socialist city-building in December 1929, the most intense month of discussion on the topic, laid out a range of possible programs and forms, but two common arguments emerged. First, all authors agreed that first Five-Year Plan construction projects had a dual role to reform social habits—install socialist *byt*—at the same time that they established the Soviet industrial complex. Second, the authors agreed that old style (prerevolutionary, petty-bourgeois, Western) and uncoordinated city-building efforts stood in the way of affecting these necessary societal changes. There was no consensus on the urban or architectonic *form* of this new socialist settlement. A definitive answer—a stated official position, or general line on the correct shape of socialist urbanism—was not reached.

It should not be surprising that a strict Party line on the correct constitution of socialist space was unformed at the end of 1929. The topic was still in its infancy. Only in July of that

³⁵¹ *Iz Istorii Magnitogorskogo Metallurgicheskogo Kombinata I Goroda Magnitogorska, 1929-1941 Gg.; Sbornik Dokumentov I Materialov*, 220.

year did Sabsovich grab the attention of the economic planning community with his essay “The Problem of the City” in *Planovoe khoziaistvo*. And still months passed before socialist urbanism was deemed an issue worthy of widespread concern. The Gosplan conference, held at the very end of November, was the first time socialist settlement was put under the microscope.

The twelve-year delay in addressing the relationships between the socialist economy, ideology, and space can be chalked up to economics rather than ideology. The shift from fiscally conservative genetic planning to aspirational teleological planning at the start of the first Five-Year Plan suddenly made massive capital construction projects possible: 12 billion rubles were to be spent on building the Soviet industrial complex in the period from 1928-33. But what exactly was to be built with that money, what would those industrial and residential installations look like, and how would they cause people to act? The questions had not been posed because so little had been built since the revolution. There can be no doubt that the Union-wide discussion about the problem of socialist space that led up to the Magnitogorsk design competition was prompted by the abysmal reports coming back from construction sites around the USSR. The unfortunate city of Dzerzhinsk, subject of innumerable satirical cartoons that highlighted its planning snafus, became a cautionary tale. Unless socialist building precepts, forms, and laws were established immediately, the second building season of the first Five-Year Plan was destined to produce more Dzerzhinsk.

PART II: MAGNITOGORSK: Toward the Problem of Socialist Space (1929-30)

CHAPTER 5. Competition, Visions, and Facts on the Ground

At a recent meeting on the construction of Magnitogorsk at Stroikom RSFSR the workers of Magnitogorsk asked: was possible to undertake experimental construction not at Magnitogorsk but at some other site? It turned out that arguments about the plan had completely stopped construction, there was nothing they could do about it, and come next year there simply wouldn't be room enough for everyone. If you asked why this was happening you would receive the following answer: because each person carries into Magnitogorsk his own new project for the socialist city expecting the concretization of it at the current moment, and each chooses not to see that the resolution of that question is impossible.³⁵²

— G.V. Puzis, Gosplan, 1929

Gosplan economist G. V. Puzis was sent to Magnitogorsk in the second half of 1929 to rework the economic plan for the city. In his speech at the November conference on socialist settlement, Puzis described the chaos and confusion he encountered on the Ural steppe. Magnitogorsk, he reflected, seemed weighed down with too many irreconcilable ambitions. Disagreements about conceptual Magnitogorsk—the “experimental” socialist city being shaped through debate by theorists like Sabsovich and Okhitovich—only served to worsen conditions on the ground in material Magnitogorsk. Indeed, while in Moscow the brief for the most important design competition of the first Five-Year Plan was being redrafted and prepared for an end-of-December release, construction workers for the future steel city and their families were living in dugouts, tents, yurts, and single-room barracks.

³⁵² Puzis became a strong advocate of disurbanism. In 1930, he joined Barshch, Ginzburg and others in work at the newly founded Section for Socialist Settlement in the Construction Department at Gosplan RSFSR. Gosplan-SSSR, *K Probleme Stroitel'stva Sotsialisticheskogo Goroda*, 39.

The All-Union Open Design Competition, announced on December 22, elicited proposals for the design and construction of the socialist city of Magnitogorsk, adjacent to the metallurgical plant in the Urals, and for typical residential communes. The brief was exhaustively detailed and very clear: entries were to align with “urbanist” precepts of socialist settlement. The competition entries would test the possibilities of *byt* transformation in urban and architectonic form and would materialize the programs and relationships discussed in the socialist urbanism debate. Finally, there would be images of the highly anticipated “new world” to examine, to assess, to critique or embrace.

Looking closely at the founding of Magnitogorsk requires acknowledging that this historical moment has been investigated closely before. A second look might seem unnecessary in the face of the archival depth and scholarly importance of Stephen Kotkin’s *Magnetic Mountain*, a book that located the establishment of everyday Stalinist culture in this single site by remaining close to the ground. Kotkin’s chapter that touches on the design and construction of Magnitogorsk, “The Idiocy of Urban Life,” brings forward a litany of details that emphasize the incompetence of the planners entrusted to bring the socialist city to life. The “planners” to which he refers repeatedly in the text are left unqualified, however, prompting the question whether, in his view, the failure to construct a visionary Magnitogorsk was the result of poor economic or spatial decisions—or both. From the previous chapter it should be clear that Magnitogorsk was at the very center of the socialist urbanism debates which drew in economic and physical planners alike; it would be foolhardy *not* to investigate this site again—this time as ground zero in the fight to define a consistent socialist spatial platform.

This chapter examines the architectural, social, and urban design implications of Magnitogorsk’s origin story. It investigates the Union-wide design competition, the links between the competition brief and the debates roiling in Moscow on the proper constitution of

socialist urbanism, and the aftermath of that competition. It relies upon close reading of the language of the brief, the entries that emerged from it, and the continuing conflict between conceptual and actual Magnitogorsk.

Although it was the sole reason for the site's development, the Iron and Steel Works is in the background of this particular story. The focus here is on the design of the socialist city, workers' accommodations, and everyday life as they developed from the arrival of the first settlers in March 1929, to the completion of the first proper "socialist settlement" buildings in 1932.

Facts on the Ground

Magnitogorsk was born in 1918. In April of that year VSNKh announced a competition to design a metallurgic plant in the Urals modeled on the U.S. Steel Plant in Gary, Indiana. This mythic plant would produce "all of the steel that Russia might need."³⁵³ Although it is unclear whether the competition ever occurred—the Russian Civil War began and further information has been lost—the giant iron-ore mountain and the territory surrounding it nevertheless became lodged in Soviet state imagination as critical to autarkic industrial goals. Work on the Magnitogorsk Iron and Steel Works restarted in 1926, with the establishment of a State Institute for the Design of Metallurgical Factories (Gipromez), but lack of internal technical expertise hamstrung the project from its inception.³⁵⁴ In 1927, VSNKh engaged the Chicago-based design-engineering firm Henry Freyn and Co.—the company responsible for designing the Gary plant

³⁵³ V.S. and V.V. Khoroshanskii Fedosikhin, *Magnitogorsk—Klassika Sovetskoi Sotsialisticheskoi Arkhitektury 1918-1991* (Magnitogorsk: Magnitogorskii Gosudarstvennyi Tekhnicheskii Universitet, 1999), 24.

³⁵⁴ Kotkin, *Magnetic Mountain : Stalinism as a Civilization*, 37.

that the Magnitogorsk plant strove to emulate—as technical consultants for the burgeoning Soviet metallurgical industry.³⁵⁵ Design work on Magnitogorsk commenced in the Leningrad office of Gipromez with the assistance of Freyn engineers, while a parallel effort continued at the Urals branch of Gipromez (this office would soon be renamed “Magnitostroi”).

The site for the future factory city was determined by a geological anomaly: a mountain made almost entirely of iron-ore that sat alone in the middle of the steppe. As it developed, unplanned, the production zone for the Magnitogorsk Iron and Steel Works consisted of the mountain, a mine to its immediate north, the factory site to the west of the mine, a rail yard nestled between mine and factory, and an industrial lake along the whole western edge, created by damming the Ural River at the city’s southern border. Rail lines marked the city’s northern edge, heading west to Ufa, east to Kartaly. In the absence of planning, workers’ residential accommodations—such as they were—sprung up within the production zone, in a slice of land between the mine and factory territory. (Figure 5.1)

In March 1929, the first 25 people arrived in Magnitogorsk. Through that year, the only activity at the site consisted of laying track to connect with the nearest rail station, 145 kilometers away, and constructing a small brick factory. By the end of 1929 there were purportedly 6,763 workers on the factory site, a number does not account for their family members or people not working in construction.³⁵⁶ Magnitogorsk at the turn of the decade was a site of extremes, in which the openness of the windswept steppe contrasted unfavorably with crowded, poorly built living quarters. Workers and their families who were either enticed or

³⁵⁵ Henry Freyn and Co. first arrived in the USSR provide technical assistance in reconstructing existing plants, as well as new plants like the Kuznetz Iron and Steel Plant. Their involvement with Magnitogorsk began only in 1928. Sutton, *Western Technology and Soviet Economic Development 1917 to 1930*, 1, 74.

³⁵⁶ Fedosikhin, *Magnitogorsk—Klassika Sovetskoi Sotsialisticheskoi Arkhitektury 1918-1991*, 40.

forced to make the long trip to the future construction site arrived only to find that there were no proper living quarters, a problem that intensified with a growing population.³⁵⁷ Photographs show the housing options that were made available to this population, or that were simply built by the workers themselves. For families, the most private option was a stand-alone “dugout” house, constructed from turf harvested on the steppe. For singles, the administration pitched a tent city and built a handful of wooden barracks. (Figures 5.2 – 5.3)

The designers of the Iron and Steel Works encountered difficulties that prefigured those faced by the designers of the socialist settlement. Neither the Leningrad nor Ural offices of Giprometz could keep up with the shifting production goals that, with each revision, changed the scale of the plant they were tasked to design. In its first 1928 iteration, the future Magnitogorsk Works was projected to produce 656,000 tons of pig iron. Over the next year and a half, the target was raised from 1.1 million, to 1.6 million, and finally 2.5 million tons by the start of 1930, a number that amounted to a fourfold increase.³⁵⁸ After two years in the Soviet Union the Freyn engineers produced a 700-page report filled with charts and graphs that was intended as a roadmap to the project. Drawings from which to construct the plant were notably absent. In hopes of fast-tracking construction, the Soviet government reformulated their foreign assistance contract from consultancy to concession. The Cleveland engineering firm Arthur McKee and Co. won the bid to become both designer and part owner of the Magnitogorsk Works in March 1930, and arrived on site in early summer.

³⁵⁷ Kotkin’s chapter “Peopling a Shock Construction Site” outlines the various means by which Magnitogorsk was populated. The technical elite, higher administrators, and foreign experts were “mobilized,” or ordered to the site by the Party; regular workers were recruited with promises of good pay; and kulaks, among other undesirable class categories, were deported there forcibly. Kotkin, *Magnetic Mountain : Stalinism as a Civilization*, 81.

³⁵⁸ *Ibid.*, 40.

(Re)drafting the Magnitogorsk Competition Brief

Messy conditions on the ground in Magnitogorsk had no bearing on the design competition brief undergoing a full overhaul in December 1929. In reaction to Miliutin's critique on Chernyshev's schematic plan for Magnitogorsk, and the socialist settlement debate that was playing out at the Gosplan conference and in Union-wide newspapers, competition organizers had no choice but to craft a brief that channeled prevailing urban trends. The drafters of the new brief had the benefit of clear direction from Sovnarkom's November decree, which stated that Magnitogorsk was to be a "purely proletarian city," and a "significant experiment in constructing the new type of city."³⁵⁹ The decree held six specific mandates: all services and cultural programs would be communalized; child-rearing would be state run; medical services would be fully provided; the most modern sanitary-technical systems would be used; population estimates for the settlement would account for all people of working age; and buildings would be designed according to modern architectural standards. While these stipulations provided general guidance, the brief needed to be an extremely specific and quantitatively rich document if competition organizers expected to elicit quality entries. A lot of work remained to be done.

Gosproekt Magnitostroi sent around their version of the brief on December 10, asking key organizations to review and approve the document for public release within the week.³⁶⁰ Three days later a strong response issued from the NKVD's General Administration of Communal Services (GUKh) that copied Stroikom representative Okhitovich among others. In

³⁵⁹ "Iz postanovleniia Sovnarkoma RSFSR o stroitel'stve Magnitogorskogo kombinata i g. Magnitogorsk" (November 11, 1929). Cheliabinsk, *Iz Istorii Magnitogorskogo Metallurgicheskogo Kombinata I Goroda Magnitogorsk, 1929-1941 Gg.; Sbornik Dokumentov I Materialov.*, 219-20.

³⁶⁰ The competition draft in the archive was sent to the Central Organization of Trade Unions (VTsSPS), although the follow-up discussions imply that it was sent to a number of relevant organizations. *Gosudarstvennyi arkhiv rossiskoi federatsii* [State Archive of the Russian Federation, GARF], f. 5451, o. 13, d. 225, l. 1.

short, the Magnitostroi version of the brief was unacceptable, although the problems with the text were not explicitly named. In turn, the NKVD sent their own version of the brief—which, as they noted, aligned with Sovnarkom’s November decree—to “all concerned agencies,” requesting feedback on the revised document. Finalization of the brief was to occur in an interdepartmental meeting scheduled for December 17, just four days hence.³⁶¹

This internal skirmish over the text of the Magnitogorsk competition brief mirrors the wider public debate regarding the future of socialist urbanism playing out in *Ekonomicheskaiia zhizn'*. The Magnitogorsk competition was to be the gladiatorial ring in which the ideologies and forms of socialist urbanism would be battled out. The textual framework—the instruction manual for the design—had to be very carefully written. Although the NKVD document did not spell out the issues taken with the Magnitostroi brief, armed with the two copies, it is possible to detect the offending details through their absence in the final published version. The first problem was the title. The original drafters referred to the project as a *gorod-poselok*, a strange, equivocal term that translates roughly as “city-village,” or “city-settlement.” Either way, the term could find no support in either urbanist or disurbanist camps. Terminological disagreement must have been heated: NKVD noted in its memo that it would, “mark the statement by the representative of the RSFSR Stroikom Comrade OKHITOVICH and representative of Magnitostroi Comrade ASVADUROV that along with the announcement of the contest, we will also request a schematic plan for two separate options: 1) socialist city (*sotsialisticheskii gorod*) and 2) socialist settlement (*sotsialisticheskoe rasselenie*).”³⁶² In other words, the NKVD promised to accommodate the preoccupations of both parties by eliciting competition entries that aligned

³⁶¹ GARF, f. 5451, o. 13, d. 225, l. 16.

³⁶² Ibid. GARF, f. 5451, o. 13, d. 225, l. 16.

with the highly communalized vision of socialist urbanism forwarded by Sabsovich, and the individualized vision supported by Okhitovich. The published brief uses only the term socialist city; Sabsovich won that battle.

Regarding interpersonal relations, the first draft stipulated that the population of future Magnitogorsk would consist of 40% singles and 60% families. The primary drafters did not heed the critique Miliutin had leveled at Chernyshev's Magnitogorsk scheme three months earlier: "the calculation of population was taken from typical capitalist relations...with 'overhead' consisting of the wife and children," Miliutin complained in *Izvestiia*. "In other words, one person engaged in productive labor shall feed three dependents, half of which are able-bodied."³⁶³ In line with this critique, the demographic category of "family" disappeared entirely in the final version of the brief, and the future population of Magnitogorsk was separated solely by labor potential. "All the adult population (men and women), except for the elderly, disabled and sick, are involved in productive labor and of various kinds of social work," the final brief read.³⁶⁴ It went on to quantify the three major demographic categories that would comprise the projected population of 50,000: 34,000 "able-bodied" adults; 12,000 children under 16 (who are further divided into three aged-based subcategories); and 4,000 elderly and disabled. Magnitogorsk would be a productive city first and foremost.

Child-rearing expectations also shifted drastically from the first to final version. The original stipulated that children up to the age of three would stay with their parents at night; 3-8

³⁶³ Miliutin, "Bor'ba Za Novyi Byt I Sovetskii Urbanizm (Fight for the New Way of Life and Soviet Urbanism)." Original italics.

³⁶⁴ Tsentral'nyi derzhavnyi arkhiv-muzei literatury i mystetsva ukrainy [Central State Archive-Museum of Literature and Art of Ukraine, TsDAML], f. 8, o.1, d.431, ll. 1-3. Competition brief also exists at GARF, f. 5451, o. 13, d. 225, ll. 17-20.

year olds would do the same on a regular basis; and only children over the age of 8 would live in dormitories full time. The final brief mandated strict separation between children and parents, with the exception of infants who would be visited by their mothers solely for feeding. Lastly, the Magnitostroi version requested designs not only for “city apartments” in house-communes, but also for small individual houses, presumably on the outskirts of the urban center. The only housing type requested in the final brief was the residential commune. These, then, were the sticking points: title (which implied an urban morphology), demographic categories, childcare, and housing typology. Once these issues were settled, the final brief for the All-Union Open Design Competition for the Socialist City of Magnitogorsk was released publically, at 10am, December 22, 1929. Interested competitors were given six weeks to formulate their proposals.³⁶⁵

Magnitogorsk Competition Brief as *Instaurational Text*

The final published competition brief is arguably the most important textual artifact from the 1929 socialist urbanism debate. The stapled eight-page brochure—small enough to tuck into a book—presented the ground rules for an entirely unprecedented urban culture, one anchored by industry and predicated on new social relations. (Figure 5.4) It represents a fleeting moment when visionary theorists and state officials (in some cases these were one in the same) agreed on how socialist space, and the people within it, should be organized in order to break all ties with capitalist urban models.

To understand the role this competition brief played in the evolution of the socialist spatial project, I borrow a concept—the *instaurational text*—from urban historian and theorist, Françoise Choay. Choay defines instaurational texts as “those writings which have the explicit

³⁶⁵ All projects had to be deposited at the Moscow office of Magnitostroi by 8am, February 2, 1930.

aim of developing an autonomous conceptual apparatus in order to conceive and build new and unknown forms of space,” whose goal is “to provide a theoretical support and foundation for spaces, whether already built or projected.”³⁶⁶ Choay breaks these texts into three categories: architectural treatises, utopias, and writings on urbanism. I will focus here on the first two, which Choay defines as “mechanisms for generating built space.” Both treatises and utopias are projective; what separates them is the degree of autonomy allowed the designer. The treatise stipulates principles and makes rules—it provides the framework for the constitution of future space. The designer who utilizes a treatise as a creative guide is limited only by the stringency of the rules set. Utopia, on the other hand, is a totalized imaginary, a “device for the *a priori* conception of built space.”³⁶⁷ The original author of a utopia determines the shape of the future space and the relationships between its constituent parts. The designer who engages a utopian model is thus restricted to tweaking particulars. With a treatise there is loose structure but freedom for the designer; with utopia there is clarity but constraint.

Utopia is a concept to be summoned with caution in the context of early Soviet history. As I discussed in the introduction to this dissertation, Marx drew a line in the sand to separate his scientific socialism from Utopian socialism. While Marx and Engels pursued many lines of argument to enact this divide, only one—what Roger Paden called the *Metaethical Critique* of utopia—pertains to the creation of socialist space.³⁶⁸ Scientific socialism submits that events in

³⁶⁶ Françoise Choay, *The Rule and the Model: On the Theory of Architecture and Urbanism*, ed. Denise Bratton (Cambridge, Mass.: MIT Press, 1997), 6.

³⁶⁷ *Ibid.*, 8.

³⁶⁸ In general, anti-utopianism was a pre-revolutionary line of reasoning. If we take the five categories of Marxist criticism against the Utopians that Roger Paden lays out, we can see that only the *Metaethical Critique*, discussed above, has bearing on the post-revolutionary period. Marx’s *Tactical Critique* argued that since there would be no agreement among socialists on the details of the Utopian blueprint, the effort exerted in debating the specific

the present continually shape the future. If history and social progress are thus understood as dynamic—and human nature is likewise negotiable—then there can be no fixed spatial model of the future (read: utopia). “We cannot outline Socialism,” Lenin announced in assent with this line of reasoning in 1918. “What Socialism will look like when it takes on its final forms we do not know and cannot say.”³⁶⁹

Philosopher Martin Buber found fault with this line of reasoning in his book, *Paths in Utopia*. How, Buber asked incredulously, is it possible to build socialism—or anything—without a vision in the mind’s eye of what shape that future might take? In asking this question, Buber put his finger directly on the quandary that Soviet planners faced at the start of the first Five-Year Plan. The lack of a clearly articulated vision of Soviet space, or rules with which to create socialist sites, resulted most often in Dzerzhinsk: haphazard, inefficient construction projects that did not, in any event, align with the ideological imperatives of the socialist state. A concrete vision—call it utopia or simply a replicable model—would have given Soviet planners “something primary and original which [was their] destiny to build.”³⁷⁰

If the Magnitogorsk competition brief is defined as an instaurational text, it is possible to describe and analyze the document with a particular aim: to discern how and in what ways it acted, finally, as the Soviet mechanism for generating built space. At first glance it is a highly technocratic document, comprised of lists upon lists, but close reading and careful categorization

contours of Utopia would take energy from forwarding the revolution. In the *Strategic Critique*, he argued that gradual work within society to enact Utopia was futile: revolution was necessary. The *Materialist Critique* posited that the Utopian socialists were stuck in their own time, likely to myopically reinforce existing institutions. Their utopia was thus over determined by the old system. The *Humanist Critique* argued that the bourgeois understanding of equality and justice as linked to consumption was fundamentally flawed. Paden, "Marxism, Utopianism, and Modern Urban Planning," 93-95.

³⁶⁹ Buber, *Paths in Utopia*, 115.

³⁷⁰ *Ibid.*, 7.

of those lists yields a clear polemical program for the design of socialist space. I would further like to argue that the competition brief constitutes its own category of instaurational text that sits *between* Choay's categories of treatise and utopia. The competition brief is more than treatise, but less than utopia. It is a suggestive but not wholly prescriptive text. The competition brief mimics the treatise insofar as it is axiom-based. In addition to general axioms, the document makes very specific dimensional and relational prescriptions; these are so precise to allow only a limited range of formal iterations. Which is to say that an inchoate model is woven into the language of the competition brief, but the text remains, nonetheless, shy of *a priori* formal definition. To prove this point: each of the published prize-winning entries shared a commitment to domestic atomization, common public servicing, and state-run child rearing. This was because the beginning of the competition brief defined these issues, treatise-like, as the overarching principles for the city's design. The remainder of the brief veered toward utopian projection, by providing extremely specific area, volume, and relational direction to the designers, from the scale of the city to that of the living cell. Design teams were given the liberty to invent architectonic forms, but only to the extent that their solutions met the many programmatic and dimensional limits imposed by the brief. While the design entries that emerged from this brief do differ formally, they remain within a fairly narrow band of deviation.

In what follows, I will closely describe and analyze the Magnitogorsk competition brief. (For English translation of the Magnitogorsk Competition brief in full, see Appendix) I will highlight aspects of the text that provided general guidance to the designers, and those that gave highly specific instructions. Although I found no archival evidence to substantiate this claim, it is probable that two of the most vocal proponents of urban change discussed in Chapter 4—VSNKh economist Leonid Sabsovich, and Chair of the State Commission on the Construction of Socialist Cities, Nikolai Miliutin—were involved in drafting the final competition brief. Or, if

they were not directly involved, their published texts provided ample guidance for its authors. As noted in the previous chapter, Sabsovich's writings on socialist city building were extraordinarily well circulated. In more than one instance, a singular text was printed in numerous outlets under various names, ensuring a wide and diverse readership for his proposals.³⁷¹ Sabsovich's most programmatically and spatially directive text, *Socialist Cities (Sotsialisticheskie Goroda)*, was not released until mid-March 1930—after the release of the Magnitogorsk competition brief—but portions of it were published in *Revoliutsiia i kul'tura* at the beginning of January, suggesting that it was written before then.³⁷² Miliutin's book, *Sotsgorod*, was also released in 1930, but written in the second half of 1929.³⁷³ Miliutin served on the Magnitogorsk competition jury, and was listed just below its Chair, Anatolii Lunacharskii, former Commissar of Education; his influence on both the formulation and outcome of the competition is indisputable. At the risk of slightly anachronistic citation, I will note when content in the Magnitogorsk competition brief overlaps or conflicts in a significant way with arguments made by Sabsovich or Miliutin in published texts, including *Socialist Cities* and *Sotsgorod*. This close reading of the brief will provide intense familiarity with the parameters of the design task, so that in subsequent visual analysis of select competition entries it will be possible to identify where the autonomy of the designers resided.

The basic contours of the competition were introduced on the cover page of the brief and in the opening paragraph of page two. Competition entries were to consist of two design

³⁷¹ "The Problem of the City" (*Problema Goroda*) in *Planovoe khoziaistvo*, the VARNITSO speech, and the pamphlet *Cities of the Future and the Organization of a Socialist Way of Life (Goroda budushchego i organizatsiia sotsialisticheskogo byta*, published shortly after) are identical. See Chapter 4.

³⁷² "Why must and can we built socialist towns" appeared in *Revoliutsiia i kul'tura*, no. 1, January 15, 1930. *Socialist Cities* was advertised in *Pravda* as "just off the presses of Gosizdat" in mid-March. Cooke, "The Town of Socialism," 185.

³⁷³ Khmel'nitskii, *Arkhitektori Nikolai Miliutin*, 101.

projects: a socialist city plan, and a typical residential commune (*tipovoi zbilishchnoi kommuny*). The newly planned industrial city for the Magnitogorsk metallurgical plant would be erected in the Urals, 260 kilometers southwest of the town of Troitsk. This new site—hundreds of kilometers from any known cartographic locale—was to be planned “on the basis of a complete socialization of cultural, educational and everyday life of all workers.”³⁷⁴

What followed were the main provisions of the program—I will call these the axiomatic principles of the model socialist city. The nine notes that comprise this section of the brief can be grouped into three categories that align with the issues raised in the Moscow debates and the internal disagreements prior to the brief’s public release. First, as discussed above, was the **axiom of socialist demography**, which stated that, “all the adult population (men and women), except for the elderly, the disabled and the sick, are involved in productive labor and of various kinds of social work.” The new industrial city would be a productive city foremost, in which women were to be counted among the working population.

In order to fulfill the first axiom, the next four points came in line to support the **axiom of the novyi byt** (new way of living). Covered by this axiom are directives related to housing type, child rearing, meal preparation, and provisioning. Residential communes would be the only residential option, and these would be the heart of the new society. “The life of the workers, aside from production work and destinations of city institutions,” would be “concentrated in the housing communes and its environment...with the active participation of the working people in all kinds of collective economy and way of life of their commune.” In other words, the complete socialization of life relied on each worker identifying with and contributing to the communal

³⁷⁴ TsDAML, f. 8, o.1, d.431, ll. 1-3. All direct quotes in this section come from the competition brief, unless otherwise indicated.

unit to which they belonged. Full instantiation of the *novyi byt* meant women would be liberated from household tasks, most importantly childcare and cooking. In Magnitogorsk, children under 16 years of age (the age of able-bodied productivity) were to live “under socialized care in closed nurseries, kindergartens and boarding schools, located near the adult dwellings,” but they were not to be isolated in children’s and school campuses (this may have been a minor concession to Nadezhda Krupskaiia). The degree to which fully socialized parents would be involved in the lives of their offspring was somewhat equivocal in Magnitogorsk. Children would be physically proximate—in institutions located near to the adult living quarters—but space for children was *not* to be provided in the living quarters of married couples.

Freedom from cooking was ensured by the fact that, “meal preparation for the entire population of the city is carried out by a centralized organization by means of food processing plants that deliver to all manufacturing facilities, public agencies and housing communes all types of food.” Cooking would occur in factory-kitchens and bakeries, and all meals would be consumed in canteens. Lastly under this axiom, “supplies for the entire population—items of general and individual consumption—” would be taken care of “by a department store as well as a commodity supply network organized by the house-communes.” This point prescribed fully state-run provisioning of the sort that Sabsovich advanced earlier in the year in his *Planovoe khoziaistvo* article “The Problem of the City,” in which he wrote, “the economic apparatus for the individual distribution of manufactured products will have no place in socialist settlements.”³⁷⁵ Unlike during NEP, when small businesses supplied consumer goods that the state was unable to provide, the new city would be entirely free of private enterprise.

³⁷⁵ L. M. Sabsovich, "Problema Goroda," *Planovoe khoziaistvo*, no. 7 (1929): 49. As I noted in Chapter 4, this is the identical text found in his slightly later book *Goroda budushchego i organizatsiia sotsialisticheskogo byta*.

Finally, there was the **axiom of socialist construction**, which wrapped in guidelines for conveyance, construction organization, land regime, and general building orientation. Buses and automobiles would provide transportation for workers to “more remote manufacturing locations and institutions” and on “countryside excursions.” This provision implied that residential communes would be located close enough to the production zone that workers could walk to work. The residential communes would be constructed by the state as housing cooperatives, and no land would be provided to individual builders. Lastly, all premises were to be “oriented with regard to the most favorable sunlight conditions.” This rather specific environmental directive may have arisen from ongoing mass housing research in Germany, undoubtedly known to the Magnitogorsk competition brief drafters. In Frankfurt, city architect Ernst May had, by this time, moved away from housing settlement plans tweaked to the particulars of site. The Frankfurt-Westhausen settlement, which began construction in 1929, was instead composed of thin housing bars (*zeilenbau*) arranged in parallel rows aligned at 22 ½° from true north-south orientation—an alignment determined by “scientific” research to be optimal for residential insolation.³⁷⁶ (Figures 5.5 – 5.6) No specific angle was prescribed in the Magnitogorsk brief. Altogether, the instructions included under these three axiomatic categories determined the general parameters for the socialist city.

The following two sections of the brief provided detailed information on the socialist city plan and the typical residential commune, which were the separate (through interrelated) design projects required of competition entries. In each case, the projects were finely described through the program elements, dimensional attributes, and in certain cases relationships between

³⁷⁶ Mark Swenarton, "Rationality and Rationalism: The Theory and Practice of Site Planning in Modern Architecture 1905-1930," *AA Files*, no. 4 (1983): 55-56.

building and site. These were the strict rules of operation that gave urban and architectural shape to the general principles presented in the brief's opening paragraphs. I will organize the analysis of each program according to the three axioms noted above.

Prospective competition entrants were first given basic background information and regulations (*osnovie polozheniia*) for the planning and construction of the **socialist city of Magnitogorsk**. The **socialist demographics** of the future city were spelled out here. The entire population of Magnitogorsk “at full development of the mining plant, including the silicate factories and mines,” would be 50,000 residents, a number that consisted of 68% able-bodied adults (34,000 residents), 24% children younger than 16 (12,000 residents), and 8% elderly and disabled (4,000 residents).

The lives of these residents would be organized to install the **novyi byt**: they would enjoy communal living and servicing; cultural, educational and recreational opportunities; and state-provided health care. Considered together, these programs constituted the bulk of the socialist city section of the brief. Cultural life would center on the Palace of Labor and Culture, with its library reading room, meeting rooms for trade unions and health education, and separate theatre and cinema buildings. Residential educational institutions covered three stages of young life. Kindergartens and specialized day care facilities for disabled children accommodated the youngest group. Large schools would hold a maximum of 800 students up to working age and would to be sited to ensure that sufficient land was made available for planting crops and raising animals as part of the standard curriculum. In *Socialist Cities*, Sabsovich made clear that economics were behind this practical training for socialist children. Socialist society as a whole, he argued, would see a blanket cost reduction for agricultural food products “due to the fact that farms *can employ children, as a necessary element of their upbringing and education*, as well as the elderly and the feeble, who are not useful in other productive labor. This ensures that the full labor

force of socialist cities is used effectively.”³⁷⁷ Gardening and animal husbandry were, therefore, in service of communal food provision and a means to wrest productivity out of the least able-bodied members of the population. Finally, architects were asked to plan for a VTUZ (*vyshee tekhnicheskoe uchebnoe zavadenie*), a higher technical school with metallurgical, chemical, and mining departments on a site near the factory grounds. The primary recreational site for the city would be the Park of Culture and Leisure with a stadium, playing fields and sporting clubs. A network of public squares and boulevards would offer passive leisure, and municipal nurseries and greenhouses would furnish the planted matter. The brief further noted that sites for public buildings must allow for future expansion.

The communal services specified in the competition brief can be broken down into food provision and sites of everyday civic life. The city of Magnitogorsk was to be catered by a centralized food processing plant that would prepare the hot meals and baked goods, and that had specialized sausage, cheese, confectionary, and beverage production facilities to feed 30,000 people in its first phase. Critical but ancillary food production programs included a slaughterhouse, industrial refrigerators and food warehouses, and a disposal plant. Competition entrants were asked to locate the facility next to a rail line, and to provide room on site for future expansion to accommodate provisioning for an additional 20,000 residents. Sites of everyday civic life accommodated shopping (department store); communications (mail, telegraph, telephone, and radio); laundry; bathing (*banya* (bathhouse) and pool); and a number of technical services like a garage, fire station, repair shops, an incineration plant, and crematorium. Finally, city residents would be cared for in a 400-bed hospital and a central health clinic with

³⁷⁷ L. M. Sabsovich, *Sotsialisticheskie Goroda* (Moskva: Gosizdat RSFSR "Moskovskii rabochii", 1930), 61. Original italics.

two regional branches: one convenient to the industrial complex, the other to the residential area. The description of the wellness program in the competition brief was exhaustive. It detailed the myriad hospital departments—from Maternity to Morgue—as well as the separate isolation units, laboratories, birth homes and other specialty programs.

The items that elucidated the particulars of **socialist construction** for Magnitogorsk gave very specific temporal, topographic and relational direction to the competition entrants. Most important in the context of the first Five-Year Plan was the schedule. City construction was to be phased over the first two Five-Year Plans—30,000 residents would be accommodated by the end of the first, and the additional 20,000 by the end of the second. The demographic limit set on Magnitogorsk was not a hard one, however, for the brief stipulated that, “the city should be planned to accommodate further expansion in future, after the first two five-year plans.” The indication toward expansion—although buried among requirements and other data points—sets the competition brief in conflict with Sabsovich’s texts. In *Socialist Cities* for instance, Sabsovich unequivocally supported hard population caps for future urban centers:

We should not be building big cities with an unnatural accumulation of huge masses of people. The size of the cities must answer the tasks of the most systematic organization of workers and collective life and of creating the healthiest living conditions for these workers. We must take into account that *in a socialist city, public life and the collective private life of the population will be developed on an immeasurably large scale, larger than the space available in our cities. Therefore, it is advised that the socialist city should be built to accommodate a population of no more than 50-60 thousand people.*³⁷⁸

Sabsovich’s argument in favor of fixed demographics hinged upon the inextricable interdependencies of full socialization. Production, housing provision, education, and communal servicing were suspended together in a delicate web—unexpected inputs or outputs from any of these constituent elements threatened to throw off the communal balance. The population must

³⁷⁸ Ibid., 43. Original italics.

therefore be planned for, reached, and frozen. But this was exactly the argument that Ivanitskii used *against* the fixed population model in his discussions with his Baku clients in January 1930. Ivanitskii cited the industrial city of Zaporizhe, constructed adjacent to the Dneprostoi hydroelectric dam, as his on-the-ground example of why population capping would not work. The initial population of Zaporizhe was 300,000, a number that was expected to double in the foreseeable future. If the city were planned as a collection of so-called “socialist cities,” each with a maximum population of 50,000, urban territory and urban life would be artificially fragmented. Redundant roads, utilities, and institutions built for each of these urban pods would place undue fiscal and managerial burden on the greater municipal government.³⁷⁹ The Magnitogorsk brief satisfied each position, albeit obliquely. The 50,000-person population target matched Sabsovich’s model, but the door was left open for organic urban growth beyond that target, per Ivanitskii’s suggestion. Additional pragmatic planning details also fell under the axiom of socialist construction. Magnitogorsk would be serviced by the “most modern scientific municipal improvements including district heating, water supply, sewerage, electrification and gasification provided by the combined factory installations.” Taking a lesson from the Dzerzhinsk fiasco, the brief also stated the precise source of the city’s water supply—groundwater aquifers on the Ural floodplain—and the downriver location of sewerage outfall. The “open steppe type nature of the city” would require softening, the brief noted. Tree planting, especially in the zone between the factory and residential areas, was expected. Lastly, the entrants were asked to pay particular attention to the topographic conditions of the site, the location of the production area (already under construction), and the existing rail lines while

³⁷⁹ ARDA, f. 2983, o. 1, d. 38, l. 152.

designing the street network. All of these items and more were included on an attached 1/5000 master plan (that has since been lost).

The competition brief next turned to instructions for the design of the **typical residential commune**. Here, the **socialist demographics** of the communal sub-unit were further refined. Each residential commune (understood as a complex of buildings) was to be designed for a capacity of 1,500-3,000 people of all ages who would occupy their own respective sectors. Issues related to **socialist construction** principles were likewise to the point. Buildings within the residential commune were allowed to be no more than four stories. The ceiling height of residential spaces was to be 2.8 meters (just over 9 feet), and the common areas from 2.8 - 4 meters. The exception to this rule was a large theater space that would have a minimum 4-meter ceiling height. The limits placed on building and floor height, while seemingly benign, would greatly affect the architectonic language of the entries. As we shall see, not all design teams abided by this rule. The Magnitogorsk competition entry most commonly known in the west, by the OSA Team led by Ivan Leonidov, baldly disregarded the height restriction. Slim residential skyscrapers distributed in a diffuse checkerboard pattern populated their urban design proposal.

The balance of the residential commune section of the brief provided details to ensure installation of the **novyi byt**. On the surface this was just a continuation of a typeset list, but the content of these particular architectural prescriptions was, and remains, extraordinarily controversial. While the opening provisions of the brief—what I called the axiomatic principles of the model socialist city—gestured toward social reconfiguration, it was not until the smallest details were spelled out in the description of the future Magnitogorsk residential commune that one could begin to imagine how fully transformative this new kind of architectural complex would be of everyday life. First and foremost, the nuclear family was to be entirely liquidated, a process envisioned by Aleksandra Kollontai nearly a decade before. To enact this process, the

population of the Magnitogorsk commune would be divided into four age groups—babies (0-4), kindergarteners (4-8), school aged children (8-16), and adults (16+)—each of whom would live in a specially designed sector of the commune. The separation and atomization of each citizen would permit—perhaps paradoxically—a more robust collective sphere, or so argued Sabsovich in *Socialist Cities*:

In the socialist city, houses should be constructed in such a way that they provide the greatest convenience for the worker's collective life, collective work, and collective recreation. They should also provide the most comfortable possible conditions for individual work and individual leisure. *These houses should not have separate apartments with kitchens, pantries, etc.* for individual domestic use, since all of the worker's everyday needs will be completely socialized. In addition, *they should not include space for private family life, because the idea of family, as we now know it, will no longer exist.* In place of the closed, isolated family unit we will have the "collective family" of workers, in which isolation will have no place.³⁸⁰

In this prescription for socialist housing, Sabsovich summarily eradicated the spaces in which the middle relational scale of the nuclear family might flourish, like the kitchen table or sitting area within the apartment. All socializing and recreating was to occur in "social condensing" spaces in the public realm, like canteens and worker clubs. Either the worker engaged in solo work and leisure in her single room or she immersed herself in the collective. Public and private were strictly separated.

The Magnitogorsk brief picked up nearly all of these ideas. Competition entrants were instructed that sleeping accommodation for adults could be designed for singles or for 2-3 people (the unit mix was left open). The sleeping rooms—for that is what these spaces were exclusively for—were to be designed at 9 square meters per person for a single, 7.5 for all other types. To make such tight quarters feasible, the brief specified that all furniture within the sleeping quarters would be collapsible: folding beds, sofas, cupboards, etc. The social

³⁸⁰ Sabsovich, *Sotsialisticheskie Goroda*, 44. All italics in original.

condensing spaces, on the other hand, would be ample: 2-3 square meters per adult were to be allocated to these programs that could be located either in the residential buildings or in separate buildings connected by heated passageways.³⁸¹ Two scales of communal interaction would be provided the residents. At the local level, each group of sleeping rooms was to be given a pantry with gas stove for heating food, a social room (for greeting guests), bathroom, showers, washroom, toilet, laundry and a common balcony. At the commune level, residents would share dining, laundry, and club facilities; a commercial area replete with hair salon; a solarium, and sport playing fields. Limits to full communality were set by reasonable architectonic volume: the dining room was expected to hold at maximum 25% of the adult population, and the club 20-30%. Nonetheless, just a quarter of the adult population eating in the canteen at the same time was 570 people.³⁸² This was certainly a large enough crowd to engender a sense of communality.

And where were the children—the future socialist individuals—in this new arrangement? Without exception, they lived separately from the people who spawned them. “*The question of joint dwelling for children and their parents can only be answered in the negative,*” stressed Sabsovich in *Socialist Cities*. “Infants are best located in special buildings where the mothers can visit for feeding ... Pre-school and school-age children should spend most of their time in spaces designed for their learning, productive work, and leisure. It is clearly pointless to provide space for them in the same dwelling as their parents, where they would return at night. Therefore, *house-communes should only be built for adults.*”³⁸³ Per the Magnitogorsk competition brief, adult and children would be

³⁸¹ The brief further stipulated that auxiliary areas such as lobbies, hallways, stairs, bathrooms, showers and toilets did not count toward the total floor area of the public use programs.

³⁸² This number assumes a full residential commune population of 3,000 people, with adults accounting for 76% of that population.

³⁸³ Sabsovich, *Sotsialisticheskie Goroda*, 46-47.

duly separated. Children were to be allocated learning and living sectors by developmental stage and accommodated in state-run dormitories: nurseries for the 0-4 year-olds, and kindergartens for 4-8 year-olds. Competition entrants were asked to provide adjacent play yards for the children—and otherwise were to refer to requirements set by the People's Commissariats of Health and Education (Narkomzdrav and Narkompros) for dimensional and relational criteria related to these programs. Older children were to live in boarding schools (*internaty*), in which the structure of everyday life mimicked that of the adult sector. The brief stipulated that each dormitory room would accommodate up to 10 children. As with the adults, social condensing spaces would be provided for the children at the local and community scale. Toilets, showers, a linen closet and washing up sink would be shared by sleeping group. Common areas for the whole school included a dining room to accommodate half of the children; classrooms; a library-reading room; a red corner; and a large room for entertainment and sport. The schools for all ages were to be connected to the rest of the commune by heated passageways.

The residential commune as described in the Magnitogorsk competition brief was controversial in its time on two fronts, relational and temporal. Controversy number one surrounded the proposition that familial relations be dissolved *in toto*. The residential commune was to be the solvent, breaking apart deep interpersonal relations between partners and/or between parents and children. Although Sabsovich did accede that “some of these rooms (or maybe all) must have a door or sliding partition to connect to adjoining rooms through interior circulation, if the husband and wife wish,” he continued to stress that, “*there should be no joint living space for husbands and wives.*”³⁸⁴ The conjugal door might satisfy immediate sexual desires, but

³⁸⁴ Ibid., 49. Original italics.

emotional attachment between spouses was a need left unaddressed. As for state-run childrearing, Nadezhda Krupskaiia was not the only voice to question the utility of breaking filial ties. Miliutin proposed a more measured approach to childrearing in the transitional period in *Sotsgorod*, by suggesting that, “in building special institutions for the life and education of children (closely connected with the adults’ home) we are establishing only the necessary conditions so that parents, when they wish, may send their children to these institutions... This will not, however, mean compulsion.”³⁸⁵ Krupskaiia, for her part, was very clear that cross-generational interaction was of benefit to both children and adults, and not just in the transitional period. “When people talk about kids, they often seem to be thinking of them as disorganized, hooligan-like interferers,” she wrote. “But the new, socialist house should be organized so that kids can grow in it, develop, learn from adults how to organize themselves, without annoying or disturbing anyone. And, of course, when building, you cannot economize on every centimeter. *It is necessary to sew the housing clothes for [cultural] growth, anticipating the development of the inner life of the house, its social life.*”³⁸⁶ Because she advocated for cultural growth, Krupskaiia was lumped with the so-called “gradualists,” who understood the transition from old to new ways of living as a process that might well take some time.

This point leads to the controversy number two, which had to do with tempo. At the Gosplan conference in November, Gosplan Presidium member N.A. Paskutskii presented in his concluding remarks what was, by all accounts, the general line regarding the state of Soviet society. “We are living in a transitional period,” he said to the convened audience, “and it is

³⁸⁵ N. A. Miliutin, *Sotsgorod; the Problem of Building Socialist Cities* (Cambridge, Mass.: M.I.T. Press, 1974), 75.

³⁸⁶ N. Krupskaiia, “Goroda Budushchego,” in *Goroda Sotsializma I Sotsialisticheskaia Rekonstruktsiia Byta*, ed. B. Lunin (Moskva: Tip. Mospoligrafa «Iskra Revoliutsii», 1930), 11. Original italics.

impossible for us to forget two issues. First, our struggle for socialist society, for the construction of the socialist city will be realized under the conditions of a fierce class struggle--inside the country and on an international scale. Second, the near future will be characterized by massive shifts in conditions, forms and techniques.”³⁸⁷ Paskutskii rebuked his comrades who had lost sight of one basic fact: that the rapid tempo of socialist construction would, in itself, bring about sharp changes in the lives of the working class and laboring peasants. Intensifying this seismic shift by forcing radical domestic changes too quickly was not to be recommended. The Magnitogorsk brief takes no such equivocal stance: the proposed residential commune would immediately and totally instantiate the new way of life. According to anti-gradualist Sabsovich, that was its primary asset. To make his argument in favor of the residential commune, Sabsovich first destroyed the retrograde Chernyshev version of the Magnitogorsk city plan:

The invention of any kind of “transitional forms” (*perekhodnye formy*) of dwelling is simply unjustifiable opportunism. The original plans of the new socialist city Magnitogorsk, for example, called for the design of dormitory style rooms for 4 people; it also called for family rooms for a husband, wife and two children. The same opportunistic deviations occur in other projects. Through the suggestion of this kind of “transitional form”, the authors of these projects cite the backwardness of the workers, who apparently are unprepared for the abrupt transition to the new form of everyday life (*byt*). These authors are advised first to get rid of their own backwardness and prejudices before they assign them to the workers.³⁸⁸

In Sabsovich’s opinion, there was no benefit to proposing half solutions in deference to the transitional state. He hung his argument on the workers themselves, who he purported to speak for. The workers were ready for radical change, he asserted—it was the socialist intelligentsia who couldn’t imagine, and were discomfited by, the idea of full communalization. The first Five-

³⁸⁷ Gosplan-SSSR, *K Probleme Stroitel'stva Sotsialisticheskogo Goroda*, 116-17.

³⁸⁸ Sabsovich, *Sotsialisticheskie Goroda*, 48-49.

Year Plan was the opportunity to overthrow the past and built the future in the here and now, claimed Sabsovich. The Magnitogorsk brief shared this prospective lean forward.

The rest of the Magnitogorsk brief laid out the substantive submission requirements. The sheer volume of material expected of entrants communicated that this was much more than an “ideas” competition. Design teams were asked to provide a general plan of the city that indicated residential, public and administrative structures; their parcels; various types of green spaces; and the schematic locations of water and sewer mains. Typical street cross-sections were also expected. Detailed drawings focused on the residential commune, which had to be described through plans at various scales; sections that indicated structural systems; elevations; axonometric and perspective views. An explanatory text was to provide basic information about the scheme, and would be accompanied by a detailed cost estimate (inclusive of the formulas used to generate the results). Additional tables were to calculate the area and volume assigned to each program and the percentage of the residential commune allocated to each age group by area and volume. This was an enormous amount of information to generate in six weeks.

The purpose of this extended exegesis of the Magnitogorsk competition brief was to establish this text as the primary instaurational text of the first Five-Year Plan. Did it act as a mechanism for generating built space? The answer to that question will be definitively explored in the following section. But even before examining the concrete design proposals that emerged from the text, I submit that the brief conjured an image of future socialist space in the mind’s eye—before pencil was put to paper—through its treatise-like framework of ground rules and utopian-ready set of architectonic details. From its opening operational principles to its concluding salvo of requirements, the Magnitogorsk brief described a vision for the Soviet Union’s planning and architectural cadres. It did so by using bureaucratic form and language to

spark the pivotal creative task of the first Five-Year Plan: the formulation of a buildable, replicable model socialist urban form.

Visions

The deadline for receipt of competition entries at Magnitostroi's Moscow office was February 2, 1930. Entries were to be submitted under a verbal or graphic slogan (*pod devizom*), to obscure authorship and ensure fairness. In addition to the 17 open entries received, the competition organizers invited five well-known design teams to submit proposals: MAO (Moscow Architectural Society), OSA (Society of Contemporary Architects), Kartoizdatel'stva NKVD (the cartographic office of the People's Commissariat of Internal Affairs), the Stroikom working group, and the previous architect of Magnitogorsk, S. Chernyshev.³⁸⁹ In total, the jury deliberated over 22 schemes for the socialist city of Magnitogorsk and residential commune to select four prize-winning designs that would, as a consequence of their success, become the property of Magnitostroi.

Former Commissar for Education, Anatolii Lunacharskii, chaired the jury, and was assisted by vice-chair Nikolai Miliutin. The composition of the jury responded to the call made at the Gosplan conference to involve, as a matter of course, a wide variety of experts in urban planning matters. Among the specialists who adjudicated the competition were local administrators from Magnitostroi and the Ural regional government; representatives from Internal Affairs; Ministries of Education and Health; the Construction Committee of the RSFSR; the Women's Department of the Central Committee; the All-Union Central Soviet of

³⁸⁹ N. Dokuchaev, "Konkurs Na Planirovku Magnitogorska," *Stroitel'stvo Moskvy*, no. 4 (1930): 25.

Trade Unions; the Central Committee of the Young Communist League; and Moscow architects Viktor Vesnin, Ivan Mashkov, and Andrei Ivanov.³⁹⁰

After all of the collaborative energy exerted by individuals and groups on both sides of the Magnitogorsk competition to craft the perfect brief, to design the model settlement, to select the most promising vision for socialist urbanism—the results were disappointingly inconclusive. The jury found that the submitted proposals “did not fully satisfy the requirements of the competition brief, and further, that among the total number of projects submitted, six did not satisfy the competition requirements even on formal grounds.” In addition, they determined that “all of the projects proposed were unsatisfactory with regard to the socialization of everyday services for the population.” Based on this assessment, the jury opted not to award a first place prize. Two second place awards were given, as well as a third and two fourth place awards. As a consequence, no officially endorsed scheme was forwarded for construction. In an apparent effort to temper their critique, the jury concluded that because Magnitogorsk was “the first experiment in constructing new cities, the whole competition provided positive results which we will be able to use in future studies.”³⁹¹ This final assessment proved prophetic for the socialist city at the Kharkiv Tractor Factory.

In their detailed report, the jury divided the invited entries into two categories of “concentrated city planning” (*kontsentririvannaia planirovka goroda*) and “linear city planning”

³⁹⁰ Specifically, the jury had representatives from Magnitostroi, Ural Oblast' (Uralobl.); NKVD; Narkompros; Narkomzdrav; Stroikom RSFSR; VTsSPS (4 representatives); TsK VLKSM; Zhenotdel TsK; and the individuals Vesnin, V.A., civil engineer; Mashkov, I.O., architect; Ivanov, A.K., architect-artist. TsDAML, f. 8, o.1, d.431, l. 3. Viktor Vesnin was a member of MAO and OSA and a noted Constructivist architect. Ivan O. Mashkov was a pre-revolutionary Art Nouveau architect turned deputy city architect for Moscow after the revolution. Andrei K. Ivanov was involved in numerous state architectural bureaus in Moscow such as Arkhistroi. Kazus', *Sovetskaia Arkhitektura 1920-X Godov: Organizatsiia Proektirovaniia*.

³⁹¹ Dokuchaev, "Konkurs Na Planirovku Magnitogorska," 25.

(*lineinaiia planirovka goroda*). The “concentrated city” group included MAO, Kartoizdatel'stva NKVD, and Chernyshev. The prize-winning entries by the Black Square, Roman Numeral Five, Two Lines, and Three Lines teams also fell into this category. Because the competition brief requested a city plan anchored by a dense “typical” 3,000-person residential commune, the prevalence of the concentrated city type among the entries should not have been surprising. Two of the invited teams nonetheless disregarded this directive; the schemes submitted by OSA and Stroikom (a team also made up of OSA members) were thus the sole members of the “linear city” group.³⁹² Another way to explain the formal divergence of the entries is through the socio-spatial theories that underlay them. Entries from the “concentrated” group hewed to the urbanist writings of Sabsovich, while Okhitovich guided the disurbanist “linear” group.

Every single one of the concentrated city entries placed the future city to the southeast of the intersection of factory, lake, and dam (this may have been a preferred site indicated on the lost competition map). (Figure 5.7) The co- second place winning Black Square team entry, which will stand in as our concentrated example, indicates the factory and its snarl of rail lines lightly penciled in at the bottom (west) of the drawing. (Figure 5.8) The factory gates open onto a wide green zone that offers access to an administrative center to the left, a cultural/recreational center to the right, and a three-kilometer long axis lined with residential communes straight ahead. An axonometric drawing of the typical residential commune shows a bilaterally symmetrical rectangular scheme. (Figure 5.9) A green zone runs down the middle, acting as one mirroring axis. Each of the two linear residential clusters stretched along an outside edge is entered through a low-slung communal building at its center. From this common space,

³⁹² Ibid.

residents would move right or left through heated passageways to the five 4-story residential blocks oriented perpendicular to the communicating corridor. At the very end of the sequence sits a school or nursery building flipped again onto the communal axis. Detailed plans and sections explain the complex circulation of the typical residential bar building. (Figure 5.10) On the ground floor, exterior patios regularly interrupt common interior gathering and recreating spaces. These patios are made possible by a regular grid of slim columns that hold most of the second floor off the ground and allow for free passage between and beneath the bar buildings along the site's long axis (a exterior passage that would mimic the path of the heated second floor connecting passageways). A large common stair would bring the resident up to a single-loaded corridor on the second floor. Shallow single-exposure sleeping cells are accessed from this hallway, as are individual stairways that climb to up narrow double-exposure units on the third floor. The sequence repeats on the fourth and fifth floors. This clever circulation sequence, that minimizes the "wasted" space of common hallways, is a variation of the so-called "skip-stop" section explored in many of the house-commune designs in *Sovremennaia Arkhitektura's* 1927 "Comradely Competition for Communal Housing."³⁹³ The section would also have been well known to jury vice chair Miliutin who was, by this time, living in the penthouse of the skip-stop Narkomfin Building, designed by his friend, Moisei Ginzburg.

Although it was considered among the most successful of the open entries, the jury found fault with the Black Square scheme on a number of counts that can be extrapolated for other entries in the concentrated group. At the planning scale, the jury resolved that the

³⁹³ See Christina E. Crawford, "The Innovative Potential of Scarcity in Sa's Comradely Competition for Communal Housing, 1927," *archiDOCT* 1, no. 2 (2014). The original publication of the entries can be found in "Tovarishcheskoe Sorevnovanie Osa," *Sovremennaia Arkhitektura*, no. 4-5 (1927): 130-43.

“stretched (*rastianutaia*) planning of the city creates a lengthy path to the factory area and the institutions of public use, especially for the farthest residential communes on the opposite side of the city.”³⁹⁴ The jury failed to note—or chose not to consider—that while a southeasterly-tending site plan at its most attenuated precluded a walking commute for workers at the remote end (who were up to 4.7 kilometers away from the factory in the Black Square case), the fixed locations of Magnetic Mountain at the very southern edge of the production zone, and the lake and river to the west, made more advantageous residential siting impossible. At the residential commune scale, the jury reprimanded the Black Square team for exceeding the four-floor height limit set by the brief. They noted that the relatively open ground floor of the housing bars appeared to have been inspired by Le Corbusier, whose technique of raising buildings on columns had “often been used in recent competition work.”³⁹⁵ The jury determined that there was little reason to utilize such a costly detail at the scale proposed. Lastly, they expressed dislike of the “single residential commune type.”³⁹⁶ They found the communes in the concentrated planning group unsatisfactory on the whole, because “while they were rational in terms of volume, they were extremely monotonous and did not address the question of insolation and the necessity for relief from such repetition.”³⁹⁷ When the entries are held up against the competition brief, this comes across as a particularly unjust critique. To design a plausible residential commune that could accommodate many demographic categories and programs was a challenging task under the best of circumstances. With a six-week deadline, and a city to design

³⁹⁴ "Sotsialisticheskii Gorod Magnitogorsk," *Stroitel'naiia promyslennost'*, no. 3 (1930): 197.

³⁹⁵ *Ibid.*, 198.

³⁹⁶ *Ibid.*

³⁹⁷ Dokuchaev, "Konkurs Na Planirovku Magnitogorska," 25.

besides, a single commune type—as the competition brief requested—was only reasonable. The jury’s disappointment with the repetition of that type should have reflected poorly upon the instructions rather than the results.

A few notes about formal commonality between the concentrated planning schemes before moving on to the linear planning schemes. Taking the Black Square, Roman Numeral Five, Three Lines, Two Lines, 4th place Kharkiv entry, MAO, NKVD, and Chernyshev submissions as a group, we can see that their site planning geometry is generated by the directionality of the open southeasterly swath of land and further refined by the location of two factory gates. (Figures 5.11 – 5.23) A green buffer, requested in the brief, sits between the factory and the residential sector of the city. In nearly all cases, a singular residential commune type is repeated in a regular grid pattern, with strips of green space acting as expansion joints between them. The long mid-rise housing bars run north-south, almost to an entry. This orientation allows for optimal east-west insolation on the broad sides of the buildings. The entries for which axonometric drawings exist share a common aesthetic. The architectural language of individual buildings is uniformly stark (expressive rounded details tend to be found on communal buildings only), but the compositions of the site plan as a whole are spatially dynamic. With the Roman Numeral Five submission as an example, we see a unit comprised largely of unidirectional housing bars that intersect—just barely—with perpendicular communal buildings. Dormitory schools for various ages fan out at the extremity of the composition, surrounding themselves with open green space. The exterior spaces that result from this arrangement are of various sizes and degrees of privacy, and are nonetheless open to all residents. The architectural and planning commonalities between entries are the result not only of their shared historical moment—although the aesthetic is certainly redolent of Constructivist work—but equally of the brief itself. The population targets, 4-story height cap, the prerequisites

of optimal insolation, small sleeping cells, and heated connections between all facilities conspired to result in a certain kind of planning and massing. If followed, the brief held inchoate formal solutions through a combination of suggestion and requirement.

OSA and Stroikom elected to abide neither by the suggestions nor the requirements of the competition brief. Instead, their linear planning proposals for Magnitogorsk followed disurbanist directives set out by Okhitovich. Surprisingly, the jury reacted more favorably to the rule-breakers than to those participants who had met the requirements set by the brief. The jury found that while the idea of linear settlement was still unresolved, the proposals' only significant defect was their considerable length, for which "the issues of electrification, telephony and water supply would be difficult and expensive to resolve."³⁹⁸ A close reading of the two linear schemes reveals that although they were lumped together by form and shared a disurbanist philosophical underpinning, OSA's proposal was closer to meeting the spirit of the residential commune than the Stroikom proposal.

The linear scheme proposed by the OSA Brigade originated at the production zone and stretched to the southeast like the concentrated schemes, but formal and conceptual similarities ended there. (Figure 5.24) Whereas the concentrated entries had accepted the singular gravitation pull of the factory zone, the OSA design introduced a second pole of activity—the giant collective farm (*gigant-sovkhoz*) 25 kilometers to the southeast. The settlement thus took the form of an attenuated residential commune the purpose of which was to link the two production areas. A dramatic single-point aerial perspective describes the basic structure of the design. (Figure 5.25) The line of settlement is divided into three equal strips along its length; the width

³⁹⁸ Ibid.

of these strips determines the regular cadence of lines scored in the perpendicular direction to create a gridded pattern. OSA's linear mega-grid presents an open field able to accept a wide variety of programmatic and formal insertions. As Andrei Gozak has noted, OSA's scheme is foremost a "model of organization," an ideogram more than a resolved urban design proposal.³⁹⁹ In the competition submission drawings, OSA's gridded blocks are filled with a mix of housing, cultural and recreational facilities. One repeated block holds low-rise residential buildings built of wood and glass, arranged in a checkerboard pattern (*shakmatnyi poriadke*) that imitates, on a smaller scale, the grid of the site plan. (Figure 5.26) Each of these typical checkerboard communes holds 8 buildings with 32 residents each, for a total population of 256. The detailed plan of a single residential building—designed again on a checkerboard grid—indicates stacked pairs of sleeping units that hold the corners, and double-height residual spaces with common bath and shower facilities, an exercise room, and spaces for collective rest and cultural work. (Figures 5.27 – 5.28) The 4-story height of the buildings, the size of the individual sleeping cells, the assortment of communal programs, and the relative density of the housing here are all in line with the requirements of the competition brief. OSA exceeds the brief's 4-story height limit many times over, however, in another repeated block. Using the same standard housing floor plan, two 28-story residential towers match the 256-person population target of the neighboring block while retaining more free open space on the ground. This high-rise planning logic was well practiced by 1930. Tower-driven urban schemes like Le Corbusier's *Ville Contemporaine* (1922) and *Plan Voisin* (1925) were known to the Soviet architectural community in general, and members of OSA (Le Corbusier's primary interlocutors on his visits to Moscow) in particular.

³⁹⁹ A. Gozak, *Ivan Leonidov: The Complete Works*, ed. Andrei Leonidov, Catherine Cooke, and Igor Palmin, Leonidov (New York: Rizzoli, 1988).

Discussions about the planning merits of building tall were colored, however, by Soviet technical and economic realities. Steel—the future fruit of the Magnitogorsk industrial complex—was a rare commodity in 1930, and one earmarked for industrial, not residential, construction. On the ground plane of the OSA scheme, interspersed among the gridded plots, sat the children’s “sectors,” communications centers, and large-scale cultural and recreational facilities. While the proposal was original, spatially dynamic, and evocative, it was plagued, justifiably, by questions of feasibility. As the jury noted, municipal services, transportation, and communications would be difficult to supply in such an attenuated development. Architect Nikolai Dokuchaev launched a different, formal critique in the pages of *Stroitel'stvo Moskvy*, when he asked, “how, in the random and chaotic distribution of the residential and communal buildings—which is interesting only as an image—are we supposed to see a novel solution to the socialist city, instead of just another village of some self-build dacha association?”⁴⁰⁰ But it was precisely the open and readily transformable framework of the mega-grid that placed it in opposition to the traditional fixed-goal general plan. The OSA scheme was a diagram that indicated possibility and promised transformation over time. It was, most importantly, an organizational infrastructure that welcomed *process*—one that Okhitovich had coined “disurbanization.”

Okhitovich himself, who was joined by architects Mikhail Barshch, V. Vladimirov, and N. Sokolov, authored the linear Stroikom submission. The general plan for Magnitogor’e, under the title “... A New Resettlement of Mankind” (*novoe rasselenie chelovechestva*), was drawn at a scale much larger than the 1/5000 drawing required by the competition brief.⁴⁰¹ (Figures 5.29 – 5.30)

⁴⁰⁰ Dokuchaev, "Konkurs Na Planirovku Magnitogorska," 28.

⁴⁰¹ The Stroikom scheme referred to the future site as “Magnitogor’e,” and not “Magnitogorsk,” to erase all indication of urbanity from their submission.

This was because the planning premise of the scheme was regional: the industrial production zone at the center was to be supported by agricultural zones 25 kilometers or more remote from the center. The roads to connect industry and agriculture were the lines along which diffuse settlement would develop. On the general plan, these eight settlement ribbons (*lenty*) register as dark lines that radiate from the southern shore of the industrial lake and from the production zone. An incredibly long drawing described the constituent elements of a typical ribbon. (Figure 5.31) An automotive road ran down the center of the sinuous line. At each kilometer, a communal servicing station provided a canteen, provisions store, library, barber/hair salon, garage, and two motorcycles for communal use. (Figure 5.32) Nurseries, boarding schools, and public recreational facilities flanked the station. In keeping with Okhitovich's philosophy that socialism led to individual freedom, the finer grained scale of development was loose and driven by personal choice. The proposal forwarded the idea that each citizen should have the right, "not only to impact the collective, but also to deepen work on himself. Not only to engage in public action, but also in concentrated thinking."⁴⁰² The architectural vessel for such introspective self-improvement was the stand-alone living cell (*zabilaia iacheika*), a modestly scaled standardized cube made of lightweight materials that sat on thin columns looking out over the landscape. (Figures 5.33 – 5.35) The simple structural system, described in step-by-step diagrams, would permit any citizen to build a cell with elements kept on hand at the kilometer station. The authors of the scheme noted that the location, orientation, and proximity of the cells were a matter of personal preference. As the diagrams and axonometric view reveal, the system did not preclude communal living; the cells could be constructed in clusters. Density was

⁴⁰² M. Barshch, Vladimirov, V., Okhitovich, M., Solnikov, N. , "Magnitogor'e," *Sovremennaia Arkhitektura* no. 1-2 (1930): 44.

a choice in the Stroikom scheme. To underscore once and for all the conceptual distinction between urbanist proposals and this disurbanist scheme, the Stroikom team adopted the motto: “not a house-commune, but a commune of houses.”⁴⁰³ Again, Dokuchaev homed in on a common critique of the scheme. “A little individual house [on stilts], with a personal auto beneath, is the authors’ solution to the Leninist charge to create ‘a new resettlement of mankind which destroys rural backwardness and isolation, and the inhumane concentration of masses in the large cities.’ Here, the little house is cut off from urban density, and the auto abolishes rural isolation. A truly ‘genius’ answer to the problem...”⁴⁰⁴ Okhitovich’s principle of “*to every worker and laborer—his own space*,” that underlay the Stroikom scheme, flew in the face of standard conceptions of communality that presupposed population density.⁴⁰⁵ Further, the resonant image for the Stroikom scheme—the stand-alone elevated cell—looked and acted nothing like the residential commune requested in the competition brief, or any of the other entries to the competition for that matter. Sabsovich landed the most direct, if childish, hit against the architecture of the living cell by referring to it as an “izba on chicken legs” (*izba na kur’ikh nozhkakh*).⁴⁰⁶

Both linear schemes shared a common commitment to process over totalizing vision, and to granular versus monumental construction; these characteristics made it possible to imagine the linear proposals as seed projects that could grow with time. Indeed, while the jury

⁴⁰³ Ibid., 41.

⁴⁰⁴ Dokuchaev, "Konkurs Na Planirovku Magnitogorska," 28.

⁴⁰⁵ Okhitovich, "Ne Gorod, a Novyi Tip Rasseneniia," 3.

⁴⁰⁶ An *izba* is a traditional one-room peasant house, and one on chicken legs would have been known to all readers as the folkloric home of the witch, Baba Yaga. L. Sabsovich, "'Vzbesivshis'ia Melkii Burzhua' Ili Kommivoiazher Avtomobil'noi Firmy," *ibid.*, December 20.

found that the linear settlement systems and their housing types were “purely interesting and positive ideas that fully answer Lenin’s decree for the task of socialist settlement.” And although “not one made an entirely detailed design project for the city,” the jury nonetheless proposed that a section of one be installed as an experiment in Magnitogorsk.⁴⁰⁷

In his book *Sotsgorod*, published soon after the competition, vice chair of the jury, Nikolai Miliutin, included diagrams of the winning (Black Square), OSA, and Stroikom schemes for Magnitogorsk. (Figures 5.36 – 5.37) In his opinion, the concentrated Black Square scheme had the greatest shortcomings, including fragmented relationships between industrial, public institution, and residential sectors; unreasonable distance between housing and industry; and no provision for expansion of the production zone. Miliutin deemed the OSA and Stroikom schemes preferable—because linear—but still imperfect because of the distance that separated the industrial and residential sectors. His own proposal, “for a plan according to the functional-assembly-line system,” was a “correction” of the plans of OSA and Stroikom, and was “devoid of their shortcomings.”⁴⁰⁸ (Figures 5.38) Miliutin’s version ran north-south along the long left bank of the lake. The program was distributed in strict linear bands. The Ural River held the west edge that led to a park, a residential sector, a green buffer, and finally to the industrial zone, which was bordered at the eastern edge by the rail line. Members of the jury were strictly forbidden from participating in the competition, even as consultants, so this scheme was purely speculative and designed after the fact.⁴⁰⁹ Its purpose seems to have been to introduce readers to

⁴⁰⁷ Dokuchaev, "Konkurs Na Planirovku Magnitogorska," 25.

⁴⁰⁸ Miliutin, *Sotsgorod; the Problem of Building Socialist Cities*, 70.

⁴⁰⁹ “Members of the Jury may not participate in the development of competition projects, and will not give any clarifying information about the competition program except for the official question and answer from the Jury that is included in the program to the this competition.” TsDAMLM, f. 8, o.1, d.431, l. 3.

the linear city model on a well-known site, one recently covered in great detail by the Soviet press. Subsequent pages demonstrated how the linear city could be installed for the new Stalingrad tractor factory and the Nizhnii-Novgorod auto plant. Read together, the diagrams sought to prove that the model was suited to any industrial-residential complex. In a later assessment, German architect Ernst May—generally a proponent of linear planning—dismissed Miliutin’s proposal for Magnitogorsk. By 1931, May had learned for himself that topographical conditions on the ground prohibited a clean linear solution. He wrote that, “quite obviously, the linear city is to a large extent influenced by local geographical conditions. For instance, Miliutin’s proposal would not work for the city of Magnitogorsk, simply because the terrain there is restricted by the 14 km-long dam on the one side and the iron-ore mountain on the other, thus precluding any kind of parallel development.”⁴¹⁰

The Magnitostroi administration ultimately disregarded the jury’s recommendation to construct a fragment of one of the linear schemes. The concentrated competition entries likewise remained on paper. Despite the competition organizers’ and participating designers’ best efforts, the socialist city of Magnitogorsk was no closer to being built in March than it had been in January.

Shifting Territories, Shifting Priorities

Through the winter of 1929, life for the growing population of workers at the Magnitogorsk site proceeded apace, albeit uncomfortably. Workers on site might have been aware that an important All-Union Competition to design their future quarters was taking place

⁴¹⁰ Ernst May, "City Building in the Ussr," *Das Neue Rußland* VIII-IX (1931). Translated in El Lissitzky, *Russia : An Architecture for World Revolution* (London: Lund Humphries, 1970), 192. Original italics.

through reportage in the local newspaper *Magnitogorsk Worker (Magnitogorskii rabochii)*, which began publication on January 1, 1930. They may also have guessed that the inconclusive results of the competition signaled an extension of makeshift housing conditions.⁴¹¹

Managerial indecision plagued the city-building project. Most gravely, administrators could not agree *where* the city should be built. A month after the explicitly left bank-sited design competition, a commission from the administrations of Magnitostroi, Stal'stroi and Vodokanalstroi raised the possibility of building the city on the right bank of the Ural River.⁴¹² This change of tactic was prompted, finally, by facts on the ground. Convenience and cost savings determined the original left bank siting: proximate housing would mean lower outlay for roads around and bridges over the Ural River to the right bank. The decision was justified further with the help of a decade old wind study that indicated a southwesterly wind pattern at the site. The study was soon proven patently incorrect. Once construction on the factory site began, administrators and residents alike noticed that industrial smoke and particulates blew most frequently in a southeasterly direction, from the factory into the site designated for residential programming.⁴¹³ So ensued a long and tortuous series of discussions and decisions about the proper location of residential Magnitogorsk. In their excellent recent study, Evgeniia Konyshcheva and Mark Meerovich plot the sine curve of locational decrees for Magnitogorsk that commenced in 1929 and continued until after WWII.⁴¹⁴ In the episode covered here, the

⁴¹¹ This decision was dated April 2, 1930. Cheliabinsk, *Iz Istorii Magnitogorskogo Metallurgicheskogo Kombinata I Goroda Magnitogorska, 1929-1941 Gg.; Sbornik Dokumentov I Materialov.*, 270.

⁴¹² *Ibid.*, 270-71.

⁴¹³ Kotkin, *Magnetic Mountain : Stalinism as a Civilization*, 111.

⁴¹⁴ Konyshcheva and Meerovich, *Ernst Mai: Proektirovanie Sotsgorodov V Gody Pervykh Piatiletok (Na Primere Magnitogorska)*, Chapter 4: "Right Bank, Left Bank..." ("Bereg levyi , bereg pravyyi...").

proposed location of the city moved four times from left (December 1929) to right (April 1930), to left (June 1930), to right bank (February 1931) in a little over a calendar year.⁴¹⁵ Needless to say, no significant housing construction could begin without resolution on this issue.

A seismic shift in Soviet socio-spatial theory was also underway in the months following the Magnitogorsk competition. Newspaper columns devoted to the socialist city debate had petered out by mid-1930, and on May 16, the Central Committee (TsK VKPb) issued a “Resolution on the work to restructure *byt*,” that unequivocally communicated the leadership’s position that the socialist urbanism debate was over. The resolution opened with critique, noting that, “along with the growth of a movement toward a socialist *byt*, extremely unreasonable semi-fantastic schemes exist. It is therefore extremely harmful for individual comrades (Yu. Larin, Sabsovich et al.) to attempt in ‘one jump’ to clear those obstacles to the socialist reconstruction of *byt* which are rooted...in the country’s economic and cultural backwardness.” Sabsovich was reproached by name—he was on the outs. His proposals for a swift and total refashioning of daily life were suddenly deemed unreasonable, “semi-fantastic” and unsupportable by the highest powers. On the whole, the language of the resolution highlighted limitations of both state resources and the cultural capacities of the populace, instead of possibility.

Economic realities explain most directly the Central Committee’s change of tune. As the price tag for heavy industry construction escalated, “soft” construction projects like housing,

⁴¹⁵ The more or less definitive decree for this period was handed down by the Sovnarkom RSFSR in March 1931, which stated that the factory and administrative buildings would be located on the left bank, while the residential quarters would be placed on the right. Decree by the Sovnarkom RSFSR “On the construction of the city of Magnitogorsk on the right bank of the Ural River” (March 20, 1931) reprinted in Cheliabinsk, *Iz Istorii Magnitogorskogo Metallurgicheskogo Kombinata I Goroda Magnitogorska, 1929-1941 Gg.; Sbornik Dokumentov I Materialov*, 223-25. Additional dates on 270-271. Konysheva and Meerovich, *Ernst Mai: Proektirovanie Sotsgorodov V Gody Pervykh Piatiletok (Na Primere Magnitogorska)*, 66.

communal services, and cultural and recreational facilities slipped on the State's list of priorities, as the resolution made clear:

We need to focus maximum resources on the rapid industrialization of the country at this moment, which creates nonetheless real material preconditions for a radical remaking of *byt*. Projects to redevelop existing cities and construct new ones [that] have appeared recently in the press...are intended to be funded exclusively by the State, with immediate and complete socialization of all aspects of the working people's *byt*: food, housing, education of children with separation from their parents, elimination of domestic bonds between family members, an administrative ban on cooking, etc. The implementation of these harmful, utopian undertakings, which do not take into account the material resources of the country and the degree of preparedness of the population, would lead to an enormous waste of resources and a brutal discrediting of the idea of the socialist transformation of *byt* altogether.⁴¹⁶

The entire resolution was fiscally driven, but ideologically bolstered. State resources had to be funneled to heavy industry if the first Five-Year Plan was to meet its stated targets. The percentage of state budget allocated to non-industrial construction would be modest, and would need to be carefully spent. Full socialization of *byt* was impossible—the numbers just didn't work. The resolution went on to suggest, however, that even more problematic than funding shortfall was theoretical overextension. The “utopian” schemes of Sabsovich et al. did not take into account the “preparedness of the population,” which was another way of saying that these schemes ignored the transitional nature of Soviet society. Krupskaia, who had waged a similar critique against Sabsovich during the previous months, was vindicated.

The remainder of the resolution was a list of action items that confirmed closure of debate. The Central Committee gave the Sovnarkom 15 days to develop rules for construction of workers' settlements and residential buildings in newly built and existing cities and towns. These guidelines—that echoed design instructions in the Magnitogorsk competition brief in many ways—would include accommodation for some communal services to support the

⁴¹⁶ "O Rabote Po Perestroike Byta (Postanovlenie Tsk Rkp(B) Ot 16 Maia 1930 Goda)," *Pravda*, May 29 1930.

transition to a socialist *byt*, such as laundries, canteens, factory-kitchens, and children's institutions. The Central Committee stipulated that new workers' settlements at large enterprises (like Stalingradstroi, Dnieprostroi, Magnitogorstroi, Cheliabstroi) would be separated from the industrial zone by a sufficiently wide green axis, and that roads, means of communication, and municipal infrastructure like running water, electric light, canteens, clubs, schools, and medical care would be provided. Maximum hygiene and convenience was to be ensured in these buildings, and measures taken to reduce the price of construction. The resolution also sought to stave off administrative dysfunction. All Party organizations were instructed to ensure "maximum resource mobilization" for residential construction, and trade union organizations of various cultural and social institutions were tasked "to take urgent measures to streamline and strengthen the financial restructuring of *byt*."⁴¹⁷ Lastly, the Central Committee proposed that VSNKh immediately expand production of communal equipment for factory-kitchens, mechanized laundries, canteens, etc., and consider increasing funding for *byt*-restructuring projects in the coming year.

Although ostensibly a resolution to support the restructuring of *byt*, the document reads more like censure. After months of vigorous and wide-ranging discussion, the Central Committee elected to intervene in the socialist urban debate to make clear that they did not sanction radical changes to the everyday life of workers, and that funding for the expensive undertaking was not forthcoming. What did this mean for Magnitogorsk? Just three days after the resolution was published in *Pravda*, 14,000 workers gathered to lay the foundation for the

⁴¹⁷ Ibid.

first blast furnace for the Magnitogorsk Iron and Steel Works.⁴¹⁸ The construction of the factory was underway, the first Five-Year Plan clock was ticking, and a city—even if it was not to be a visionary one—still needed to be built.

Praxis in Magnitogorsk

This version of the Magnitogorsk origin story has concerned the construction of a conceptual apparatus for model socialist city building. As a result, the actual site on the Ural steppe has remained as distant narratively as it was geographically for the designers charged to shape its future. The final portion of this story will attempt to bring late-breaking, on-the-ground praxis in Magnitogorsk into focus. It will give a broad overview of the months following the competition that led to the construction of a small section of so-called socialist city.

The post-competition months of 1930 involved the efforts of two designers. Sergei Egorovich Chernyshev, the Moscow architect whose previous site plan for the city was publicly maligned by Miliutin, returned to design Magnitogorsk in September. Ernst May, the former chief architect of Frankfurt who oversaw the design and construction of 15,000 municipal housing units in that city, began to develop a general plan and housing for Magnitogorsk a month later, in October. Each architect was hired by a different client, and their projects overlapped and conflicted.

Ernst May's client was Tsekombank, the Central Bank for Municipal Economy and Housing. In May 1930, Tsekombank was tapped to be the state financier for the construction of all socialist cities. This was a sizable task. Although 38 cities were officially designated for

⁴¹⁸ “Akt zakladki fundamenta 1-i domny Magnitorgoskogo kombinata,” 1 June 1930. In Cheliabinsk, *Iz Istorii Magnitogorskogo Metallurgicheskogo Kombinata I Goroda Magnitogorska, 1929-1941 Gg.; Sbornik Dokumentov I Materialov.*, 62.

construction during the Plan, once tabula rasa sites and interventions in existing cities were added up, the number of urban scale construction projects undertaken during the Plan was more like 150-170.⁴¹⁹ Each of these projects was run by a different constellation of administrators and designers, which led to results of varying degrees of success. In an effort to install a measure of quality control after receiving their new charge, Tsekombank placed advertisements in Union-wide newspapers and journals, soliciting assistance from experienced architects to build an in-house design office—outreach that received little return.⁴²⁰ In the absence of local design talent, Tsekombank turned abroad.

May was invited to Moscow, Leningrad, and Kharkiv in early 1930 to deliver a series of lectures that drew from his Frankfurt experience. Timely topics included, “The New City,” “The State of Residential Building in Germany,” and “The Rationalization of Residential Construction.” Upon the request of the Russian government May prepared an additional lecture for a select group of specialists, entitled, “Organizational Proposals Concerning Russian City Planning and Residential Policies.”⁴²¹ This request may have been a means to vet the architect, and by all accounts May passed muster. Soon after this visit E. Luganovskii, the head of Tsekombank, traveled to Frankfurt-on-Main with the express goal to hire May and his “brigade” of architects.⁴²² In a letter dated June 15, 1930, Tsekombank contracted May as its head design consultant for a period of five years. In this capacity May would:

⁴¹⁹ Konyshcheva and Meerovich, *Ernst Mai: Proektirovanie Sotsgorodov V Gody Pervykh Piatiletok (Na Primere Magnitogorska)*, 42-43.

⁴²⁰ Kazus', *Sovetskaia Arkhitektura 1920-X Godov: Organizatsiia Proektirovaniia*, 151.

⁴²¹ "City Councillor May's Russian Plans," *Bauwelt*, no. XXXVI (1930): 1156. Translated in Lissitzky, *Russia: An Architecture for World Revolution*, 173.

⁴²² Kazus', *Sovetskaia Arkhitektura 1920-X Godov: Organizatsiia Proektirovaniia*, 151.

1. Draft plans for new cities and settlements, and re-plan old ones.
2. Develop measures to rationalize and standardize the construction of residential buildings and other civic structures, and also improve design and implementation methods for complex construction of cities and settlements. In this, all new achievements in the realm of construction like structural methods will be applied including organizational methods for construction and residential equipment.
3. Develop typical projects for residential buildings and other civic buildings.
4. Develop projects for factories to produce standardized residential buildings, both well known in practice and new ones.⁴²³

It is important to note that the May did not explicitly sign on to plan Magnitogorsk. Under his contract with Tsekombank, May was responsible for three broad design tasks: urban design, housing “type” design, and systems design. He had ample experience with all three tasks, but because they concerned standardization the latter two were of greatest interest to Tsekombank. Type design assumed replication—a single, well-resolved housing building could be tested and then deployed throughout Soviet space, saving time and money. Systems design encompassed points 2 and 4 on the official contract. May and team would develop design and construction methods to rationalize the ragtag Soviet building industry, and they would design factories to manufacture standardized building components. The architect no doubt had described the small site-based factories he had built in Frankfurt to turn out prefabricated building components, and the Soviets desired the same regularity and efficiency on their construction sites. May signed the contract, agreed upon a September departure date, and gathered his brigade of 23 experienced designers.⁴²⁴ It would not have been difficult to entice architects to leave Germany in the year after the international economic collapse. According to artist-architect Erich Borchert, “two years ago [in 1928], in the office of one of the Berlin’s best architects, there were 85 architects

⁴²³ Konyshva and Meerovich, *Ernst Mai: Proektirovanie Sotsgorodov V Gody Pervykh Piatiletok (Na Primere Magnitogorska)*, 44.

⁴²⁴ Evgeniia and Mark Meerovich Konyshva, "Bereg Levyy, Bereg Pravyi: Ernst Mai I Otkrytye Voprosy Istorii Sovetskoi Arkhitektury," *Arkhitekton: izvestiia vuzov*, no. 30 (2010).

and specialists—now there are only 5.”⁴²⁵ As was the case for American architects and engineers who traveled to the USSR during the first Five-Year Plan, the impetus to assist with Soviet industrial construction was more often economically rather than politically driven.

Meanwhile, the Administration of Magnitostroi—without consulting its funder, Tsekombank—chose to hand the general planning project over to Giprogor NKVD RSFSR, under the leadership of Chernyshev. Despite intense pressure to complete the plan, the Giprogor team was plagued by delay. A month into the renewed design effort, Chernyshev gave a report to the Communist Academy to account for the lack of progress. First, he explained, the production targets for the factory kept changing, which resulted in fluctuating territorial spread. Shifting decisions about the purifying-cleansing ponds and the location of the processing factory made spatial planning impossible. Second, the population targets for the city were also subject to constant change. Third, the administration refused to resolve the size of the sanitary zone between the factory and the workers’ settlement. Finally, as Ivanitskii had noted in Baku, the ambiguous general line on the planning and architecture of the ideal socialist city hindered real time progress. By the fall of 1930, the planning and housing situation in Magnitogorsk was “catastrophic,” and was even threatening the timely start up of the factory. Tsekombank decided it was time to intervene (or “meddle” - *vmeshivat'sia*) in the situation.⁴²⁶

⁴²⁵ Borchert claimed that 90% of German architects were unemployed in the years immediately after the 1929 economic crash. Kazus', *Sovetskaia Arkhitektura 1920-X Godov: Organizatsiia Proektirovaniia*, 152.

⁴²⁶ The date of Chernyshev’s reinstatement was September 17, 1930, and his speech to the Komacademy took place on October 19. Konyshcheva and Meerovich, *Ernst Mai: Proektirovanie Sotsgorodov V Gody Pervykh Piatiletok (Na Primere Magnitogorska)*, 41-42.

Soon after the May Brigade arrived in Moscow they were instructed, with just 24 hours notice, of their departure for the Urals where they would act as “planning consultants.”⁴²⁷

Tsekombank representatives accompanied the Germans on their 4-day train trip, arriving on November 2, 1930. In a letter back to Frankfurt, May recalled his first impression of the site for the future city of Magnitogorsk:

We reached our destination on a temporary rail spur. Fog gave way to clear skies, and our eyes beheld a fascinating spectacle. From the middle of the steppe arose a number of flat hills and among these, of larger size—a mountain of iron ore. On hundred and fifty million tons of rich iron-ore deposits are located in this area, ready to be surface mined. In order to exploit these deposits, the second largest industrial complex in the world has been planned here as part of the great Soviet plan of industrialization... Now 40,000 workers, living in temporary barracks, apply their labor to one the mightiest industrial ventures of our time. The innumerable blinking lights of the labor camp and the bright floodlights used for night work made an unforgettable impression on our minds.⁴²⁸

While his description tends to effusiveness, May’s basic description matches other contemporary reports of the site. What is most notable is its immediacy: these were the impressions of an architect who finally stood on the steppe, took in the topography, and grasped the material implications of, and limitations on, the planning task. Chernyshev, who was already well acquainted with the site, had arrived in Magnitogorsk with his Giprogor design team a day before the Tsekombank-May group.

The May Brigade toured the site, met the Soviet, American, and German engineers in charge of factory construction, and collected information for four days. It was clear to the team from the outset that there were serious contextual limitations to what was possible on site. They concluded that, “it was simply impossible to devise a solution based purely on desired

⁴²⁷ Konyshva, "Bereg Levyy, Bereg Pravyy: Ernst Mai I Otkrytye Voprosy Istorii Sovetskoi Arkhitektury."

⁴²⁸ Ernst May, "From Frankfurt to the New Russia," *Frankfurter Zeitung*, November 30 1930. Translated in Lissitzky, *Russia: An Architecture for World Revolution*, 175-76.

relationships between industry and housing.”⁴²⁹ Hemmed in by the expanding production area to the north, the river and topography to the west and south, a residential area would have to be wedged in to the southeast. This was the area where, in the summer months before May’s visit, residential foundations had already been laid. (Figure 5.39) A photograph of the first foundation pit excavation provides a glimpse of the conditions May and team likely witnessed that October. With nothing but a horse, a pile of foundation stones, and the waving grass of the steppe in the background, a group of workers (and one specialist in a suit) looked down expectantly into the foundation trench. The desire to start permanent housing construction—no matter the state of the general plan—is understandable against the backdrop of living conditions on the site. The 40,000 people already in Magnitogorsk resided, for the most part, in the rows upon rows of wooden barracks that sat between the factory site and the river. (Figure 5.40) Families—of which there were many by October 1930—singles, men, and women slept alongside one another in a single open space, and ate together in common canteens. (Figures 5.41 – 5.43) The push for communality written into the Magnitogorsk competition brief was already a fact of life on site.

After site reconnaissance, a month-long design-off ensued that began in Magnitogorsk, continued on the train journey back west, and finished in Moscow. May’s team was used to working quickly—they converted their train compartments into a drafting room and “using the charcoal supplied as fuel for the samovar as pencils and drafting boards made of plywood pieces as a drawing base,” they produced the first draft of a general plan.⁴³⁰ A Tsekombank regional plan, dated November 1930, shows rectangular residential blocks originating at the southern end of the production zone and sweeping to the southeast. (Figure 5.44) A relief model of this

⁴²⁹ Ernst May, "K Proekty General'nogo Plana Magnitorgoska," *Sovetskaia Arkhitektura*, no. May-June (1933): 17.

⁴³⁰ Lissitzky, *Russia : An Architecture for World Revolution*, 179.

scheme explains the bowed shape of the housing region: it sits between the mine and industrial lake to the north, and a row of hills to the south. (Figure 5.45) The housing is thus as close as is possible to the industrial zone, on the flattest land available. Both the detailed site plan and the bird's eye view of the Tsekombank scheme reveal that it had much in common with OSA's linear competition entry. (Figures 5.46 – 5.47) Repetitive residential communes fill in a wide linear band that wends its way in a southeasterly direction. May's residential buildings are simple double exposure bars, oriented on a strict north-south axis to allow for maximal east-west insolation. In the bird's eye perspective the buildings cluster into loose groups, but each stands free, surrounded by green space. It is an evocative drawing that uses perspectival drama to mask extreme regularity.

May had promised his clients a scheme in two weeks, and indeed, on December 2nd and 3rd, two groups of experts met in Moscow to assess the Giprogor and May schemes side by side.⁴³¹ Among the eminent architects and planners gathered to select a scheme for Magnitogorsk was none other than Baku planner, Aleksandr Ivanitskii. Resolution was hard won. The two groups of experts disagreed on the most basic issue: on which riverbank to place the socialist city. They also disagreed over which of the two schemes to support (Ivanitskii's group claimed May's scheme superior). Over the course of the month, various tables and reports comparing the plans were made, meetings convened, and debates held over siting, density, and architectural volume. At the end of December, in a ruling shrouded by decision-making opacity,

⁴³¹ The expert panel consisted of the most eminent Moscow architects of the day: G. B. Krasin, Ginzburg, A. P. Ivanitskii, V. N. Semenov, N. P. Makarov, Davidovich, O. A. Vutke, Afanas'ev, N. I. Gundorov, Vesnin, Ivanov, V. Voeikov, I. Zholtovskaia, Rukavishnikov, Shchusev, Frolov and K.I. Dzhus. As the authors note, the inconsistent degree of naming specificity on this list is simply reflective of inconsistency in the original documentation. Konyshcheva and Meerovich, *Ernst Mai: Proektirovanie Sotsgorodov V Gody Pervykh Piatiletok (Na Primere Magnitogorska)*, 49.

the planning of Magnitogorsk was handed over to the May Brigade. In small consolation to the losing architect, May was directed in his contract to use “a few of solutions from the project of Chernyshev.”⁴³²

Socialist City on a Minor Scale

Neither the siting nor the shape of the first permanent residential quarter in Magnitogorsk was resolved quickly. After May took another reconnaissance trip to Magnitogorsk in February 1931, the Tsekombank design team worked through both left and right bank general plans.⁴³³ (Figure 5.48) May preferred the right bank scheme for all of the reasons it was adopted in the postwar period: convenient access to the northern rail lines into and out of the city; southeasterly prevailing winds; gentle topography; greater possibility for both production and residential expansion. He conceded, however, that the left bank was where the socialist city had to be built, for three key reasons that were out of his control. First, the damming of the Ural River caused a two-kilometer distance between the production zone and the nearest possible right bank settlement. Specialists determined that at least two bridges would need to be built between the riverbanks to connect the two, which was fiscally improbable in the near future. Second, left bank construction “provided pedestrian connection between the residential and industrial areas for a very large part of the industrial workers and miners, who thus could live without mechanical transport.”⁴³⁴ Lastly, in the fall of 1930, a sizable number of “temporary” structures were constructed, and roads built to connect them with the production

⁴³² Irina Cheredina, "Stroitel'stvo Goroda Magnitogorska 1930-E Gody. K Istorii Voprosa," *Budownictwo* no. 17 (2011): 34.

⁴³³ Kotkin, *Magnetic Mountain : Stalinism as a Civilization*, 113.

⁴³⁴ May, "K Proekty General'nogo Plana Magnitorgoska," 17.

zone. In order not to squander the investment already expended, these had to be incorporated into the general plan.

Months passed, schemes were drawn and redrawn, and still the general plan was not ratified. In September 1931, the Tsekombank planning bureau merged with Gosproekt No.2 (a planning office of the VSNKh RSFSR) to create Standartgorproekt. Ernst May was designated head engineer of the new design office.⁴³⁵ The final Magnitogorsk general plan that the May Brigade completed in 1933—as employees of Standartgorproekt—retained a left bank design. (Figure 5.49) In this version, the residential areas were split into northern and southern developments. The northern sector, placed above the production area, benefitted from proximity to rail lines, and open steppe to the north for expansion. The southern sector was more or less in the location the May Brigade had previously sited the socialist city.

A small section of the original Tsekombank plan—called variously the Socialist City, Block No. 1, or the Kirov District—was constructed between 1931 and 1934. This neighborhood sat at the very western edge of the southern residential sector below the production zone, and was composed of rows of freestanding housing bars. (Figure 5.50) As constructed, the neighborhood was an architectural hybrid. Pionerskaia Street, the center east-west axis of the plan, was flanked by pairs of 4-story bar buildings, designed by Gosproekt, that were constructed before the May Brigade completed their housing designs. (Figure 5.51) Three-story “sectional houses” (*seksionnye doma*), designed by the May Brigade, sat at the outer edges of the rectangular site. (Figures 5.52 – 5.53) While they designed a handful of housing types, the majority constructed were the so-called INKO-A houses, made up of standard 10-meter

⁴³⁵ Kazus', *Sovetskaia Arkhitektura 1920-X Godov: Organizatsiia Proektirovaniia*, 158-59.

“sections” placed side to side, each of which held a switchback stair and two 2-room, double-exposed units per floor. (Figures 5.54 – 5.55) The stuccoed exteriors of the INKO-A houses were devoid of ornamentation, but large windows and regular balconies provided volumetric relief on the simple brightly painted facades. Open space between each sectional house was designed at a width of 3-3.5 times the height of the buildings. This common space was intended for passive recreation, gardens, storage sheds for coal, firewood and extra food supplies, and, in certain cases, small buildings for communal programs.

American writer John Scott lived in Magnitogorsk from 1933 through 1938, and recalled his time in the city in *Behind the Urals: An American Worker in Russia's City of Steel*, published in 1942. An entire chapter of his memoir is devoted to the “Socialist City,” a term used by Scott to refer to both Magnitogorsk broadly and his own neighborhood of the Kirov District in particular. Through Scott’s recollections of the built environment and culture of the Kirov District, it is possible to catch a glimpse of how the May Brigade’s sole material legacy in Magnitogorsk was perceived and occupied in the years immediately after its completion. Scott opened the chapter with a shot across the bow, followed by a detailed illustration of the neighborhood:

The Socialist City, renamed the Kirov District, because it was not really a very good example of a Socialist city to put before the population, was composed of some fifty large apartment houses, three, four, and five stories high, containing seventy-five to two hundred rooms each. The houses were of brick and stone, stuccoed and painted various colors, which looked very well against the white background in winter. They were arranged in long rows, like military barracks, and were all of the same matchbox-on-edge shape. The metal roofs were painted red and blue. There were balconies in all the houses. Between the rows of houses there were wide streets, with sidewalks, along which many trees had been planted. In the center of the development were two open squares, with fountains, benches, children’s playground apparatus, flower gardens surrounded by neat green iron fences, and what would be shade trees in ten years...

Particularly in the summer the Kirov District had definite charm; the

fountains played, and innumerable little children, in bathing suits which left most of their sunburnt bodies open to the fresh air, splashed a splattered about. The walks were crowded with workers of all ages taking the air. Benches were occupied by men and women, young and old, reading and talking.⁴³⁶

His opening comment that, “it was not really a very good example of a Socialist city to put before the population,” was not wholly substantiated in the account that followed. Except for the comment about the “military barracks” arrangement of the houses—a description that would have resonated with the vast majority of Magnitogorsk’s residents, who were still living in such quarters—the remainder of his portrayal conjured a neighborhood of neat, simple housing surrounded by green spaces that served as magnets for communal conviviality. Further on in his description, Scott explained that the “one tremendous shortcoming was the fact that it was so crowded.”⁴³⁷ At an average of 3.34 square meters of floor space per person, four to five people lived in each small room. And these were the privileged few. The Kirov District was “inhabited principally by foreman, brigadiers, and skilled workers, as well as a scattering of teachers, doctors, and various city employees,” Scott wrote. The only residents of Magnitogorsk granted better accommodations were the high administrative technical and political personnel who had taken possession of a compound of single-family houses known as Berezki, built for departed foreign specialists. (Figure 5.56) There, a young Russian architect had emulated designs from American architectural catalogs, with a result “very much approaching Mount Vernon, New York, or Germantown, Pennsylvania.”⁴³⁸ The Kirov District, while no ersatz American suburb, was nonetheless a significant improvement on the barrack, tent, or yurt.

⁴³⁶ John Scott and Stephen Kotkin, *Behind the Urals: An American Worker in Russia's City of Steel*, Enl. / prepared by Stephen Kotkin. ed., vol. MB536, Midland Book ; (Bloomington, [Ind.]: Indiana University Press, 1989), 209-10.

⁴³⁷ *Ibid.*, 211.

⁴³⁸ *Ibid.*, 231.

The north-south orientation of the buildings for maximal insolation, and their slim freestanding form for double exposure and passive ventilation, allied the Kirov District housing with those May had designed for Frankfurt—especially Frankfurt-Westhausen—and with the residential communes requested in the Magnitogorsk competition brief. The Kirov District differed from Frankfurt and the competition entries in one significant respect, however: its modest scale. As built, the Kirov District amounted to just 37 residential buildings on a 46-hectare site.⁴³⁹ It accommodated 9,600 residents, or a mere 5% of Magnitogorsk's 1933 population of 190,000.⁴⁴⁰ And while the neighborhood was planned to offer ample communal infrastructure, very little was actually built. In 1933, a school, nursery, kindergarten, canteen, food products store, and boiler room (*kotel'naia*) were completed, less than half of the promised services.⁴⁴¹

At the end of 1933, Ernst May and his architectural brigade left the USSR. Their three-year design consultancy had had limited material impact. For all of the evocative drawings and models generated during their tenure in the Soviet Union, just one small neighborhood in Magnitogorsk was constructed upon their designs. This is not to say that their efforts were without long-term effect. In the years after the Kirov District was constructed on the left bank—in spite of May's continued advocacy for a right bank city—state and local administrations finally conceded that land west of the dammed river was the best site for future residential growth. The Kirov District became detritus of an earlier era of the city—an island of

⁴³⁹ Konyshva and Meerovich, *Ernst Mai: Proektirovanie Sotsgorodov V Gody Pervykh Piatiletok (Na Primere Magnitogorska)*, 183.

⁴⁴⁰ There were an estimated 190,000 residents by the end of 1933. Kotkin, *Magnetic Mountain: Stalinism as a Civilization*, Note 61, 434.

⁴⁴¹ Konyshva and Meerovich, *Ernst Mai: Proektirovanie Sotsgorodov V Gody Pervykh Piatiletok (Na Primere Magnitogorska)*, 185.

the everyday in the otherwise industrial territory of the left bank. May's urban planning position finally won the day, which meant that his architectural legacy in the city was left to founder.

* * *

Of the three sites explored in this dissertation, Magnitogorsk was burdened with the highest expectations. Because of its importance to Soviet industrialization, the spate of physical planners who cycled through the design project for Magnitogorsk from 1929-32 were heavily monitored and not given the time or space to engage in hands-on praxis to solve problems that the industry and site presented. Unlike in Baku, where site-based research and iterative physical planning slowly crystallized into a course of action, urban theory was deductive, or top-down, in Magnitogorsk. Which is to say that spatial concepts and architectonic forms preceded site-specific planning interventions, and that theory repeatedly clashed with facts on the ground.

Magnitogorsk therefore holds a somewhat awkward position in the trio of sites explored in this dissertation with regard to praxis. Unlike Baku—and Kharkiv, as we shall see—where on-the-ground research and construction led to real-time development of new design processes, urban relationships, and architectonic forms, socialist city building in Magnitogorsk was largely a intellectual project. Magnitogorsk prompted more theoretical, and less material, activity than the other two sites for a number of reasons, but perhaps most saliently for the prosaic fact of geographical distance. Because it was so remote—over four days from Moscow—very few of the officials or designers charged to plot its future set foot on the site. This distance permitted the material fact of Magnitogorsk to be deferred in favor of its conceptual potential.

While the gap between intellectual work and actual construction was undoubtedly a tribulation for the workers living in substandard housing on the Ural steppe, it would be unfair to brand the theory generated in the name of Magnitogorsk a failure. If we choose to characterize the All-Union competition brief as an instaurational text—the purpose of which

was to stimulate the development of model spatial solutions—it is possible judge the competition a success even though no construction on the Magnitogorsk site resulted directly from it. The instaurational text produced urban and architectural types that found footing on other sites, thousands of kilometers away. Understood in this way, Magnitogorsk *was* the model project of the first Five-Year Plan.

The next two chapters explore Kharkiv, the final site of our triad. The development of the Kharkiv Tractor Factory, and its socialist city, was more or less simultaneous with the events recounted in Magnitogorsk, yet Kharkiv held an altogether less prominent position than Magnitogorsk in the Soviet imaginary. Low administrative expectations for the architecture of Kharkiv's *sotsgorod* gave its designers freedom to experiment with ideas explored in conference and journalistic debates, competition briefs and design proposals for Magnitogorsk.

PART III
KHARKIV

Socialist Urbanization through Standardization (1930-32)

CHAPTER 6. From Tractors to Territory

How many know that our Kharkov Tractor Plant was not originally included in the first Five-Year Plan? Such is the case. The collective farms grew so fast, and with them the demand for more and more tractors that our Soviet country simply had to arrange for another huge tractor plant like its big brother in Stalingrad. So, as if by magic, from out of a barren and unproductive tract of land, arose this giant to produce the “iron horses” necessary for our socialist farms.⁴⁴²

— Fred Beal, *Foreign Workers in a Soviet Tractor Plant*

While the Magnitogorsk Steel and Iron Works was the sole reason for the import of people and materials to the far side of the Urals, its construction narrative was largely disengaged from the socialist city debate and the design of the residential settlement being built to support it.⁴⁴³ At the Kharkiv Tractor Factory (*Kharkivskii Traktorniy Zavod*, hereafter KhTZ) on the other hand, urban design, social programming, industrial architecture, and residential architecture were all intricately intertwined.⁴⁴⁴ The solution to one construction task was the key to solving the others. KhTZ was a smaller project than Magnitogorsk, and it was also one that advanced quickly and out of the spotlight. There was virtually no lead-up to the design and construction at KhTZ, as the epigraph notes, and no Union-wide expectation that this would be the model against which all other socialist settlements would be judged. KhTZ was no Magnitogorsk, and that was to its advantage.

⁴⁴² Fred E. Beal, *Foreign Workers in a Soviet Tractor Plant* (Moscow: Co-operative Publishing Society of Foreign Workers in the U.S.S.R., 1933), 7.

⁴⁴³ There are many works of both fiction and non-fiction devoted to the mythic construction effort at the Magnitogorsk Steel and Iron Works. The one that best captures day-to-day life under “Stalinist tempo” is Valentin Kataev, *Time, Forward!*, 1st Midland book ed. (Bloomington: Indiana University Press, 1976). The film *Pesn' o Geroiakh* (Song of Heroes) by Joris Ivens (1932) also conveys the import of the plant’s construction in its time.

⁴⁴⁴ Although the name of the city is *Kharkov* in Russian (a spelling used sporadically in archival documents), and *Khar'kov* as transliterated with the Library of Congress standard, I have used here the current, Ukrainian spelling of *Kharkiv* throughout.

These final chapters deal with Union-wide concerns about the tempo, geography, and architecture of rapid industrialization through the design and construction of a singular tractor factory, KhTZ, and its adjacent *sotsgorod*. Careful reconstruction of the conditions that led to site selection, design of the factory, and the residential quarter uncovers how ideas practiced in the socialist urbanism debate and All-Union design competition for Magnitogorsk were finally mobilized on a site hundreds of kilometers from either Moscow or Magnitogorsk.

At the center of the first part of this story is the design consultancy of Detroit industrial architecture firm, Albert Kahn Inc. In January 1930, Kahn signed a two-year agreement with the Soviet government to become consultant for all industrial construction in the USSR. (Figures 6.1 – 6.2) The ambitious timetable set by state economic planners to meet first Five-Year Plan targets simply did not allow for a period of internal architectural research and development—nor were there experienced Soviet factory designers to lead the charge, even if the timetable had been more leisurely. Pragmatism, forced by the schedule, led the Supreme Soviet of the National Economy (VSNKh) to Kahn, the architect of Henry Ford, just as it had led them to Freyn, McKee, and May to assist with Magnitogorsk.

In what way does a tractor factory designed by an American firm contribute to the foundation story of socialist urbanism? To begin to answer that question, we must look at the map of the first Five-Year Plan sent to Kahn's office. (Figure 6.3) This and other maps of the Plan were anchored by keys filled with industrial “types”—electric stations, steel combines, tractor factories—that were scattered across the Eurasian continent in an immense multinodal constellation. (Figure 6.4) Many of the locations earmarked for heavy industry in the Plan were undeveloped sites of mineral wealth like Magnitogorsk, far removed from existing transportation infrastructure. Under these circumstances, architectural standardization—here meaning not only the use of standard building types, but also the introduction of a one-stop centralized design

process—became a key component of Soviet national planning and industrial development. “Pop up” industrial complexes that utilized standardized drawings, materials and construction techniques, the purview of American expertise, aligned with the Soviet aspirations to rapidly develop far-flung production sites.

This chapter thus asks how the Fordist model of industrial standardization enabled and empowered the Soviets to enact distinctly socialist urban patterns.⁴⁴⁵ Constructed in 1930 upon slightly adjusted designs formulated by Kahn’s Detroit office for the Stalingrad Tractor Factory, KhTZ provides a view into early stages of architectural standardization in the USSR. KhTZ is also one of the first examples in which decentralization—not to the extent envisioned by Okhitovich, but decentralization nonetheless—was enabled by the swift deployment of American industrial architectural typologies. The scale of Soviet industrial expansion by this method is astounding. Over 500 confirmed industrial structures were built using the drawings produced by Kahn’s designers. Many more were constructed after the 1932 ouster of Kahn’s firm on very slightly adjusted drawings, a process known as *priviazka*.⁴⁴⁶

Strategic differences between the original tractor factory at Stalingrad and its replica at Kharkiv reveal a complex story of Soviet conditions looping back upon and modifying American designs and construction practices on Soviet sites. Kharkiv was not a carbon copy of Stalingrad

⁴⁴⁵ Studies that insist upon the unidirectionality of technology transfer between the West and the USSR, like Anthony Sutton’s two-volume *Western Technology and Soviet Economic Development* series, have been largely superseded by scholarship that complicates the relationship of these technology exchanges. New, enriching examples include David E. Greenstein, “Assembling Fordizm: The Production of Automobiles, Americans, and Bolsheviks in Detroit and Early Soviet Russia,” *Comparative Studies in Society and History* 56, no. 2 (2014); Boris M. Shpotov, “The Case of Us Companies in Russia-Ussr: Ford in 1920s-1930s,” in *American Firms in Europe : Strategy, Identity, Perception and Performance (1880-1980)*, ed. Hubert Bonin and Ferry de Goey (Genève: Librairie Droz, 2009); Siegelbaum, *Cars for Comrades : The Life of the Soviet Automobile*.

⁴⁴⁶ *Priviazka* is a term utilized in Soviet architectural discourse to describe a process in which a standard design is tweaked to meet the demands of a particular site.

in either material or labor terms, and these differences signal the reformulation of American industrial practices to meet the capacities of a still-developing socialist context. In my analysis of these events, I utilize the notion of *circulation des savoirs*. This methodological approach insists that expertise—in this case architectural—is grown and transformed through the looping interaction of specialists in varied political, economic and cultural contexts.⁴⁴⁷ American techniques were theorized and utilized for ends not anticipated by their creators, demonstrating, perhaps, the flexibility and receptivity of standardized design practice to serve varied masters.

To begin, I situate the tractor within its early Soviet context by examining the economics of grain and the culture of industrialized agriculture that made it such a necessary and coveted machine. I then address the planning and construction of KhTZ, and consider how the tractor factory's planning and architecture were impacted by the "shock-work" culture of the first Five-Year Plan. The tempo of the Plan forced Soviet economic and physical planners to devise a host of accelerating strategies; standardization was one that allowed KhTZ to meet the unreasonable construction timetable set by Ukraine's Metallurgic Planning Agency, UkrGiprommez. Although not without its failures and drawbacks, standardization emerged from the Kharkiv experiment as one of the main strategies by which the Soviet Union was industrialized, settled and housed.

Grain as Capital

At the start of the first Five-Year Plan, the Soviet state established grain as the primary commodity to fund industrialization. Grain was a resource that the Soviet Union was capable of producing in excess, but it did not, administrators understood, "come by itself"—it had to be

⁴⁴⁷ An excellent discussion of both *circulation des savoirs* and *histoire croisée* as applied to the Soviet case can be found in Cohen, "Circulatory Localities : The Example of Stalinism in the 1930s."

extracted from peasant farmers through forcible requisitioning. The Soviet government argued that grain stockpiling was necessary because the USSR was not in a diplomatic position to receive international credit. The US government did not recognize the Soviet Union officially until 1933, so the American business owners who chose to engage in trade or technical assistance to the Soviets did so at their own risk. As a rule these and other foreign companies demanded, and were granted, hard currency in return for goods and services they provided to the Soviet government. At the Fifteenth Party Congress in December 1927, Soviet leadership codified a strategy that became known as *perekachka*—pumping agricultural resources into industry.⁴⁴⁸ Soviet grain was exported to provide capital funds for the purchase of foreign machinery and expertise necessary to meet the targets of the Plan. Paradoxically, grain was being used as a resource to fund its own extinction in the Soviet economic schema.

Agriculture in 1920s Soviet farmlands was primitive and inefficient, yet historical expertise existed. Peasant farmers knew how to sow, harvest and thresh grain and had some experience setting aside stores. These stores came under repeated threat during the early Soviet period, as peasant farmers were required to pay a tribute (*dan'*) to support socialization and industrialization. *Dan'* was understood as a material offering—a tax in grain—but also a moral duty of sacrifice for the greater good. To feed the Red Army and the starving Russian cities during the Russian Civil War, armed Bolshevik units stormed villages and forcibly requisitioned grain. In retaliation, peasants refused to grow crops. Their dissent, coupled with a drought in

⁴⁴⁸ The Fifteenth Congress was concerned with the impending agricultural procurement “grain crisis” that led, in 1928 and 1929 to forced collectivization. Even members of the more conservative right faction, such as Rykov, agreed that *perekachka* was necessary, but they split on the degree of violence with which agricultural extraction should be enacted. Lewin, *The Making of the Soviet System : Essays in the Social History of Interwar Russia*, 95.

1921-22, brought severe famine to the region and economic collapse.⁴⁴⁹ Peasant and worker uprisings followed, and while suppressed, mutual distrust between the rural population and perceived outsiders became the prevailing attitude that the Soviet government had to reckon with through the 1920s and 30s. For a seven-year stretch during the NEP, the Soviet state halted grain requisitioning in Ukraine. Ukrainian peasants instead paid a moderate tax-in-cash to the government and were allowed to sell surplus crops at market value. The era of self-organization and relative prosperity in the Ukrainian farmlands came to a close at the start of the first Five-Year Plan.

A brief sketch of the escalating “grain crisis” in the Ukrainian countryside gives a sense of the social and economic conflicts roiling in the background of the KhTZ construction project. In the winter and spring of 1927/28, the amount of grain peasants put up for sale was significantly less than they had offered in previous cycles. Animal products and so-called technical crops (non-grains) yielded greater financial return on the market; grain was kept aside for livestock feed, domestic use and to build up personal reserves. Because of this unforeseen retention, exportable grain projections built into the economic model for the industrialization drive were rendered untenable. As Moshe Lewin notes, the great risk to the state was that “the countryside, if not properly controlled and mastered could wreck the whole effort.”⁴⁵⁰

In *Pravda*, November 1929, Stalin announced the kick-off of a comprehensive collectivization effort for Soviet agriculture. This announcement prompted a number of actions by both the peasants and those entrusted to carry out collectivization efforts (local officials and mobilized teams of urban workers). As during the civil war requisitioning crisis, peasants found

⁴⁴⁹ Orest Subtelny, *Ukraine : A History*, 3rd ed. (Toronto ;Buffalo: University of Toronto Press, 2000), 381.

⁴⁵⁰ Lewin, *The Making of the Soviet System : Essays in the Social History of Interwar Russia*, 144.

ways to sabotage the campaign. They slaughtered their livestock rather than risk confiscation; devised hiding places for stockpiled grain; and poorly threshed their grain in the first official round only to gather more for themselves in subsequent threshings. Mobilization crews, for their part, conducted mass searches for hidden grain and livestock and assessed stiff fines and issued arrests for peasants caught with concealed property. Many wealthy peasant, or *kulak*, families were rounded up and deported to the Urals and Siberia, and their property assumed by the state. Small-scale family farms were assessed an unduly high percentage of their crops for requisition, which forced many of them into debt to the state and finally into collective farms (*kolkhozy*). The bumper grain crop in 1930/31 only caused the government to raise requisitioning totals, forcing more small landowners into poorly organized and inefficient *kolkhozy*. By 1931, so much grain was being utilized to feed the industrialization effort that there was not enough to sustain the agricultural effort. Preparation for the 1932 crop was stymied by insufficient seeds to sow and peasants who were, in any event, too hungry and exhausted to do so.⁴⁵¹ Increasingly violent state-peasant interactions such as these occurred in the immediate vicinity of the KhTZ construction project to support the manufacture of tractors many of the peasants would not survive to use.

“To common work on common land! Integrally with industry!”⁴⁵²

The tractor was among a small number of industrial products that carried specific objectives in the first, 1928 version, of the first Five-Year Plan, even though its critical role in

⁴⁵¹ The great famine of 1932-33, *holodomor* in Ukrainian, emerged from this crisis.

⁴⁵² Intertitle in Sergei Eisenstein's *The General Line*, 1929.

collectivization had not yet been formulated.⁴⁵³ Despite early distrust of mechanized horsepower (some peasants purportedly crossed themselves and spat at the first tractors they saw), the tractor became a coveted means to modernize farming life.⁴⁵⁴ The most common and reliable model was the American Fordson tractor. As has been noted elsewhere, fanaticism for Detroit's agricultural machinery manifested itself in many ways, not least in Russified Ford-based baby names invented by Soviet peasant families.⁴⁵⁵

The tractor was a powerful propagandizing tool as evidenced by its central role and frequent appearance in films released during the first Five-Year Plan. I utilize two examples here: *The General Line* (1929) the work of Moscow-based Russian director, Sergei Eisenstein, and *Earth* (1930), by Kyiv-based Ukrainian director, Aleksandr Dovzhenko. The narrative of both films follows the process of agricultural collectivization in the Ukrainian black earth (*chernozem*) region. The tractor acts in each film as a promise, an immediate material benefit of abandoning centuries-old rural practices and self-direction in favor of common work on common land.

In Eisenstein's *The General Line*, the protagonist is a peasant woman named Marfa Lapkina, whose rural village contemplates collectivization after a particularly difficult season. Marfa advocates for all villagers to band together to create a dairy cooperative, which, after much resistance and some success, expands to become a bovine collective. The struggle between village elders, who wish to retain traditional farming methods, and the younger generation, is

⁴⁵³ In total 44 industrial products carried specific objectives in the Plan, but only eight were mechanical products, a category into which the tractor fell. Yves Cohen, "The Soviet Fordson. Between the Politics of Stalin and the Philosophy of Ford, 1924-1932," in *Ford, 1903-2003, the European History*, ed. Hubert et al Bonin (Paris: Plage, 2003), 539.

⁴⁵⁴ Maurice Hindus, "Henry Ford Conquers Russia," *The Outlook*, no. 29 June (1927): 282.

⁴⁵⁵ See Stites, *Revolutionary Dreams: Utopian Vision and Experimental Life in the Russian Revolution*, 149. Kendall E. Bailes, "The American Connection: Ideology and the Transfer of American Technology to the Soviet Union, 1917-1941," *Comparative Studies in Society and History* 23, no. 3 (1981): 436.

highlighted throughout the movie in keeping with the original Russian title, *Staroe I novoe* (*Old and New*). “What do we need a tractor for?” asks one seasoned villager when the issue of mechanized farming arises. “I am myself a machine. Look at these hands!” He pushes up his sleeves to reveal thin but strong arms, rough calloused hands. The youthful peasant laughs. In the film, the pro-tractor majority pushes through. Since the *kolkhoz* repeatedly has been denied a loan, Marfa travels to the city to plead for a tractor in person. Although dwarfed by urban industry and the Derzhprom Constructivist skyscraper in Kharkiv, Marfa prevails over the burgeoning Soviet bureaucracy in the Department of Agricultural Restocking and Machine Loans, and secures a tractor order. (Figure 6.5) The culminating scenes celebrate the tractor’s arrival in the village. Dressed in leather helmet goggles and jacket, Marfa is transformed into a tractor driver. (Figure 6.6)

The narrative arc in Dovzhenko’s *Earth* gives the tractor a more equivocal role in the Union-wide push for agricultural collectivization. A Ukrainian farming village is the setting, which is approached through waving fields of grain exquisitely shot by cinematographer Danylo Damutsky. (Figure 6.7) As in *The General Line*, a generational rift cuts through the film, as does a conflict between kulak “landowners” and the rest of the village. Early in *Earth*, strapping protagonist Vasyl joins the local Party cell and sets off to town with his comrades to secure the village’s first tractor. “Well, *bat’ko*,” said Vasyl to his skeptical father, “now we’ll put an end to the kulaks... We’ll get tractors and take the earth away from them.” The most joyous scenes of the film follow the tractor’s arrival in the village. (Figure 6.8) Long shots track Vasyl on the tractor, surrounded by his comrades, as they make their way toward the village down a thin dusty track cut through the steppe. “It’s coming!” shout the village children, who slide down thatched roofs to the ground and begin running toward the machine, adults trailing behind. The remainder of *Earth* depicts the local and personal consequences of agricultural mechanization. In

his first day in the fields with the tractor, Vasyl makes good on his promise to knock down fences that mark kulak landholdings. In retaliation, a young kulak kills Vasyl. Was the tractor worth the ultimate sacrifice? And despite the abhorrent actions of a single young kulak in the film, does *Earth* come close to advocating Stalin's late 1929 policy of "eliminating the kulaks as a class"?⁴⁵⁶

Earth opened in Kharkiv in the spring of 1930 to a standing ovation. Response from Moscow critics, however, was swift and damning. Critic Demyan Bedny, for one, branded *Earth* as "counter-revolutionary obscenity."⁴⁵⁷ Given collectivization's sensitivity as a topic at the time of *Earth's* filming and release, it is hardly surprising that a politically ambiguous film by a Ukrainian director released by a Ukrainian film studio (VUFKU) should come under attack. Rather than sign a statement of repentance prepared by the Central Committee in Ukraine, Dovzhenko embarked on a lengthy trip abroad.

In both *The General Line* and *Earth*, the long-awaited tractor promises to enact the Soviet transformation of *byt* (the everyday way of life) and rural landscapes in three particularly spatial ways. At the most intimate scale, the tractor lifts the former peasant (now agricultural worker) above the ground. In this elevated position a new perspective emerges that focuses on the extended smooth horizon rather than the immediate, tactile foreground. Second, the tractor's efficient plows are capable of altering and inscribing the earth with the clean Euclidean geometries of mechanization, a purposeful conquering act of society over nature. Lastly, and

⁴⁵⁶ Iosif Stalin, "Problems of Agrarian Policy in the Ussr, 27 December 1929," in *Problems of Leninism*, ed. I. V. Stalin (Moscow: Foreign Language Publishers, 1934).

⁴⁵⁷ Demyan Bedny translated in Herbert Marshall, *Masters of the Soviet Cinema ; Crippled Creative Biographies* (London, Boston: Routledge & K. Paul, 1983), 128. Cited in Raymond J. Uzwyshyn, Alexander Dovzhenko's Silent Trilogy: A Visual Exploration (2000) at <http://rayuzwyshyn.net/dovzhenko/dovzhenkostudy.html>.

most importantly from a planning perspective, the efficiency of the tractor drastically increases the productive range the agricultural worker can traverse in a day. The tractor-plowed and colonized landscape can now be cognized as a vast territory of continuous fertile fields, commonly owned and worked without the historical divisions of contiguous family plots. All of these spatial repercussions are celebrated in the final minutes of *The General Line*, the more propagandizing film of the two before us. (Figure 6.9) In shots montaged from various angles, the mass-produced steel wheels of a Fordson tractor approach, knock down and snap the hand-hewn branches that formerly marked individual plots. Once the clearing is accomplished, a fleet of tractors engages in a remarkable choreographed dance. They begin in a rigid line at the top of the shot, and one by one they roll diagonally across the field joining rank to inscribe a perfectly plowed circle so large that it exceeds the limits of the camera's viewfinder by the end of the sequence. As the tractors altered the landscape beyond the frame, a new boundless scale was planted in the Soviet imagination, one that jibed with the diffuse patterns in evidence in the Plan's graphic representation.

The Soviet Tractor (by any means necessary)

In the common narratives of *The General Line* and *Earth*, small *kolkhozy* were able to usher themselves into agricultural modernization through the acquisition of a tractor dedicated to their collective. The history of tractor procurement in Soviet agriculture is much more complex, and the tractor a much less accessible goal for individual *kolkhozy*, than these films suggest. Throughout the early and mid 1920s, tractors were few and far between in the Soviet Union. Beginning in 1922, the Soviet government repurposed their small store of wartime crawler tractors for agricultural use and organized state-run tractor columns. The effort was a failure: the old and motley collection of machines was poorly maintained and the columns

poorly run. Yet even had the program been successful, only 177 tractors existed in the entire Soviet Union, a fleet that could cover just 0.02% of arable land.⁴⁵⁸ By the end of the 1920s imports had increased the number of tractors on the ground, but these added machines did not change the complexion of Soviet agriculture appreciably. In 1928, still only 1% of agricultural land in the Soviet Union was sown by tractor.⁴⁵⁹

Before 1929 the Soviet Union relied almost solely upon imports of tractors from the United States. The Ford Motor Company alone sold 20,000 tractors to the USSR in the four-year period from 1922-1926, and by 1927 85% of all Soviet trucks and tractors had been built in Ford's Detroit factories.⁴⁶⁰ Importation was so expensive—and the number of tractors so insufficient—that Soviet industry took measures to produce local versions of the coveted machines. Charles Sorensen, one of Henry Ford's deputies, traveled to the USSR in 1928 to negotiate a contract for a new auto works. His host from the VSNKh, vice-chairman Valerii Mezhlauk, brought Sorensen to the famous Putilov Steel Works in Leningrad.⁴⁶¹ What the American saw on the factory floor was one of Ford's patented products:

We came right on into the assembly room and I stopped in astonishment. There on the floor lines they were building the Fordson tractor.

I turned to Meschlauk [sic]. "Where did you get hold of the design for this tractor?"...

What the Russians had done was to dismantle one of our tractors in the Putilov works, and their own people made drawings of all the disassembled parts. I visited a department where the rear axle and the final drive were being assembled. The moment I appeared I heard "Hello, Charlie," and a foreman walked up to me with a broad smile. Sure enough, he was one of our old employees...

⁴⁵⁸ Chizuko Takao, "The Origin of the Machine Tractor Station in the Ussr: A New Perspective," *Acta Slavica Iaponica* 19 (2002): 121.

⁴⁵⁹ *Ibid.*, 118.

⁴⁶⁰ Sutton, *Western Technology and Soviet Economic Development 1917 to 1930*, 1, 140.

⁴⁶¹ Mezhlauk, with Amtorg's Saul Bron, brokered the agreement with the Ford Motor Company to assist in constructing the auto factory in Nizhnii Novgorod.

It was apparent that, while the Russians had stolen the Fordson tractor design, they did not have any of our specifications for the material that entered into the various parts. And you can't find that out merely by pulling the machine apart and studying the pieces.⁴⁶²

The Soviet Fordson tractors produced by this reverse engineering method (the *Fordzon-Putilovets*) were, simply, unusable. Because Soviet engineers could not recreate the precise forging process required for each steel component, the Putilov-made tractors fell apart as soon as they hit the fields. Sorensen's final assessment was that this "most ancient out-of-date plant" should be blown up with a barrel of dynamite.

In his study of American-Soviet technical exchange, Kendall Bailes noted that there were five main channels for Russians, then Soviets, to gain access to American technology and methods of industrial organization. The first two—trade and direct ownership, concessions, or enterprises operated by Americans within Russia—were utilized primarily in the 19th century. The post revolutionary period saw the rise of the last three: "industrial espionage," of the type Sorensen witnessed, which was the unauthorized replication of American technology without the aid of licensing agreements; importation of American technical literature; and technical trade agreements.⁴⁶³ After three years of trying and failing to replicate American technology through industrial espionage and literature review, the Soviet government implemented the final tactic, and brought American industrial specialists and their technology to the Soviet Union through proper channels.

⁴⁶² Charles E. Sorensen, *My Forty Years with Ford* (Detroit: Wayne State University Press, 2006), 202-03.

⁴⁶³ Bailes, "The American Connection: Ideology and the Transfer of American Technology to the Soviet Union, 1917-1941," 432.

A high-ranking delegation from the VSNKh visited the United States in 1928, and sought out architect Albert Kahn in his Detroit office.⁴⁶⁴ Kahn's work for Henry Ford at the River Rouge auto plant was well known to Soviet development experts. The firm had a reputation for turning out flexible industrial complexes in which design was driven not by aesthetic concerns, but the exigencies of assembly-line production. The firm was also exceedingly efficient. In the 1920s, Kahn's 400+ staff was comprised of architectural designers and draftsmen; structural, mechanical electrical and ventilation engineers; specification writers; estimators and expeditors; field superintendents and office workers.⁴⁶⁵ In standard architectural practice at the time "coordination" was sequential. Architects would develop a spatial scheme and then hand off drawings to technical specialists who were forced to organize their equipment and systems into the schematic design. Once potential spatial or technical conflicts were flagged, negotiation between the architect and the engineers could begin. It was not an efficient process. In contrast, Kahn's office hosted all specialties under one roof. Kahn's organizational structure permitted all departments to begin work simultaneously and coordinate in an ongoing, fluid process. Albert Kahn, Inc. acted as a streamlined one-stop project delivery shop. Architectural, technical and specification documentation for a single plant could be produced in one month, after which Kahn construction foremen headed directly to the field. A completed factory could be up and running six months after contract signing between architect and client. His firm's efficiency, coupled with technical know-how gleaned from his work for Ford, made Kahn a very attractive specialist in the context of the breakneck pace set for Soviet industrialization.

⁴⁶⁴ Sonia Melnikova-Raich, "The Soviet Problem with Two 'Unknowns': How an American Architect and a Soviet Negotiator Jump-Started the Industrialization of Russia, Part I: Albert Kahn," *LA: The Journal of the Society for Industrial Archeology* 36, no. 2 (2010): 60.

⁴⁶⁵ "Producer of Production Lines," *Architectural Record*, no. June (1942): 40.

Another Soviet delegation visited the United States in early 1929, with the express task to hire American industrial firms to work for, and sometimes in, the Soviet Union. More than twelve U.S. firms signed technical assistance contracts with the Soviet government by June of that year. These contracts covered a variety of industrialization projects including construction of auto, tractor, steel, hydroelectric power, chemical fertilizer and baking plants as well as modernization of the mining, radio and electric industries through the legal use of American patents.⁴⁶⁶ The scale of exchange over the course of the first Five-Year Plan was significant: the Soviet Union signed 134 technical aid agreements by 1931, mostly with American firms. Between these corporate agreements and individual exchanges, 9,000 foreign engineers and 10,000 foreign workers were active in the Soviet Union in 1932. More than fifty-percent of these foreign experts and workers were German, while thirty-percent, at most, were American.⁴⁶⁷ Germans, like May and his brigade, were more willing to work for rubles than their American counterparts, and they were more likely to be “fellow travelers,” recruited from within the German Communist Party.

Albert Kahn, Inc. was in the early group of Soviet technical consultants. The Detroit-based firm signed a \$4,000,000 contract to design a single tractor plant for the southern Russian

⁴⁶⁶ The twelve companies that signed contracts with the Soviet government in June 1929 were Ford (\$30,000,000 of Ford trucks and construction of an auto plant); Hugh L. Cooper (for engineering consultation on the DneproHez hydroelectric plant); Stuart James and Cooke (engineering consultation for the coal mining industry); H.J. Freyn Engineering (consultation on steel mills); Radio Corporation of America and International General Electric (exchange of patents and technical assistance); Nitrogen Engineering (technical assistance to build a nitrogen fertilizer factory); DuPont de Nemours (technical assistance to build ammonia fertilizer factories); Longacre Engineering & Construction (technical assistance and supervision on apartment building construction in Moscow); Arthur Davis (chief consulting engineer in irrigation projects in Soviet Central Asia); McCormick company (design of a large baking plant in Moscow); and Albert Kahn, Inc. (design of the Stalingrad Tractor Factory). From "Soviet Closes Big U.S. Deals," *Detroit Free Press*, June 4 1929.

⁴⁶⁷ Bailes, "The American Connection: Ideology and the Transfer of American Technology to the Soviet Union, 1917-1941," 433.

city of Stalingrad that would produce 40,000 tractors annually. The *Economic Review of the Soviet Union* noted in June that in addition to the expected production in Stalingrad, additional tractor plants would assist to reach a goal of 100,000 Soviet-made tractors by the end of the first Five-Year Plan. Kharkiv would produce 3,000 heavy tractors toward that goal, conceivably in the tractor “shop” at the Kharkiv Locomotive Factory (*Kharkivskiy zavod transportnoho mashinobuduvannia* or *Khar'kovskii parovozostroitel'nyi zavod*, KhPZ), which turned out a small number of machines starting in 1924.⁴⁶⁸ By October, the *Economic Review* reported that the Soviet Chief Machine Building Administration “has revised its program for the production of tractors and agricultural machinery during the remaining four years covered by the Five-Year Plan...based on the demand of the newly organized state and collective farms.”⁴⁶⁹ Due to the uptick in demand, the tempo of construction on tractor plants already under construction would increase. Additional factories would have to be built swiftly, preferably in the Central Black Soil region or the broadly defined “South.” The article noted that the Kharkiv plant would have to be reconstructed to increase output from 5,000 (already an unexplained increase of 2,000 from the June numbers) to 10,000 tractors per year, and that total tractor production in the USSR would reach 245,000 by the end of the Plan. This accounted for an overall 250% tractor production increase from estimates published just four months before. (Figure 6.10)

Concurrent events in the countryside just outside of Kharkiv put the astronomical tractor production increase in context. In October 1928, the Ukrainian Council of People's Commissars (Sovnarkom) announced to the Council of Labor and Defense (STO) that new

⁴⁶⁸ "Zapiska Po Voprosu 'O Vyboire Khar'kova, Kak Mesta Dlia Stroitel'stva Iuzhnogo Traktronogo Zavoda'," in *Fond Aleshina* (Kyiv: Ц Д А М Л М, ф.8, о.1, д.259, ll.2-31., 1929).

⁴⁶⁹ “Tractor Plants Speed up Production,” in *Economic Review of the Soviet Union*, October 1, 1929, 329.

tractor allocations for the spring sowing season were insufficient simply to replace the hard used and poorly maintained tractors that had gone offline that year.⁴⁷⁰ In October 1929, the month of these new projections, the “grain crisis” was in full swing; Stalin’s announcement about the new efforts toward collectivization was a month away. And still, there were not nearly enough tractors in the fields to meet the state’s escalating procurement demands. Soviet tractors needed to be produced *en masse*, which meant that Soviet tractor factories needed to be built, and quickly. A standard tractor factory model had to be found, one that could be readily replicated just like the Fordson itself.

Standardization and Speed

Progress toward the first Five-Year Plan’s ambitious capital construction goals was repeatedly thwarted by shortages. There were insufficient technical drawings, building materials, skilled foremen and laborers to build the complexes already inscribed as active industrial sites on the Plan’s projective maps. In August 1929, Stroikom issued a series of directives intended to usher the Soviet planning and construction industries into a new, more rationalized era.⁴⁷¹ The directives addressed settlement planning and building-scale design problems separately. Planning regulations for urban environments were to be developed by the NKVD, and regulations for agricultural stations were to be handled by the newly established Ministry of Agriculture and

⁴⁷⁰ Takao, "The Origin of the Machine Tractor Station in the Ussr: A New Perspective," 135.

⁴⁷¹ The Stroikom directives date from 15 August 1929. "Iz Direktiv Stroikoma Rsfsr Vedomstvam I Ucherezhdeniiam Po Prorabotke Konkretnogo Piatiletnego Plana Organizatsii Stroitel'nogo Dela," *Nashe stroitel'stvo*, no. 12-13 (1929). Partially reprinted in Kazus', *Sovetskaia Arkhitektura 1920-X Godov: Organizatsiia Proektirovaniia*, 414-15.

Food (*Narodnyi komissariat zemeledeliia*, NKZ).⁴⁷² The ministry responsible would determine the amount and tempo of planning for its given sector, but all decisions were pegged to the overarching tempo of national industrialization.

A separate section of the directive addressed “typification (*tipizatsiia*), normalization and standardization of building design” through four requirements.⁴⁷³ First, Stroikom required that relevant governmental departments set deadlines to develop standard types for buildings under their purview, draft measures to implement these types, and ensure that they were being utilized in “real projects” by a set date. Second, building types necessary for the first Five-Year Plan (especially industrial facilities) were to be developed and put into use immediately. Third, non-industrial programs such as housing and socio-cultural facilities would henceforth be constructed only upon models pre-approved by Stroikom. The fourth and final issue dealt with organizational standardization. By the end of the Plan, all design was to occur within state-run offices. Single practitioners and private design firms would no longer be permitted within the Soviet system. The days of the Ivanitskii-style, single-practitioner contract with Azneft were

⁴⁷² The NKZ, *Narodnyi Komissariat Zemeledeliia*, was established on 7 December 1929 as a Union-wide ministry responsible for the planning and management of the agricultural production in the entire USSR. Its charge was to oversee agricultural collectivization and ensure procurement targets. NKZ was repeatedly reorganized (starting in 1932) when it failed time and again to meet the targets set for agricultural production.

⁴⁷³ The relevant issues were “1) All departments and agencies, each according to the type of construction, will set deadlines for which they will develop the most important types of standards both for structures themselves and the individual elements within these structures. They will also develop concrete measures to implement these standard designs and building elements, and will set deadlines for them to be utilized in real projects. 2) All departments and agencies, each according to the type of construction, will immediately begin to develop types and standards for the construction of facilities required for the Five-Year Plan. 3) The departments involved in housing, socio-cultural and administrative building must note that these types of construction should be carried out solely on the basis of model projects that have been approved and published for general information by Stroikom RSFSR. Agencies also engaged in other types of construction must submit typical projects for approval by the RSFSR Stroikom for subsequent registration and publication. 4) All construction departments and agencies must together reorganize state design bureaus into central and local branches, so that by the end of the Plan all design work is completed in project offices.” In “Iz Direktiv Stroikoma Rsfsr Vedomstvam I Ucherezhdenniim Po Prorabotke Konkretnogo Piatiletogo Plana Organizatsii Stroitel'nogo Dela.”

coming to a close, to be replaced, as we have seen in Magnitogorsk, with state-run design bureaus like Giprogor and Standartgorproekt.

Despite concerted internal efforts to satisfy the Stroikom conditions, design and construction standardization did not occur fast enough to meet the tempo set by the first Five-Year Plan. On December 26, 1929 two concurrent decisions pushed the Soviet construction industry toward a model of internationally assisted national standardization. Publically, the SNK USSR issued a decree “On measures to cure the ills of building affairs,” that commanded immediate institution of rationalized professional practices through a series of directed efforts. A special standardization institute would be formed posthaste. To increase the tempo on typification for both structures and building processes, albums of type-projects would be published and widely distributed. Foreign specialists would be invited to work on particular projects, engage in professional exchange and share technical expertise. “With the assistance of the organization of international technical offices,” *Pravda* reported, “foreign firms and specialists will be entrusted to the construction of individual factories. It is also considered expedient to attract a few engineering-construction firms to open branches to the USSR.”⁴⁷⁴

The same day, behind closed doors, the SNK signed off on a draft for an expanded contract with Albert Kahn, Inc. Under the new agreement, Kahn’s firm would direct the design and supervise construction for all industrial projects in the USSR for a period of two years. In his previous contract with the Soviet government for the design of the Stalingrad Tractor

⁴⁷⁴ The decree was summarized in *Pravda*, 29 December 1929, in an article entitled “The Reorganization and Improvement of Construction”. A list of all of the issues addressed in the decree included the need for mechanization of construction work, standardization, industrialization of building materials, skilled work cadres, professional exchanges with other industrialized nations, use of foreign technical expertise, the organization of manufacturing in construction work, establishment of construction firms and branches, management and planning of the construction industry, and decrease of the cost of construction. This directive is also discussed in Cooke, “The Town of Socialism,” 166-67.

Factory, Kahn retained rights to the architect's instruments of service—drawings, specifications and the intellectual property contained in the design—as is common practice in United States. Under the new agreement with the Soviet government, Kahn's firm would provide to its client, the VSNKh, “standard factory layouts, detailed drawings, specifications, and other technical documentation ‘typical for architects working in America,’” all of which would become the lawful property of the VSNKh at the end of the term.⁴⁷⁵

The importance of this proviso, and the timing of the agreement, cannot be understated. When Kahn signed the expanded contract on January 9, 1930, the Stalingrad Tractor Factory was nearing completion: the “International” tractor rolled off the line six months later.⁴⁷⁶ The Wall Street stock market crash just two months before the contract signing also put the future of Kahn's work in the United States in question. Although the Stalingrad factory was designed under the restrictive American-style contract, once the client-favoring agreement was put in place the Stalingrad blueprints seem to have fallen under the new legal regime. On January 28, 1930, just nineteen days after the contract was inked, construction began on a new Soviet tractor factory outside Kharkiv, the capital of the Ukrainian Socialist Republic. It was to be an exact copy of Stalingrad.

Ukrainian Tractors and Stalinist Tempo: The Search for a Site

KhTZ was not included in the first version of the first Five-Year Plan published in 1928. But then again, neither was industrialized agriculture, at least not on the scale instituted after the

⁴⁷⁵ Melnikova-Raich, "The Soviet Problem with Two 'Unknowns': How an American Architect and a Soviet Negotiator Jump-Started the Industrialization of Russia, Part I: Albert Kahn," 62.

⁴⁷⁶ "\$1,900,000 Building by the Soviet in 1930: Albert Kahn, Inc., Get Contract as Consulting Architects in Five-Year Program," *New York Times*, January 11 1930.

grain crisis of 1929. The circumstances and the timeline of KhTZ's inclusion in the modified Plan are worth looking at in some detail, for they reveal the mercurial and ultimately frantic nature of economic decision-making during the early stages of the Plan's fulfillment. This single capital construction project also demonstrates how particular sites became implicated in the Union-wide race to Soviet industrialization and further, how architectural strategies like standardization became invaluable to meeting the Plan's prescriptions.

In November 1929, the Ukrainian branch of the State Engineering Institute for Metallurgical Plants (UkrGipromez), submitted a memorandum to VSNKh entitled "The choice of Kharkov [sic] as the site for the construction of a southern tractor factory."⁴⁷⁷ The report was a feasibility and siting study that interrogated various possible locations within the Ukrainian SSR. Without preamble, the document opened with a list of preconditions for the projected factory:

1. Guarantee of a 15-month construction period, in agreement with the directive provided by the highest economic bodies, such that the construction of the factory will be complete in the fall of 1931.
2. Guarantee that even given this short period, full production will be met within a period of two years - that is, in the 1931-32 period the factory will turn out 30,000 units, and in 1932-33 50,000 units.
3. Achievement of a minimum cost.
4. Possible reduction of capital expenditures.⁴⁷⁸

The first precondition set the nearly impossible schedule. When one calculates back fifteen months from the hard fall 1931 completion deadline, and notes the date of the internal report, seven months were all that remained. In just over half a year, the drawings and site had to be prepared and the management and labor pool gathered to construct the factory and the adjacent

⁴⁷⁷ In direct quotes from Russian and English texts, I use the Russian spelling of *Kharkov*. In all other cases, the Ukrainian version, *Kharkiv*, is used.

⁴⁷⁸ TsDAMLM, f. 8, o.1, d.259, l. 1.

residential settlement. The second precondition stipulated that production targets must be met in a timely fashion. This requirement attempted to head off a problem common to accelerated construction jobs in the first Five-Year Plan. Namely, that pressured officials would declare a factory complete before it was truly ready for production. The Stalingrad Tractor Factory, although still under construction at the time the Kharkiv siting report was filed, fell victim to this temptation. The American foreman from Albert Kahn's office who oversaw both the Stalingrad and Kharkiv construction sites, revealed this fact a year after Stalingrad was declared complete. "We learned a lesson from Stalingrad, which 'opened' more than a year ahead of schedule, but didn't make many tractors," he noted in 1931. "At Kharkov [sic] we'll turn out a few tractors first, and then call her 'open.'"⁴⁷⁹ The concern of the final two conditions was cost reduction, which would be difficult to ensure given the expedited construction tempo. Architectural standardization was the only solution that could meet all four preconditions, either through a fully shipped and ready project, like at Stalingrad, or by using a preexisting design.

Three factors drove the plant's siting. Local building materials had to be available and affordable. Quick, uninterrupted delivery of these materials had to be assured and delivery costs kept to a minimum. Finally, the site had to be in a location that could rapidly draw a concentrated mass of construction workers, up to 10,000 at the height of deployment (this number was contingent upon the requisite supply of food, medical and cultural services). Because of these factors and the strict preconditions, the report's authors quickly culled the list of possible sites down to "large industrial centers with the presence of a developed metal industry," including Kharkiv, Dnepropetrovsk, Zaporizhe, Kyiv, Mikolaev and Odesa. Kharkiv

⁴⁷⁹ Leon A. Swajian, "Building the Kharkov Tractor Plant," *Economic Review of the Soviet Union*, no. September 15 (1931): 413.

and Dnepropetrovsk were deemed finalist sites, and Kharkiv was ultimately selected because the new plant could capitalize on a cadre of technical specialists already trained at the small tractor shop embedded within the Kharkiv Locomotive Plant.⁴⁸⁰

The report then addressed the precise location of the factory within Kharkiv. The UkrGiprometz team looked for a site no more than 15 kilometers outside the city center for a factory with an annual output of 5,000 tractors. They conducted basic reconnaissance on ten sites either on or adjacent to existing heavy rail lines, with areas ranging from 16 to 400 hectares. The exploratory extraurban plan showed the newly expanded Kharkiv city boundary plus major roads and rail lines radiating from the center. (Figure 6.11) The ten potential sites were indicated by white rectangles coincident with their footprint. Most read as tiny flecks within the greater Kharkiv area. Only one site, Losevo, a preexisting station stop on the southeast heavy rail line out of the city, could be construed as a city-sized parcel in its own right. When UkrGiprometz received word that tractor output projections for the future factory would increase to 35,000 and finally to 50,000 units per year, “it became abundantly clear from the perspective of future expansion that the only site within the given radius that satisfied all requirements for such a powerful plant and factory village—really factory city—was Losevo.”⁴⁸¹

The Losevo siting would not have surprised the local planning community. In 1924, under the direction of local engineer A.F. Voitkevich and architect A.A Main, Kharkiv city limits were expanded to accommodate industrial enterprise within municipal boundaries. Moskovskii Prospekt, which ran in a southeasterly direction from the center along the rail, was designated as an industrial growth zone where future machine tool, turbine, and tractor factory sites were to

⁴⁸⁰ TsDAMLM, f. 8, o.1, d.259, ll. 29-31.

⁴⁸¹ TsDAMLM, f. 8, o.1, d.259, l. 19.

be placed. Five years later, at the time of KhTZ site selection, the same A.A. Main established a planning bureau on Moskovskii Prospekt to study Kharkiv's future expansion. Local architectural historian Elena Cherkasova claims that Main's unfulfilled studies were distinctly disurbanist.⁴⁸² Losevo was, in fact, so far removed from Kharkiv city center—and yet so rationally placed along the designated trajectory for future industrial growth—that the site could have found support from both urbanist and disurbanist camps.

Documentary film footage of the Losevo site before construction preparation shows a snow covered and windswept plain with a few structures or tree stands in the far distance (the film quality is too poor to tell).⁴⁸³ An illustrative “before” photograph shows nothing more than a black strip of unoccupied land, topped by a slim strip of sky.⁴⁸⁴ (Figure 6.12) But the territory was spoken for and used nonetheless. Five local entities shared control, one of which was the “Stalin Kolkhoz.”⁴⁸⁵ UkrGiprometz began negotiations in October with the Ministry of Agriculture and Food (Narkomzem), which managed agricultural lands, to reassign existing tenants to parcels off the Losevo site.⁴⁸⁶ It is no small paradox that a Ukrainian kolkhoz,

⁴⁸² E.T. Cherkasova, "Idei i Realiztsiia Plana Sotsialisticheskoi Rekonstruktsii Khar'kova," in *Sovetskoe Gradstroitel'stvo 1920-1930x Godov: Noye Issledovaniia i Materialy*, ed. Yu L. Kosenkova (Moskva: Librokom, 2010), 133-35.

⁴⁸³ Documentary film footage at *Tsentrал'nyi derzhavnyi kinofotofonoarkhiv Ukrainy im. G.S. Pshenychnogo* [Central State Cine-Photo-Phono Archives of Ukraine, named after G.S. Pshenychnyi, TsDKFFA]. Odes'ka kinofabryka VUFKU, *Priskorennia Buduvannia Traktorobudu - Veletens'ka Peremoha Sotsialistychno Budivnytstva* (1930), No. 14/180. A p x . No. 1447.

⁴⁸⁴ I. N. Baltuzevich, *Opyt i Uroki Stroitel'stva Khtz* (Moskva-Leningrad: Gostroiizdat, 1932), 31.

⁴⁸⁵ The five entities with stake in the Losevo territory were “Voened, KhoS-Khos, Sel' khozkommu. Ogorodnyi trest i DOPR”. From the site plan, it becomes clear that the kolkhoz mentioned above is the “ucherezhdenie kommuny im. Stalina,” or kolkhoz named after Stalin. TsDAMLM, f. 8, o.1, d.259, l. 29.

⁴⁸⁶ *Derzhavnyi arkhiv Kharkivs'koi oblasti* [State Archive of the Kharkiv Oblast, DAKhO], f. r-5652, o.1, d.2861.

undoubtedly under intense grain procurement pressure in late 1929, was uprooted to make way for a factory whose tractors were intended to bolster agricultural productivity.

The report concluded with a summary of why Losevo was the ideal site for the future tractor factory. The favorable natural conditions of the site included good local water supply; solid soil; flat topography; “healthy” qualities due to its distance from marshlands; local wind patterns that blew away from the direction of the city; and local stores of building material ingredients nearby like clay, sand and stone. Equally important were the infrastructural and demographic resources of the site. National and local rail linkages permitted easy transportation of building materials. Proximity to Kharkiv was crucial, “so as to use all of the technical and scientific strength of the capital of Ukraine, and to rationally utilize local workforce to maximize cost reductions in the construction of the factory itself.” Finally, the site benefited from its location near the existing KhPZ tractor shop, which could provide a cadre of experienced workers.⁴⁸⁷

Examination of the KhTZ site selection process prompts two nested questions. First, did socialist urban theory influence the choice of location for KhTZ? Second, what situational factors impacted the relationship between urban theory and practice, socialist or not? To address the first question, we must look back at the three criteria for site selection, which were access to building materials, assured quick and inexpensive delivery of those materials, and proximity to a preexisting labor pool. These criteria were entirely pragmatic, not explicitly “socialist”. Nowhere in the report text is there discussion about the importance of dissolving the urban-rural divide, expanding industrial efforts beyond existing urban centers, or creating a site where new socialist

⁴⁸⁷ TsDAMLM, f. 8, o.1, d.259, l. 29-31.

relations could be inculcated (as we shall see in the brief for the KhTZ *sotsgorod*). In other words, site selection for KhTZ did not hinge upon the socialist spatial factors being debated concurrently in Moscow. The Gosplan conference occurred on November 26 and 29, 1929; the KhTZ siting report was filed on November 29. While the temporal overlap means that specific recommendations that came out of the Moscow debates could not have made material difference in KhTZ's site selection, socialist urban theories were well publicized in *Ekonomicheskaiia zhizn'* and elsewhere when the report was being compiled. Nonetheless, when UkrGiprometz discussed KhTZ's siting with the Land Department of the Regional Executive Committee and with American consultants, all parties decided that Losevo was the ideal site for purely practical reasons.⁴⁸⁸ The fact that the site was tethered to an existing urban center was not considered a problem—on the contrary, its population density and urban infrastructure was a benefit.

To follow with the second question, if the socialist urbanism debate did not influence siting decisions at KhTZ, what factors account for the authors' disengagement with theory? The single most important factor that determined the choice of site was speed. The accelerated tempo of the first Five-Year Plan forced specialists like those at UkrGiprometz to make decisions quickly based upon traditional criteria. Criteria that were, after all, rational by project delivery standards. Getting the project up and running in record time required access to existing lines of transportation, building materials and a labor pool. Stripping the problem down even further, the site was chosen because of its proximity to and use of preexisting development and

⁴⁸⁸ Ibid, 19.

networks. By jettisoning settlement dispersal theory, UkrGipromez was able to site KhTZ to meet the deadlines imposed upon it.

Socialist Urbanization Through American Type

As the *Fordzon-Putilovets* fiasco had demonstrated, only the installation of an all-inclusive, vetted tractor production facility could ensure a faultless end product. As soon as Kharkiv was chosen as the site, negotiations began between Traktorstroi, the local company set up to oversee the project, and the American company Caterpillar to deliver full plans and construction support for the Kharkiv factory. Talks with Caterpillar broke down quickly over two crucial issues: cost and transparency. Traktorstroi's executives were affronted most by the American company's refusal to share industry secrets:

When a group of executives from Traktorstroi approached the owner of the American company "Caterpillar" with their proposal to order a project for the Kharkov Tractor Plant, the price quoted was 7 million rubles gold (!) and he agreed to develop and submit it to us only under the condition that Soviet representatives remain uninvolved in his enterprise, without the right to study the production or the machines (!). These conditions were rejected, and technical "aid" of American capitalists was replaced with the study of other tractor factories in the USA.⁴⁸⁹

The exclamatory punctuation interjected in this Soviet version of the story underscores the misaligned expectations of the two parties. The first point of friction was the price tag for the factory design. After the grain crisis of 1929, Soviet currency reserves could not meet Caterpillar's request of 7 million rubles gold. Second, the American firm correctly intuited that the Soviet objective in ordering a tractor plant *in toto* was to possess a replicable system of production. At such a price, the Soviet government expected nothing less than the keys to the whole industrial process.

⁴⁸⁹ Baltuzevich, *Opyt I Uroki Stroitel'stva Kbtz*, 8.

The expanded design consultancy contract with Albert Kahn, Inc. was signed just before the Caterpillar talks collapsed. In mid April 1930, STO decided to change the tractor type at Kharkiv to the “International,” and to duplicate the construction and technological plans from the Stalingrad plant in order to speed up and reduce the cost of construction.⁴⁹⁰ By the time this decision was made only eighteen months remained before tractors were expected to roll off the assembly line in Kharkiv. Even without clear planning direction, building materials were being “energetically” transported to the Losevo site during the dead of winter. A brick factory was also built—purportedly in a record 82 working days—three kilometers away from the future factory site.⁴⁹¹ Ultimately, the decision to build the Kharkiv plant as a duplicate of Stalingrad came so quickly on the heels of Kahn’s expanded contract, it seems likely that the decision-makers at VSNKh and STO must have discussed the idea before the Kahn agreement was signed. Seen in this light, the accelerated completion schedule for KhTZ is simply the reflection of Soviet industrial planners putting their faith in standardization.

It is difficult to compare directly the design of the Stalingrad Tractor Factory with that of KhTZ because original Kharkiv factory drawings did not turn up in Soviet-era archives or Kahn’s Detroit office. However, careful comparison of the Stalingrad Plans from Kahn’s archive with the scraps of graphic and textual evidence that describe the factory complex at KhTZ confounds the suggestion that the two complexes are identical or that the Soviet Union perfected standardization of an architectural complex in its first attempt.

The Stalingrad title sheet shows that the tractor factory was composed of three large industrial buildings: a foundry, a forge shop and an assembly building. (Figures 6.13 – 6.14) The

⁴⁹⁰ Ibid., 9.

⁴⁹¹ Ibid., 8.

foundry and assembly buildings are straightforward rectangular sheds. The most distinctively planned building on the Stalingrad site is the forge shop, which consists of a narrow rectangular bar that holds the first heat treat attached to three perpendicular bars for the heavy and light forge shops and die machining. While the planometric idiosyncrasy of the forge shop plan is evident from an aerial view, the rationality of the Kahn design is revealed in the plan's structural grid. (Figure 6.15) The building's column lines, indicated by both horizontal and vertical dashed lines capped by circles, plat the site with a perfectly square six-meter grid. The neutral system, which is isometric in both directions, permits infinite expansion beyond the confines of the structure. The detached material storage building that sits to the south of the forge shop registers this infinite grid by snapping neatly into place. Kahn's outward architectural signature is found in the building sections and elevations, which reveal a myriad of daylighting solutions. (Figure 6.16) The butterfly trusses, popped monitors and saw-tooth skylights, known as the Kahn Daylight System, worked along with generously glazed elevations to provide a working environment filled with natural light from multiple directions.⁴⁹²

The dimensional precision and custom detailing in evidence in the drawings were quality-insured on site by the material delivery system. The Stalingrad Tractor Factory was a one hundred percent imported artifact: an American produced erector set constructed largely by American and German workers under American supervision in Stalingrad.⁴⁹³ The structural

⁴⁹² Melnikova-Raich, "The Soviet Problem with Two 'Unknowns': How an American Architect and a Soviet Negotiator Jump-Started the Industrialization of Russia, Part I: Albert Kahn," 66.

⁴⁹³ According to Sutton, a cadre of 570 Americans and 50 Germans reassembled the factory in Stalingrad. See Table 11-2 (or: *Za industrializatsiū*, July 5, 1930) for a full accounting of the American companies involved in operation and supply delivery for the plant. Antony C. Sutton, *Western Technology and Soviet Economic Development 1930 to 1945*, 3 vols., vol. 2, Hoover Institution Publications (Stanford, Calif.: Hoover Institution on War, Revolution and Peace, Stanford University, 1971), 186.

columns—designed with American steel profiles—were manufactured in the United States and shipped to the USSR, as were the trusses and the door and window frames, and all of the technical equipment to run the factory.⁴⁹⁴ The construction process at Stalingrad was intended to be as straightforward as matching the pieces to the drawings, hoisting the members in place and securing the joints.

The only drawings of the tractor factory at KhTZ that have surfaced to date come from two books, 1962 and 1987 publications on the architecture of Soviet Ukraine. According to the 1987 book, the architects for the “second phase” of KhTZ were V. Bogomolov, I. Vinograd, A. Goncharuk and D. Shirokograd; the 1962 book cites no architects. (Figures 6.17 – 6.19) The three-legged forge shop is the sole building illustrated in both cases, but it is well documented in the 1960’s publication in a plan, long elevation, partial section and axonometric projection. The drawings and a photograph of the KhTZ entrance recall the Stalingrad factory, but are notably heavier and more opaque. When the Kharkiv plan is placed on top of the Stalingrad forge shop plan, the building footprints perfectly align, as do the six-meter structural bays. (Figure 6.20) The difference between the two lies in the exterior structural units, indicated on the Stalingrad plan as thin steel columns and on the Kharkiv plan as thick bearing-wall sections. The photograph supports this reading of the plan, as all KhTZ buildings in view are thick walled structures with punctured window openings, not the steel-framed window walls of Stalingrad.

Two textual corroborations explain why such a significant material change was made between the original factory and its projected twin. Leon Swajian, the construction foreman from Kahn’s office who was transferred to Kharkiv once Stalingrad was complete, noted in a

⁴⁹⁴ Swajian, "Building the Kharkov Tractor Plant," 414.

1931 interview that: “Kharkov [sic] was supposed to follow the designs made for Stalingrad, but this proved impossible. Imports of the steel had to be economized, so the Kharkov plant was built largely of reinforced concrete.”⁴⁹⁵ Contemporary Soviet analysis of the KhTZ project echoes this fact, but fills in the details. The economics of the duplicate factory did not permit import of all steel structural members, nor was the practice sustainable in the long term. The nascent Soviet steel industry was incapable of providing identical steel sections to those designed for Stalingrad, or even the required amount of reinforcing bars for a fully concrete version of Stalingrad. As a consequence, KhTZ was effectively redesigned as a hybrid industrial complex that utilized three structural systems. According to the Soviet source, the forge shop retained its steel structure (although this claim must be questioned if the 1962 plan is to be believed), the mechanical assembly shop was built of reinforced concrete, and the foundry had concrete foundations topped by a steel structure. All remaining walls, and wall infill, were constructed of red brick produced at the new brick factory three kilometers from KhTZ.⁴⁹⁶

In the opinion of American foreman Swajian, the Kharkiv tractor factory was more difficult to build than Stalingrad’s. Not only was the primary material of the factory changed for the reasons outlined above, but the success of any material request hinged on uncontrollable supply factors. As Swajian noted, American engineers were “accustomed to a country where you can order anything you like one day and get it the next,” whereas in the Soviet context the construction manager either had to anticipate long lead times and make early material orders or—on rushed projects like Kharkiv—simply change tack. In the USSR, Swajian adopted a

⁴⁹⁵ Sutton, *Western Technology and Soviet Economic Development 1930 to 1945*, 2.

⁴⁹⁶ Baltuzevich, *Opyt I Uroki Stroitel'stva Kbtz*, 10-11. The text notes that the choice of brick for the structure of the buildings in the *sotsgorod* was also determined by the proximity of the brick factory.

flexible management style to counter instability. “We must learn to take account of what material is available here, instead of imposing absolute standards,” he concluded.⁴⁹⁷ Swajian’s comments explode the outdated but persistent narrative of unidirectional technology transfer between the United States and the USSR. American efficiency and precision had to bend to Soviet contingency, as the foreman notes. But it is also evident that Swajian and other American experts acquired new skills of ingenuity and resilience during their Soviet tenure. Turning out a successful project in the early USSR required much more than competent administrative skills from the expert. Success hinged upon the ability of the expert to solve problems on the fly, to use the materials and labor at hand, and to work toward acceptable tolerances, not perfection.

Priviazka, Brotherly Resemblance and Tolerance

A Soviet account claims that the factory complex was entirely redesigned by the Soviet engineers of Traktorstroi with guidance from future shop foremen. Setting aside the obvious propagandistic benefit of such a claim, the primary question it raises must be addressed. Given the significant changes that occurred between Stalingrad and Kharkiv, can KhTZ be considered evidence of standardization? The answer necessarily is tied to the context. Broadly speaking, the first Five-Year Plan was the accelerated Soviet effort to devise its own version of standardization, one that mapped on to the realities of a transitional context. Standardization came to mean something different in the Soviet Union: not duplication, but rather strategic reconfiguration of the original artifact to meet the conditions on the ground. Soviet standardization may have originated with the direct importation of American industrial materials,

⁴⁹⁷ Swajian, "Building the Kharkov Tractor Plant," 414.

systems and management styles, but it morphed through trial and error into a set of practices applicable to wildly varied environments—from industrialized Ukraine to the Ural steppe.

Unlike the emphatically precise American version, the Soviet system of standardization was heuristic and flexible of necessity, forgiving of imperfect sites, supply chains and labor conditions. While these loosely standardized practices can be categorized as appropriate to difficult circumstances, they were not without serious drawbacks. The substitution of too many variables from one project to the next resulted in dysfunctional construction sites or unusable end products, as was the case in Cheliabinsk, the next tractor factory built after Kharkiv. Begun in late 1930, the Cheliabinsk Tractor Factory was again to be based upon the Stalingrad plans. Yet in this standardization experiment, the Soviet government opted to construct the plant without technical assistance from foreign engineers or foremen. Without a clear and competent management structure, the project devolved and by March 1931, the plant was “on the verge of total collapse.” According to Sutton, who had a tendency to overstate American intervention in Soviet industrial affairs, American engineers arrived on site soon after to direct Soviet workers on the factory’s construction.⁴⁹⁸

The long-term implications of the tractor factory standardization experiment become clearer at the Union scale. Kharkiv was a model project for the *priviazka* system of typological replication that continued well after Kahn staff left the USSR in 1932. *Priviazka*, directly translated, means to bind, or lash one thing to another. In the Soviet architectural context, *priviazka* was the process by which a building type was tweaked to respond to specific site conditions. This Soviet version of standardized architectural production assumed that strategic

⁴⁹⁸ Sutton, *Western Technology and Soviet Economic Development 1930 to 1945*, 2, 188-89.

adjustments of the original model would be necessary, changes that would permit the final product and its model to bear a family resemblance even if the material and labor conditions under which they were created differed drastically. As Yves Cohen so aptly notes in his study comparing the American and Soviet versions of Ford tractors:

Compared side by side, a *Fordson* and *Fordzon-Putilovets* resembled each other like brothers. At this level they were standard products; the artifact was well copied. At another level, the parts and the mechanical assemblies resembled each other, but there the resemblance ended.

I do not at all mean to say that standardized products have to be identical. On the contrary: it is this very paradox of mass production that Henry Ford was the first to solve; to be identical at the level of the complete product, its constituent parts need to not be identical.⁴⁹⁹

Standardized products need not be identical, Cohen stresses. What is important to control in the process of replication is *tolerance*, a reasonable distance between the original and its copy, such that the two act satisfactorily alike. In the case of the *Fordzon-Putilovets*, external tolerance was acceptable for propagandistic purposes. A photograph of a Soviet-made *Fordzon-Putilovets* plowing collectivized fields was good enough for Stalin to claim socialist cooptation of American technology. As Ford's colleague Sorenson found, however, poor manufacture of mechanical parts rendered the internal tolerance of the *Fordzon-Putilovets* unacceptable. The poor Soviet tractor could not perform its task; it disintegrated on the field. The *Fordzon-Putilovets* might have looked like a Fordson, but it didn't act like a Fordson. Soviet standardization of the tractor was a failure.

Given the dissimilarities between Stalingrad and Kharkiv, can these factories be summoned as early evidence of Soviet architectural standardization? Cohen's notion of tolerance is a helpful means to answer this question. If judged by external tolerance, Kharkiv was a poor

⁴⁹⁹ Cohen, "The Soviet Fordson. Between the Politics of Stalin and the Philosophy of Ford, 1924-1932," 553.

copy of Stalingrad. The structural systems and material constitution of the two factories differed so greatly that the buildings could never be mistaken for one another. But a close look at the architectural DNA—the plan—reveals that the forge shops, at least, were typologically identical. Since the task of the factories rested on spatial congruence, not appearance, internal tolerance was well within acceptable limits. KhTZ might not have looked like Stalingrad, but it acted the same. Soviet standardization of the tractor factory was a success.

Another way to assess whether KhTZ was an example of architectural standardization is pose the question to the original architect. Would Albert Kahn, well versed in Ford's philosophy of mass production cited by Cohen above, have considered Kharkiv his own project, despite the copious material changes made to the copy? In fact, he did. In the 1939 American monograph *Industrial Architecture of Albert Kahn, Inc.*, a double-page spread illustrates a map of the world peppered with cities in which Kahn architecture resides (I have nicknamed it the Albert Kahn, Inc. "World Domination Map").⁵⁰⁰ (Figure 6.21) Kahn projects are found on all six habitable continents, with the US and the USSR sharing the highest density of building. Stalingrad, Kharkiv and Cheliabinsk are all indicated as Kahn sites.

In total, Kahn office records confirm that 531 factories based upon their drawings and specifications were completed in the USSR by the time the two year consultancy was over, and more than 4,000 Soviet technicians were trained by Kahn management in Detroit, Moscow and in the satellite construction offices.⁵⁰¹ The number of unconfirmed facilities based upon plans or

⁵⁰⁰ George Nelson, *Industrial Architecture of Albert Kahn, Inc.* (New York: Architectural Book Publishing Company, Inc., 1939), 22-23.

⁵⁰¹ Anatole Senkevich Jr., "Albert Kahn's Great Soviet Adventure," *Dimensions* 10 (1996): 48.

details developed by Kahn's office, *priviazka* copies of brotherly resemblance, will probably never be known, but is likely the thousands.

* * *

What the KhTZ project brings into stark relief is the degree to which Stalinist tempo forced the hand of project administrations and the designers they employed to devise new industrial-social complexes. Design standardization was pursued as the primary strategy for meeting the Plan's capital construction goals because time did not permit design for difference. Once architectural types and models were successfully deployed on test sites like Kharkiv, they were codified as repeatable modules appropriate for socialist industrial growth in other less networked sites.

Standardization was a central preoccupation of Soviet architects, planners and governmental officials during the first Five-Year Plan, although the reasons for pursuing architectural standards sprung from differing concerns. For Soviet architects, to embrace standardization was to embrace rationality, new technology, and to assist in the construction of environments appropriate to the new *byt*. Thoughtfully designed cities, neighborhoods, buildings, housing units and domestic objects, created with industrial replication in mind, could be produced inexpensively and disseminated quickly. Soviet architects' embrace of standardization may also have been an act of self-preservation, one necessary to stay relevant in a society hell-bent on industrialization. For Soviet institutions involved in the construction industry, standardization was also a matter of self-preservation. The breakneck schedule of the first Five-Year Plan pushed industrial planners to accelerate project delivery. Standardization was a way to speed construction, ensure a degree of quality and to conquer the otherwise uncontrollable vastness of Soviet space. An aspirational ink spot on the map of the first Five-Year Plan could be instantiated as an industrial enterprise through the deployment of reliable

and replicable architectural types. The goal of the first Five-Year plan at its most basic was to make the dots and then connect them. It was a colonizing project, to expand Soviet networks of transportation, energy and material.

Soviet physical planners assumed two types of American standardization—architectural and managerial— during and after the conclusion of the first Five-Year Plan. First, standard American architectural details, plans, sections and entire multi-building projects were absorbed into everyday Soviet design practice. As promised by the SNK USSR in December 1929, “typification” was accelerated by the publication of books like the 1933 *Modern Prefabricated-Factory Architecture (Sovremennaia fabrichno-zavodskaiia arkhitektura)* by Professor D. Tsvetaev. (Figures 6.22 – 6.23) This manual, full of architectural details of the “American type” was pulled from the shelves in the later 1930s when the story of American involvement in Soviet industrialization was no longer ideologically palatable, but the renamed details remained in circulation.⁵⁰² Second, centralized design organization, pioneered in Kahn’s Detroit office, was quickly adopted as Soviet managerial standard. At Albert Kahn, Inc., the firm handled not only architectural design but all the technical specialties as well; it was a one-stop shop.⁵⁰³ (Figure 6.24) Just one Soviet example, the State Institute for City Planning (Giprogor, *Gosudarstvennyi institut po proektirovaniu gorodov*), founded in 1929, employed within a single agency architects, transportation engineers and sanitation experts among other specialists. (Figure 6.25)

⁵⁰² M. G. Meerovich, "Al'bert Kan V Istorii Sovetskoi Industrializatsii," *Proekt Baikal*, no. 20 (2009).

⁵⁰³ “All departments start work simultaneously instead of working in successive stage, and this, in addition to speeding up the work of making the drawings, means that plans and specifications for all trades can be submitted for bids at one time, thus enabling the client to determine the cost of the building in its entirety before starting to build.” This organizational model was also utilized in the Kahn Moscow outpost of *Gosproektstroii*. Nelson, *Industrial Architecture of Albert Kahn, Inc.*, 19.

In the late 1930s, People's Commissar for External and Internal Trade, Anastas Mikoyan, laid out the official Soviet stance on standardization. Mikoyan had spent three months in the United States on diplomatic reconnaissance, and had met with Ford personally.⁵⁰⁴ Mikoyan liked what he saw in Detroit, but believed that only under a planned economy would standardization be optimized:

Let us take the principles of mass production, standardization, etc. We can apply these principles more easily than in America...The U.S. technically is sufficiently strong for this, but from the other side they meet great difficulties of a social character that hinder U.S. progress on the road to standardization...If we had such technology as America has, we would succeed fully in realizing a system of mass production and standardization and we would reduce wastefulness in the economy to nothing, for there are no such social barriers in our way ...When we overcome technical backwardness then doubtless we shall achieve colossal results. We will have a planned economy, high technology, mass production, standardization and specialization of plants as well as regions.⁵⁰⁵

In Mikoyan's view, once the planned economy and mass production successfully were combined, Soviet technology would leapfrog American technology. Although the US was undoubtedly the source of standardization, unruly companies, competition and "difficulties of a social character" would forever cause friction against total efficiency, he argued. Mikoyan went so far as to implicate national space in his long-term standardization schema. He envisioned not only factories, like KhTZ, but whole regions planned as standardized units. (Figure 6.26) The diffuse settlement diagram justified by citations of Marx and Engels, and forwarded by socialist urban theoreticians like Sabsovich and Okhitovich, would be instantiated by American-style architectural replication across the Soviet landscape.

⁵⁰⁴ Mikoyan held the position as People's Commissar for External and Internal Trade from 1926; in 1935 he was elected to the Politburo. In his role as Trade Commissar, Mikoyan made an important goodwill trip to the United States. He brought back positive impressions of the American food and consumer industries, which resulted in increased options to Soviet consumers.

⁵⁰⁵ Bailes, "The American Connection: Ideology and the Transfer of American Technology to the Soviet Union, 1917-1941," 444.

PART III: KHARKIV: Socialist Urbanization through Standardization (1930-1932)

CHAPTER 7. *Sotsgorod* as socialist urban model

И вижу я —	And I see —
за столицей столица	from the capital a capital
Растет	There it grows
из безмерной силы Союза;	from the immense power of the Union;
Где вороны	Where crows
вились, над падалью каркав,	hovering over carrion caw,
В полона	Completely
железных дорог	with railways
забинтованный,	wrapped,
Столицей	The capital
гудит	buzzes
украинский Харьков,	Ukrainian Kharkov
Живой,	Alive,
трудовой,	laboring,
железобетонный.	of reinforced concrete. ⁵⁰⁶

—Vladimir Mayakovsky

Vladimir Mayakovsky, poet and propagandist for the revolution, looked in his mind's eye over the vast distance that separated Moscow and Kharkiv, the two largest capital cities of the newly-formed Soviet Union. What he saw in Kharkiv, capital of the Ukrainian Soviet Socialist Republic, was dynamism and brute force: the city grew, buzzed, lived and labored in a newly fashioned environment of steel and concrete. Kharkiv was not only aspirational, it was material.

This chapter zooms in on the map of first Five-Year Plan to the Kharkiv Tractor Factory *sotsgorod* (socialist city), to ask how lessons learned about architectural standardization for industry trickled first down to Soviet residential architecture and grew up to affect socialist settlement design. The speed of development during the Plan limited the design options the

⁵⁰⁶ Mayakovsky's poem as cited in Nikolai Timofeevich D'iachenko, *Ulitsy I Ploschadi Khar'kova*, Izd. 3., perer. i dop. ed. (Khar'kov: Prapor, 1974), 14.

architects of both the KhTZ tractor factory and its socialist city could pursue, which made easily replicable types and models particularly attractive.

Two concepts undergird this discussion—a process: standardization, and a tool to enact that process: the type, or model. Type and model should not, however, be conflated; they work at different scales and require differing degrees of exactitude. Tractors, residential buildings, and settlements are all replicable. The tractor factory at KhTZ constitutes a typological example; it was building so integrally designed to meet functional requirements that it asked to be copied exactly. The *sotsgorod* at KhTZ was a model that emerged, I'd like to argue, from the socialist settlement debate and the instaurational text of the Magnitogorsk competition brief released in the months leading up to the design in Kharkiv. The KhTZ *sotsgorod* model demonstrated a design approach and a loose template for future form, one based on spatial and social relations. Another way of articulating the difference is to say that a type is tied to its plan, and cannot deviate from it, whereas a model can be abstracted into a diagram that may generate any number of plans. Both were critical tools in the first Five-Year Plan urbanization arsenal.

Like Baku, KhTZ is a textbook example of down and dirty socialist urban praxis—but KhTZ differs from Baku in that its designers had to grapple with a constantly shifting theoretical framework. Urban theorists, Gosplan, lenders like Tsekombank, and the highest organs of power were engaged in a struggle to define and ratify positions on the siting, form, and culture of socialist settlement during the very months in which the KhTZ *sotsgorod* was being designed. It was, as the head architect for the project noted, an “unnerving” time. This chapter follows the design of the KhTZ *sotsgorod*, and tracks the narrative of a project that materialized despite obstacles of schedule and ideology. It asks: how was KhTZ designed and constructed so quickly, when in Magnitogorsk decision making and residential building activity were so intractable?

First, I will introduce the particular context of Kharkiv, the first capital city of Soviet Ukraine. I briefly discuss the growing imperative in Soviet architectural practice toward standardization before turning fully to the story of the KhTZ *sotsgorod* project.

Ukrainian Socialist Capital

As early as December 1917, the Bolsheviks claimed Kharkiv the capital of Soviet Ukraine, while former capital, Kyiv, stood as the contesting capital of the Ukrainian People's Republic. When the dust settled in the aftermath of the Civil War, Kharkiv was retained as the sole capital city of Soviet Ukraine, and remained so until 1934, when the capital was transferred back to Kyiv. From 1922-1934, its twelve capital years, post revolutionary Kharkiv proved an excellent site to test socialist space making and iconography. The city had an expanded role, its population and industry were growing—construction had to be undertaken.

Kharkiv boasted a number of qualities that made it an attractive choice as the new capital. From the Bolshevik perspective, the city had immediate industrial potential due to the considerable population of Russian-speaking factory workers already living in the city. From the 1880s, Kharkiv was the mining center of southern Russia, the control center of the southern Railway and the center for five regional factory districts (Kharkiv, Poltava, Ekaterinoslav, Chernihov, Don).⁵⁰⁷ Kharkiv stood to play an even more significant role in the early Soviet period as the transit and administrative center of the Donetsko-Krivorizhskaya industrial basin.⁵⁰⁸ To underscore the importance of the basin on a national scale, one has only to look at the official map for the First Five-Year plan, where just three sites merit inset maps at a larger

⁵⁰⁷ Cherkasova, "Idei I Realiztsiia Plana Sotsialisticheskoi Rekonstruktsii Khar'kova," 130.

⁵⁰⁸ Kravchenko, *Khar'kov--Kharkiv : Stolitsa Pogranich'ia*, 242.

scale: Leningrad, Moscow and the Donetsk Basin. The Donetsk region was home not only to the raw materials of coal and iron ore needed to feed industry, but also the secondary plants to process the materials. Just to the west, and also within Kharkiv's sphere of influence, was the Dnieper Hydroelectric Station (DniproHES) at Zaporizhe, the largest and most important infrastructural project to grow out of Lenin's GOELRO Plan for electrification of the USSR (1920). It was grain harvested in the agricultural heartland just beyond Kharkiv's borders, however, that funded these industrial projects.

Kharkiv was also known for its cosmopolitan intellectual class, a group that had grown since the establishment of the University of Kharkiv in 1805, the first university founded in the Russian-controlled territories of current-day Ukraine. By the first decades of the twentieth century, Kharkiv was the established capital of the proletarian avant-garde in Ukraine. The city's socialist-leaning intellectuals were viewed by the Soviet leadership as a crucial constituency motivated to promulgate the new political and social system.

Planning the Modern Socialist Administrative Center

A plan was afoot as early as 1919 to expand Kharkiv's city limits, an initial planning step toward modernization. Although the project was placed on hold during the revolution and civil war, the extension was finally ratified in 1922 by the Soviet Ukrainian government. From 1923-24, the newly established municipal technical bureau initiated Kharkiv's first socialist planning effort under the direction of head engineer, I. Voitkevich. This master plan, and its elaboration in 1931-33, discussed below, is notable for its attempt at comprehensive city planning, a hallmark of later Soviet planning practice. (Figure 7.1) Voitkevich and his staff addressed four of the five major planning issues central to the Kharkiv project: modernization of municipal systems; industrialization; state building; and worker housing. The fifth issue, culture, was

relegated to a later plan. Under the categories of municipal systems and industrialization, the team made the first pass at strict land-use zoning, a key tool in the modern planner's kit. They allocated industrial development to the area below the Lopan River on the southern outskirts of the city to preserve favorable and sanitary conditions for extant residential areas in Kharkiv's northwest corner. Large industrial enterprises were to be located 20-30 kilometers from the center at the intersection of existing and projected ring roads. The 1923 plan suggested widespread hygienic upgrade of the city, to include clean up of the Lopan, Udy and Kharkiv rivers, and a "greening" program to insert parks and plant vehicular corridors throughout Kharkiv.⁵⁰⁹ The scheme also precisely located Dzerzhinsky Square, the new socialist capital center, in the opening maneuver of a state-building effort. Lastly, Viktor Trotsenko, a young Kharkiv architect and member of Voitekvich's planning team, designed Kharkiv's first worker housing for the Kharkiv Steam Locomotive Plant.⁵¹⁰ (Figure 7.2) Few large-scale recommendations from the 1923 plan were implemented for cost reasons, but limited street reconstruction and planting was realized, and some low-rise worker housing was constructed on the outskirts, including Trotsenko's bungalows.

In 1930, Giprograd (State Institute of City Planning for Ukraine) was founded in Kharkiv, with branches in Kyiv, Odesa, and in 1939, Lviv.⁵¹¹ In its first effort, from in 1931-33, Giprograd updated and expanded the 1923 plan under the direction of Aleksandr Eingorn and

⁵⁰⁹ G. Gorvitz, "Stanovlenie Arkhitektury Sovetskogo Kharkova," *Arkhitektura SSSR*, no. 5 (1974): 43.

⁵¹⁰ USSR Instytut teorii ta istorii arkhitektury i budivelnoi tekhniki Akademiia budivnytstva i arkhitektury, *Narysy Istorii Arkhitektury Ukrainskoi Rsr*, ed. V. H. Zabolotnyi, vol. 2 (Kyiv: Derzhbudvydav URSS, 1962), 7. As cited also in Titus Hewryk, "Planning of the Capital in Kharkiv," *Harvard Ukrainian Studies* XVI, no. 3/4 December (1992): 329.

⁵¹¹ I. N. Sedak, *Arkhitektura Sovetskoi Ukrainy = Architecture of the Soviet Ukraine*, Nauch. izd. ed. (Moskva: Stroizdat, 1987), 64.

A. Kasianov. In a 1933 article published in *Arkhitektura SSSR*, Eingorn enumerated the seven main features of the new general plan:

1. Provision of maximal sanitary-hygienic conditions for residential areas
2. Functional zoning of the entire territory, separating residential areas from industry, transport and commercial areas
3. Decentralization of all cultural and community services
4. Creation of separate neighborhoods that combine residences with services
5. Specialization and typification of the street network by functional role, type of movement and transport
6. Upgraded utilities for the whole territory
7. Destruction of the disparity between center and outskirts with regard to utilities and cultural and community services⁵¹²

Two of the issues addressed in the plan merit special attention, the first being the modernization of Kharkiv's street network. The plan introduced two new magistral, or highways, a north/south road that ran through the capital center at Dzerzhinsky Square, and an east/west road that linked the new industrial regions. It proposed highway crossings at multi-level exchanges to separate and smooth the various modes and trajectories of transport with geometric rigor. Illustrations demonstrated the complex sectional relationship between automobile and electric train (metro) traffic. (Figure 7.3) Secondly, while not illustrated, the plan advocated for self-sufficient neighborhoods. Dispersal of residential and employment nodes away from the overloaded center would allow, the plan's authors argued, for development of efficient new housing types and, at least conceptually, reduced travel time to work for many residents. The recently completed *sotsgorod* at KhTZ, designed by Giprograd in 1930, may have been the model for these self-sufficient neighborhoods on the 1933 plan.

⁵¹² A.L. Eingorn, "Skhema Pereplanirovki Khar'kova," *Arkhitektura SSSR*, no. 6 (1933): 12.

The Establishment of Socialist Types

Soviet architectural theoreticians and practitioners expressed a deep interest in American-style construction standardization early and often. The editors of *SA*, for instance, repeatedly praised American engineers (but not American architects) for their rational, efficient and functional approach to design. In the opening editorial of *SA*'s second year of publication, the editors noted that while the social task of Soviet architecture was obviously more complex than that undertaken by the Americans,

...the similarity [between us] lies in the fact that modern architects, like American engineers, build their work on the basis of the highest level of modern technology. Amateurism is unacceptable for us as it for them, although we unfortunately, and almost constantly, have to deal with it. And we are absolutely not afraid to use the achievements of American technology, transferring them to make them our own, just as the Soviet Union does not think anything of importing American tractors and machinery.⁵¹³

Like the administrators ordering tractors and machinery, Soviet architects viewed American technological products as ideologically neutral, capable of being assumed, modified and transformed into tools for the production of socialist space.

Amtorg, the first Russian trade organization in the United States, and also the driving force behind the Kahn contract, published *American Engineering* (*Amerikanskaia tekhnika*) a monthly Russian language magazine devoted to American technology and industrial practice with 5,000 Soviet subscribers. Russian émigré engineer, Walter Polakov, founded the magazine in 1924, under the aegis of the Association of Russian Engineers in America.⁵¹⁴ Polakov and

⁵¹³ SA Editors, "Ot Redaktsii," *SA: Sovremennaia Arkhitektura*, no. 1 (1927): 2. All translations by the author, unless otherwise noted.

⁵¹⁴ Polakov knew Russian industry well: he had been educated in his home country and had worked in Russian factories until fleeing during the 1905 revolution. He became an ardent follower of Frederick Taylor in the 1920s and 30s, and returned to the Soviet Union a technical consultant from 1929-31. Bailes, "The American Connection: Ideology and the Transfer of American Technology to the Soviet Union, 1917-1941," 437.

other engineers wrote the technical articles in *Amerikanskaia Tekhnika* to share the latest American industrial products and organizational practices with their Soviet counterparts. The regular half-page advertisement in Amtorg's English language journal *Economic Review of the Soviet Union* claimed that *Amerikanskaia Tekhnika* "is helping to win the large Russian market for American industrial equipment," an assertion that was likely accurate.⁵¹⁵ (Figure 7.4)

Soviet architects and engineers became acquainted with American standardized building products through this and other periodicals, even though it would have been considered a folly to specify them in small-scale Soviet projects in the 1920s. *SA* often ran articles devoted to industrially produced building equipment and products used widely abroad yet still unavailable in the USSR. In 1926, *SA* introduced Soviet designers to the "Fenestra" pivoting steel frame window system produced by the Detroit Steel Products Company and used to extraordinary day-lighting effect in American factory buildings. (Figure 7.5) Images and assembly diagrams for factory-formed hollow bricks, gypsum wall coverings, radiators and escalators filled the back of another issue.⁵¹⁶

But Soviet designers and economists understood the achievements of American technology to exceed material products. Technology also encompassed the standardized design processes that made American industry so efficient. In an article on the urban housing crisis, architect G. Vegman provided data on the abysmal per-capita living area allotted to each Soviet citizen. Architectural standardization needed to be immediately established, he argued, to economize on much-needed residential construction. "The consolidation and concentration of

⁵¹⁵ *Economic Review of the Soviet Union*, January 1, 1929, 27. The half-page advertisement can be found in most issues of the *Review*.

⁵¹⁶ "Fenestra" products were featured in *SA: Sovremennaia Arkhitektura*, No.4 (1926): 87-92. Bricks, radiators and escalators in *SA: Sovremennaia Arkhitektura*, No.1 (1927): 36-41

construction organizations, and the establishment of types, are the essential prerequisites to reduce the cost of construction,” he wrote.⁵¹⁷ The only way to solve the housing problem was to devise rational, replicable unit and building types. In response to Vegman’s plea, SA launched the “Comradely Competition for Communal Housing” in late 1927 as a way to brainstorm new standardized residential units within the socialist framework (this competition is mentioned in Chapter 4).⁵¹⁸

In January 1928, the Construction Committee of the Russian Republic (Stroikom RSFSR) was established, with the express charge to “regularize and rationalize” construction affairs within its territory.⁵¹⁹ Stroikom tapped SA editor and architect Moisei Ginzburg to head Section II, the “Typification Section” (*seksiia tipizatsii*). Ginzburg’s team was to deal with the questions of architectural type, development of design standards, experimental development, training and qualification of technical personnel. Over the next few months the section designed six standard residential unit types. In his report presenting the units, Ginzburg made explicit a number of design criteria that had been merely implicit in the competition, including rationalization of kitchen space, “exploiting unutilized height of service areas” by stacking them with sleeping zones, providing “good lighting in all areas,” and “through ventilation—two exposures.”⁵²⁰ The most innovative unit, the F-type, combines many of the best features of various competition entries. Although only six buildings utilizing the Stroikom units were built,

⁵¹⁷ G. Vegman, "Ukrupnennoe Zhil'e 2," *SA: Sovremennaia Arkhitektura*, no. 1 (1927): 20.

⁵¹⁸ For a full discussion of SA’s competition for communal housing and its aftermath, see: Crawford, "The Innovative Potential of Scarcity in Sa’s Comradely Competition for Communal Housing, 1927".

⁵¹⁹ Kazus', *Sovetskaia Arkhitektura 1920-X Godov: Organizatsiia Proektirovaniia*, 292-93.

⁵²⁰ Kopp, *Town and Revolution; Soviet Architecture and City Planning, 1917-1935*, 135.

the practice of designing centralized architectural types that could be deployed across Soviet space became standard.

While the Typification Section engaged typology at the discrete scale of the living cell, standardization of larger urban unit types and models—the factory complex, the neighborhood, the city—did not emerge until the first Five-Year Plan’s crisis of manufactured deadlines. In September 1930, well after the socialist settlement debate had died down, the Typification Section of Stroikom RSFSR transformed into the Socialist Settlement Section of the Gosplan RSFSR Building Division (*seksiia sotsrasseleniia stroisektora gosplana RSFSR*).⁵²¹ (Figure 7.6) Among the experts working on new forms of settlement under this administrative umbrella were architects Mikhail Barshch, Moisei Ginzburg, and Ivan Leonidov; sociologist Mikhail Okhitovich; and economist Genrikh Puzis. The effort was short lived, but a number of significant disurbanist diagrams emerged from the work, as well as the design for the Green City (*zelenii gorod*), a scheme for disurbanizing Moscow itself. (Figure 7.7) As the diagrams reveal, the work of the Socialist Settlement Section skipped the middle scale of site planning, and moved directly to the regional scale of disurbanizing processes. This tendency to abstraction, and process over form, was surely a function of Okhitovich’s involvement. As a result, the work of the Section had limited impact on the design of actual sites like KhTZ undergoing planning at that time. Replicable urban models perform at that middle scale—what we now call urban design—where architecture and the particularities of site remain material and legible. This was the scale at which the designers of the KhTZ *sotsgorod* worked.

⁵²¹ The entire Socialist Resettlement Section was made up of: K.N. Afanasev, M.O. Barshch, V.N. Vladimirov, M.Ia Ginzburg, G.A. Zundblat, I.I. Leonidov, I.F. Milinis, A.L. Pasternak, G.G. Savinov, N.B. Sokolov, designer S.V. Orlovskii, sociologist M.A. Okhitovich, economist G.B. Puzis, and transportation expert Iu.N. Loran. Kazus', *Sovetskaia Arkhitektura 1920-X Godov: Organizatsiia Proektirovaniia*, 275.

An Actionable *Sotsgorod* Brief

Less than a month after Losevo was recommended as the tractor factory site Traktorstroï—the new state entity set up to direct and oversee the delivery of KhTZ—signed an agreement with design-consulting arm of the Ukrainian branch of the NKVD to divvy up and complete all preliminary civil engineering tasks and residential sector layouts by March 1, 1930.⁵²² The site-specific tasks such as preparation of civil surveys and engineering drawings to block out the territory for construction and link water, electricity and transportation to the site were largely dependent upon local specialists. Six blueprints attached to the back of the siting report indicated that general surveying of the chosen site had already begun. These drawings included an area plan with the site’s relation to central Kharkiv; a topographical site plan; a “wind rose” diagram; two geological soil sections; and a more detailed site plan including the waterways and possible water supplies to the site. (Figures 7.8 – 7.12) Logistics planning to ensure the timely arrival of building materials and workers to the site was also a local effort, one that had to be mobilized well before the architectural plans were solidified.

From February 1930 onward the *sotsgorod* project brief and other planning materials were issued from the Sector for Rationalization, Standardization and Reconstruction of the Communal Economy of the Ukrainian SSR NKVD (*sector ratsionalizatsii, standardzatsii i rekonstruktsii kommunal’nogo khozaistva*), and specifically the Planning and Order Section.⁵²³ The three-person leadership team of the *sotsgorod* project comprised the Head of the Design

⁵²² TsDAMLM, f.8, o.1, d.260, ll.2-5.

⁵²³ It is unclear whether this is a newly formed Ukrainian branch of the special standardization institute promised by the SNK directive in December 1929, but the name relays the intent to bring efficiency to all architectural projects nonetheless. Tsentral’nyi derzhavnyi arkhiv vyshchikh organiv vlady ta upravlinnia Ukrainy [Central State Archives of Supreme Bodies of Power and Government of Ukraine, TsDAVO], f.5, o.3, d.2085, ll.13-25.

Consulting Bureau of the NKVD UkrSSR, Comrade Davydov; head architect Pavel Aleshin; and a “Secretary-Economist” by the name of Shkolnikov. In February—after the publication of the Magnitogorsk competition brief, but before the publication of the entries—the design team submitted the initial *sotsgorod* program, which spelled out in great detail the prescribed programs and design parameters for the residential section of KhTZ. The opening section of the document—the General Conditions—offered a bird’s eye view of KhTZ’s import as a transitional model socialist settlement, and introduced the three programmatic sectors of the project:

The correct solution to the question of appropriate housing types in the transitional socialist city lies in the objective consideration of all aspects of human life, both public and individual. *Byt* consists of a variety of functions including the human factors closely linked to the tempo of industrial development. The new *byt* can be clearly and precisely divided into three main functional components: **production, residential** and **social-cultural**, all of which are closely linked.

The function of the production order is to create real value for the livelihood of the workers. The function of the residential order, which carries the influence and traditions of many centuries, serves the individual existence of working people, their physical and biological needs, and aims to maintain strength and health for human procreation, introspection and education. All of the problems of the *byt* are resolved in this residential order: how to make *byt* more stable and to cause its extraordinary transformation and consolidation. It is precisely here that the most painless and quick resolution to the task of transition to complete socialization lies.

The function of socio-cultural order is to improve relationships and the degree of socialization between the workers themselves, and to develop the organization of a society that serves the needs of a team. The socio-cultural order works in direct connection with the residential order.⁵²⁴

KhTZ was to be comprised of three interdependent programmatic spheres. The tractor factory occupied the industrial sector. The residential sector was made up of the workers’ sleeping quarters in multi-story apartment buildings. The socio-cultural sector was everything else—all of the support services that a socialist settlement should provide, including communal dining

⁵²⁴ TsDAVO, f.5, o.3, d.2085, l.13.

facilities, mechanical laundries, childcare facilities, clubs, libraries, theatres, gymnasiums, sporting fields and state-run shops. The order in which the sectors were described revealed their hierarchy: work first, sleep second, recreate third.

Unlike the hyper practical siting document, the KhTZ *sotsgorod* program channeled certain terminology and theoretical imperatives of the socialist settlement debate as it continued to unfold in Moscow in early 1930. The authors carefully assigned the term “transitional socialist city” to KhTZ, which left the door open for some traditional architectural forms and cultural practices to be included in their design. By February 1930, even Sabsovich was tempering his language on transition, although it must be stressed that Sabsovich and Krupskaja, for instance, had very different levels of tolerance for remnants of the old *byt*. Nonetheless, in *Socialist Cities*, Sabsovich wrote that, “[t]he question of what the socialist *byt* is far from being sufficiently developed...we do not yet have any experience in this matter. We have to feel and fumble in the dark to shape this new life. With that in mind, it is necessary to remember that while we build our cities, we are in a period transitioning towards socialism.”⁵²⁵ Of course, Sabsovich was committed to experimental architectural forms that transformed the population into socialist citizens, as evidenced by the specific programmatic and cultural recommendations written into his text. The KhTZ *sotsgorod* program document was also laced with reference to the new socialist *byt* that would be constructed through the interdependence of the productive, residential and socio-cultural spheres of life. Proper settlement organization was crucial to fostering this

⁵²⁵ Sabsovich, *Sotsialisticheskie Goroda*, 39.

“painless and quick resolution to the task of transition to complete socialization,” a phrase that sounds as if taken directly from Gosplan conference speeches.⁵²⁶

The program language about the socialization of *byt* may well have been driven by economic necessity rather than the authors’ own views. In late 1929, the state banking system had put into place strict borrowing preconditions for housing settlement projects that were pegged to specific programmatic provisions. A protocol resolution of the SNK USSR—found attached to the KhTZ *sotsgorod* program—spelled out the Tsekombank (Central Bank of Communal Services and Housing, and May’s client in Magnitogorsk) requirements for residential construction lending for the 1929-30 building season. In it, standardization takes the form of minimum socio-cultural amenities, all in the service of pushing along the transformation to a socialist *byt*:

Borrowers representing projects of settlements require a plan that would provide for a gradual socialization of life through the organization of collective institutions serving these communities. In the case of projects submitted by the borrower for house-communes (*doma-kommuny*), block developments and villages with institutions for the socialization of life, lending will be extended only to those that involve the following elements of the socialization of life: communal kitchens and dining / eliminating the kitchen in the individual apartments / nurseries, kindergartens with day care for children, mechanized laundries, sports grounds and club facilities.⁵²⁷

To receive capital funding for a residential project from Tsekombank, the borrower had no choice but to include supplemental communal services for future renters, namely canteens, childcare, mechanized laundry and recreational facilities.

Most controversially, the funding preconditions stipulated that apartments were to be designed and built without kitchens, the trade-off for common dining facilities. In the coming

⁵²⁶ TsDAVO, f.5, o.3, d.2085, l.13.

⁵²⁷ TsDAVO, f.5, o.3, d.2085, l.27.

months this decision would generate friction between funders and architects on one side, and the eventual housing unit occupants on the other. The All-Union Population Census of 1926 found that a full 36.5% of families shared a kitchen with others, 22.3% had no kitchen facilities at all and 4% were unknown; over half of the population, therefore, was already without a private kitchen.⁵²⁸ Such figures indicate that because of the acute housing crisis in the first decade of Soviet power, the private kitchen was a rare amenity, and likely a coveted one. As Nikolai Popov, chief of Moscow housing noted in 1925, excision within the living unit of such a crucial amenity was fine in concept for those psychologically ready to move to communal facilities, but the majority instead clamored: “let us die in our [private] kitchens.”⁵²⁹ In the SA “Comradely Competition for Communal Housing” of 1927, designers had provided small kitchen alcoves in the units for reheating meals or making tea, taking into account that the house-commune had to accommodate the transitional process of becoming fully socialist.⁵³⁰ Because of Tsekombank’s stringent borrowing rules, the standard units at KhTZ were kitchen-free. Gathering residents into communal spaces, and providing socio-cultural amenities like common dining and recreating, would speed along the transition to a socialized way of life and make up for any spatial or programmatic shortcomings of the private realm. From the perspective of those who held the purse-strings, an *accelerated* transitional socialist environment was the only settlement model appropriate at the end of 1929. Tsekombank, the assumed funder, thus seems to have predetermined the constituent programs required on the KhTZ *sotsgorod* site plan. But the design of the site plan, which is to say the disposition of those

⁵²⁸ Timothy Sosnovy, "The Soviet Housing Situation Today," *Soviet Studies* 11, no. 1 (Jul., 1959): 3.

⁵²⁹ Colton, *Moscow : Governing the Socialist Metropolis*, 222.

⁵³⁰ Victor Buchli, *An Archaeology of Socialism* (Oxford, New York:: Berg, 1999), 67.

programs, their relationship to one another and to the productive order (the factory) was a matter left in the hands of the KhTZ design team.

Architect Pavel Aleshin was the de facto head of the *sotsgorod* design project. At the time of the KhTZ effort, Aleshin was 49, and recently had been named chief architect of the new Ukrainian urban design institute, Giprograd, in Kharkiv. Aleshin was an exact contemporary of Ivanitskii. Both architects were born in present-day Ukraine in 1881, attended the prestigious Institute of Civil Engineers in St. Petersburg, and finished in the same graduating class in 1904.⁵³¹ Like Ivanitskii, Aleshin studied under notable Russian civil engineers at the Institute, and worked with one, G.D. Dubelir (author of the seminal *Planirovka Gorodov*, or *Planning of Cities* from 1911), on a plan for the city of Murmansk in the role of chief city architect in 1918. With the exception of his time in St. Petersburg and Murmansk, Aleshin conducted his professional life in prerevolutionary and Soviet Ukraine, but he maintained contacts in St. Petersburg and Moscow, and kept abreast of the Soviet settlement discussions ongoing in Moscow. Books from Aleshin's professional library now reside at the Canadian Centre for Architecture; they include plentiful and copiously annotated texts from the 1929-30 debate. His personal archive in Kyiv is stocked with additional evidence. An original copy of the Magnitogorsk competition brief (a competition he did not enter) was clipped together with envelopes filled with photographs of notable competition entries.

In Aleshin's personal copy of *Toward the Problem of Constructing the Socialist City*, the proceedings of the November 1929 Gosplan conference (discussed in Chapter 4), the opening paper by architect A. Zelenko, "The Construction of Socialist Cities," received the most readerly

⁵³¹ Aleshin was born in Kyiv, Ivanitskii in Chernihiv. Ivanitskii graduated from technical high school (реальное училище) in Kharkiv in 1898, before matriculating at the Institute of Civil Engineers in St. Petersburg.

attention.⁵³² Zelenko proposed a linear city model for socialist settlement, and the passages that explain and justify this proposal are those most vigorously highlighted by Aleshin. The new socialist city, stated Zelenko, should be constructed along some sort of communication route, a river or rail line, and “built on the principles of production, expanded in a linear direction.”⁵³³

Linear urban growth was predicated on industrial efficiency, and could be justified at two scales. At the scale of the Union, the connective networks of waterways, rail and electric lines dominated the map. These were the systems that would consolidate Soviet natural and demographic resources to support industrial ascendancy. It was logical that agglomerations would arise attached to these lines of communication and grow along them. Following this logic at the local scale, individual industrial stations would rationally extend along these lifelines. Planners would only have to provide territorial buffers on either side of the initial settlement implantation to account for future linear growth.

Zelenko went on to describe the three zones that comprised the linear city and their relation to one another. “The manufacturing part of the city,” he wrote, “should be separated from the residential area by a green boulevard or band on which internal transportation runs, and this is where the residential sector begins.” The width of this green band was to be calibrated so that it would provide a substantial buffer between the factory and housing, but also narrow enough to permit workers to commute to work by walking. A series of diagrams

⁵³² Pavel Aleshin’s personal copy of into *K Probleme Stroitel'stva Sotsialisticheskogo Goroda. (Toward the Problem of the Constructing the Socialist City)* resides in the collection of the Canadian Centre for Architecture. This book is signed by Aleshin on the flyleaf, and hand dated 7 March 1930, placing his acquisition of the book precisely at the time he was leading the design for KhTZ.

⁵³³ Zelenko, "Stroitel'stvo Sotsialisticheskikh Gorodov," 10.

illustrated possible design scenarios for the buildings and open spaces in the residential zone.

(Figure 7.13) Zelenko describes them in his text:

If we gather a group of houses (as is often done now by us and abroad), then between these groups can be a courtyard, which can be turned into a garden or open space. The houses, which will accommodate 2-3,000, can be called a block, or a housing combine. These combine-blocks, separated from one another by a large green reserve and roads, can be...placed in a chessboard grid, so that the whole city of 50,000 residents occupies 5-6 kilometers in length and 2-3 kilometers in width. This is not an overly large or extended territory, over which one would lose time getting to the production site.⁵³⁴

These housing combines would be clustered to share common socio-cultural amenities such as kindergartens and schools, as Zelenko's diagram no. 2 showed. Unfortunately, the diagram intended to illustrate a representative strip of the linear city, diagram no. 1, is difficult to decipher and poorly rendered.

These ideas provide the foundation for the site plan at KhTZ, one of the only constructed examples of the Soviet linear city.⁵³⁵ KhTZ's plan, however, bears little resemblance to the Zelenko diagrams and instead looks remarkably like the iteration of the linear city proposed for Stalingrad, published in Nikolai Miliutin's *Sotsgorod*, also released in 1930.⁵³⁶ (Figure 7.14) Like Zelenko, Miliutin stressed that new socialist settlements must be organized according to industrial principles. "A flowing functional-assembly-line system is the absolutely necessary basis for the new planning," he wrote. "The residential sector of the settlement must be set up parallel to the productive zone and must be separated from it by a green belt (buffer zone). This

⁵³⁴ Ibid., 14-15.

⁵³⁵ The competition entries for Magnitogorsk are arguably the most well-known linear city designs, but as Chapter 4 discussed, they were impossible to instantiate given the fact that the territory was already well under construction and occupied (not tabula rasa, as would be required for the linear schemes).

⁵³⁶ Miliutin, *Sotsgorod; the Problem of Building Socialist Cities*, 71.

protective strip must be no less than 500 meters wide.”⁵³⁷ This should sound familiar to Zelenko’s proposal. What must be stressed here is that between Zelenko, Okhitovich, Miliutin and others, the concept of the linear city was in the air. If material evidence is required of its influence on KhTZ, however, we can trace it back to Aleshin’s emphatic underlines of Zelenko’s text.⁵³⁸

In his extended polemical treatise, Miliutin did a more thorough job than Zelenko of detailing the multiple social and economic benefits of a linear settlement scheme. First, he explained the green strip acted as the “lungs” of the project to separate and filter any stray industrial particulates that might drift toward the residential zone. Second, the relative proximity between the factory and the *sotsgorod* cut out the “superfluous expense for intersettlement transportation,” since each worker had a short ten to twenty minute walk to work from his sleeping cell. Lastly, the green axis structured rational linear growth of the sectors in either direction along its length while maintaining the optimal distance between them. A close look at the KhTZ site plan reveals this exact layering of program. (Figure 7.15) The heavy rail line lies to the northeast, below which is the tractor factory. Next, a green buffer—500 meters in width and carrying a tram line into the center of Kharkiv—separates the residential area of “New Kharkiv” (as it is named in project documentation) from the factory zone. A particularly interesting though puzzling drawing in Aleshin’s archive shows Kharkiv encircled with a corona of linear cities, which indicates that Giprograd was prepared to push the linear city model for all future industrial development adjacent to the city. (Figure 7.16) KhTZ was, however, the sole

⁵³⁷ Ibid., 65.

⁵³⁸ The origins of the Linear City are in Madrid, where the idea was first diagrammed by urban planner Arturo Soria y Mata in 1882. In Soria y Mata’s scheme, however, the linear city did not replace the urban center, but rather provided a way for industrial and residential satellites to be rationally extended and contained.

constructed exemplar. Contemporary aerial photographs confirm that the diagram was built as designed at KhTZ and that settlement structure remains unadulterated despite the fact that interdependent relationship between the factory and residential area has been severed. (Figure 7.17)

At KhTZ the linear model provided an additional logistical benefit unarticulated by Zelenko or Miliutin but integral to meeting the 15-month construction deadline. The green buffer between the factory and *sotsgorod* territories was an expansion joint. The two projects could be built simultaneously but at different rates, with discrete management, engineering and labor teams. On the published site plan the factory and *sotsgorod* are, in fact, articulated as separate territories, each project confined to its own dashed box.⁵³⁹ (Figure 7.18)

“New Kharkiv”: The Experimental Socialist Settlement Model

If we peer into the KhTZ site plan and envision the separate design teams working away on their dashed boxes—factory, *sotsgorod*—we see that each team was focused inward on the discrete problem posed to it. In the box to the north the Traktorstroi engineers reworked the Stalingrad Tractor Factory technical drawings to meet the immediate needs of the Losevo site. In the box to the south, Pavel Aleshin and his Giprograd colleagues struggled first to formulate, then to solve, the problem of socialist settlement. Each design team engaged standardization as the single most plausible architectural strategy given the abbreviated timeframe in which they had to complete their design tasks. As the previous chapter discussed, the Kharkiv Tractor Factory designers devised an adjusted model that closely resembled its predecessor at Stalingrad. In the very process of tweaking the American design to match the conditions on site, the

⁵³⁹ Baltuzevich, *Opyt I Uroki Stroitel'stva Kbtz*, 34.

engineers devised a Soviet version of standardization that worked within the highly contingent context of Soviet industrialization. With the KhTZ *sotsgorod*, on the other hand, the design team had to invent an original social-industrial settlement model. They were on the front lines of settlement standardization, taking cues from Magnitogorsk and other sites under formulation.

The months from late 1929 to mid 1930, when the New Kharkiv *sotsgorod* was being designed, coincided with the most active period of the socialist settlement debate. Among the theoretical tracts published in just this small window of time were *Toward the Problem of Constructing the Socialist City* (Gosplan); *Sotsgorod* (Miliutin); *Cities of the Future* and *Socialist Cities* (Sabsovich); and not least the Magnitogorsk competition brief. All of these texts, and the vigorous public discussions that accompanied them, come down to us as the intellectual groundwork for how design might transform society. But more often than not, the authors of these texts stopped short of formal recommendations and well short of nuts-and-bolts design detail. KhTZ, Stalingrad, Nizhnii Novgorod (Gorkii), and a handful of other swiftly constructed industrial settlements were the testing grounds.⁵⁴⁰

KhTZ was the perfect site for experimentation. Losevo was close enough to an established urban center that project administration could take advantage of Kharkiv's connectivity and skilled working population. But the site was nonetheless relatively isolated in the agricultural lands on the city outskirts, and free from the difficult charge to address the existing city fabric. For Aleshin and his team of architects and planners, the New Kharkiv *sotsgorod* could act in its first years as an "enclave" per Gramscian definition, a wholly designed

⁵⁴⁰ For the Nizhi Novgorod (Gorkii) planning efforts of this period, see DeHaan, *Stalinist City Planning: Professionals, Performance, and Power*.

community in which the relations of everyday life could be altered under perfect laboratory conditions so as to be disseminated, in turn, to wider society.

Although the selection of the Losevo site for the tractor factory complex was driven by many pragmatic factors, construction of the socialist byt was not among them. However, once the *sotsgorod* design team took over the project, the relatively remote location was used to full advantage. The goals of the project as reframed by the designers were socially ambitious. In the project brief great stress was placed on the function of the socio-cultural order, which was intended to “improve relationships and degree of socialization between the workers themselves, and to develop the organization of a society that serves the needs of a team.”⁵⁴¹ This new way of living—intensely among one another, lives in concert—would be most swiftly instantiated in a self-contained environment untainted by the stubbornly persistent vestiges of prerevolutionary culture in inherited cities, like Kharkiv.

Sabsovich may have provided some guidance to the KhTZ design team in the following passage of *Sotsgorod*:

In any case, expansion of existing settlements, if it turns out to be absolutely necessary, must be done either by creating satellite towns, or by replanning these settlements, or (in extreme instances for particularly large cities) replanning their separate parts. This replanning must be based on those principles by which we build new settlements, i.e., affording maximum dispersion of the population, creating the premises for the organization of a new way of life, improvement of these cities by freeing large areas for the planting of greenery, etc. No matter what happens, we must avoid being strangled by the dead past. It is therefore inadmissible to make significant capital investment in the old cities without formulating a general preparatory scheme for the reconstruction of these cities and settlements.⁵⁴²

⁵⁴¹ TsDAVO, f.5, o.3, d.2085, l.13.

⁵⁴² Miliutin, *Sotsgorod; the Problem of Building Socialist Cities*, 62.

Maximum dispersion of the population made installing the new way of life an easier task. Detachment, in other words, was a key spatial quality to cultivate the first green shoots of communal conduct, and was is a condition that Italian “fellow traveller,” Antonio Gramsci, discovered and promoted concurrently. As further articulated by Frederic Jameson, spaces like the KhTZ *sotsgorod* support:

the enclave theory of social transition, according to which the emergent future, the new and still nascent social relations that announce a mode of production that will ultimately displace and subsume the as yet still dominant one, is theorized in terms of small yet strategic pockets or beachheads within the older system. The essentially spatial nature of the characterization is no accident and conveys something like a historical tension between two radically different types of space, in which the emergent yet more powerful kind will gradually extend its influence and dynamism over the older form, fanning out from its initial implantations and gradually ‘colonizing’ what persists around it.⁵⁴³

As Jameson describes it, the spatial nature of the enclave is contradictory. The space of difference must exist within the society it seeks to influence; it must be proximate, or better, embedded. Yet the enclave must also, in its first phase, remain separate from the dominant culture it will eventually subsume. It must act as a demonstration project of a better way, visible but removed from the prevailing culture so that its difference may be maintained as illustrative.

The industrial-socialist settlement fits this contradictory spatial role precisely. The factory-residential complex of the socialist type was sizable—it needed ample space, and sites of this scale were often removed from the center. But, as KhTZ demonstrated, the most appropriate sites were also near enough to existing urban centers that they were accessible sites of curiosity and illustration. Magnitogorsk, by contrast, was too far removed. In an early brief for the KhTZ *sotsgorod*, the Higher Technical-Construction Committee of the NKVD UkrSSR

⁵⁴³ Frederic Jameson, "Architecture and the Critique of Ideology," in *The Ideologies of Theory* (New York: Verso, 2008), 359.

described the foundational novelty of the socialist city, and what it hoped to accomplish socially.

This preamble placed KhTZ alongside other experimental socialist settlements:

[Our newly constructed] cities are designed concurrently with industrial bases, which are the foundation. They are designed to serve specific industries and constitute finished complexes of interconnected enterprise. For this reason, socialist cities are complete organisms, conceived and calculated from the beginning to the end... Governmental, and not private, design and construction of our living complexes is also a guarantee that the entire planning composition will be considered. Finally, the socialist city is constructed to provide maximal, equal comfort to the population, thereby eliminating the contrast between luxury and poverty.⁵⁴⁴

In this formulation the factory and its *sotsgorod* are inextricably linked, designed concurrently and wholly as “complete organisms.” In a closed environment designed by the socialist government, the socio-economic inequalities exacerbated by the NEP could be tamped out altogether. The relative hermeticism of the *sotsgorod* would permit intense social experimentation, and acceleration of the transformation from the old to the new socialist *byt*. The state funders at Tsekombank were aware of this, and promised to extend project funding “only to those that involve...elements of socialization of life.”⁵⁴⁵ The stage was set at KhTZ for precedent-setting enclave design.

Demographically Closed System

Before a concrete architectural scheme could be devised for the *sotsgorod*, Aleshin and his Giprograd colleagues needed to understand the composition of the settlement’s future residents. Empirical data on the size of the population as well as subdivided demographic categories of age, gender and family composition were crucial to have in hand before residential type design

⁵⁴⁴ TsDAVO, f.5, o.3, d.1877, ll. 1-2.

⁵⁴⁵ TsDAVO, f.5, o.3, d.2085, l.27.

could be undertaken. In the earliest numbers provided by UkrGiprommez, the final target population for the KhTZ *sotsgorod* was set at 36,287. (Figure 7.19) This incredibly precise number accounted for a host of demographic subgroups articulated by livelihood, including workers and employees of KhTZ; laborers at the plant; laborers in agriculture (to support the city); local and handicraft industry workers; commercial-sector employees (shop keepers, etc.); state catering employees; transportation workers; construction workers; employees of administrative organs; employees of municipal services; pensioners and non-workers (*bezrobotnie*).⁵⁴⁶ Additional demographic tables disaggregated the population further, dividing the raw numbers into gendered percentages and age groups (men accounted for two-thirds of the total population). For each age from under a year through sixty and over, an optimal percentage of the total population was given, again subdivided by gender. The key demographic groups of optimal working age—20-24, 25-29, 30-39, 40-49 and 50-59—taken together represented sixty percent of the settlement population. In this first round of demographic data, likely familial composition of the settlement was also projected. Singleton “families” of one made up the largest demographic group.

Demographic charts proliferated in the early project briefs for KhTZ, and they rarely aligned. The categories and percentages articulated in February did not match up with those projections produced in March; whether the UkrGiprommez was refining the numbers, or simply accessing different pools of demographic data in each case is unclear. But, consider the administrative purpose of these projections, wherever they landed. In *Seeing Like a State*, James C. Scott proposes that states simplify the complex landscape over which they rule in order to

⁵⁴⁶ TsDAMLM, f.8, o.1, d.260, ll.13-16.

limit the risks of the unknown. “The utopian, impermanent, and continually frustrated goal of the modern state is to reduce the chaotic, disorderly, constantly changing social reality beneath it to something more closely resembling the administrative grid of its observations.”⁵⁴⁷ For UkrGipromez and the Ukrainian NKVD, the de facto clients for the *sotsgorod*, KhTZ was to be a neatly closed system, “a terrain and a population with precisely those standardized characteristics that [would] be easiest to monitor, count, assess and manage.”⁵⁴⁸ The goal of state administrations, Scott elaborates, is to simplify the problem at hand in order that it may be quickly solved and subsequently monitored. By setting such precise demographic targets for KhTZ, and making sure that the architects *designed* to those targets, UkrGipromez could reasonably have believed that the resultant environment would perfectly circumscribe the population needed to run the factory complex. No more, no less, and no differently composed.

Before assigning solely authoritarian motives to the demographic specificity in the KhTZ documentation or the Magnitogorsk competition brief, an important point must be raised. Physical planning—especially where housing design is concerned—needs numbers. These numbers indicate for whom the architectural unit types will be designed, and to set the balance of types within the project. It was so important that the demographics be accurate that the members of the KhTZ design team “worked over” the data provided by the TsSU (Central Statistical Administration) to arrive at statistics better aligned with the socially transformative charge of the *sotsgorod*. “The age composition of the workers must take into account the conditions for the planned new *byt*,” they wrote,” since the existing data provided by the TsSU

⁵⁴⁷ James C. Scott, *Seeing Like a State : How Certain Schemes to Improve the Human Condition Have Failed*, Yale Agrarian Studies (New Haven: Yale University Press, 1998), 82.

⁵⁴⁸ Ibid.

did not consider all of the conditions that will make up the characteristic features of the future socialist city.”⁵⁴⁹ Following a chart with revised demographic percentages, the designers immediately homed in on indispensable spatial parameters. Areas for *zhiliachiki* (living cells) per familial group were set here, at the beginning of February. A single person was to be allotted 12 square meters, a couple 20 square meters, and upward to the final six-person category that would be granted 54 square meters.⁵⁵⁰ The team took the family type percentage mix straight from the TsSU data; again, singletons comprised twenty-three percent, and their living cells represented the most prevalent unit type.

Without the fine-grained information contained in the charts, Aleshin and his team would have been unable to work with the speed necessary to complete design in the time allotted. The design contract with Traktorstroi was signed December 27, 1929; draft designs of the *sotsgorod* and representative buildings of the residential sector were due March 1, 1930; working drawings for buildings in the residential sector were due April 20; and working drawings for the entire project were expected no more than sixty days later, on June 20.⁵⁵¹ To move from contract to construction drawings in less than six months, for a city of 36,287, was a design challenge of the highest order. Architectural standardization was a strategic imperative for the *sotsgorod* team as it had been for the factory team. Time permitted no other option.

⁵⁴⁹ TsDAVO, f.5, o.3, d.2085, l.16.

⁵⁵⁰ TsDAVO, f.5, o.3, d.2085, l.17.

⁵⁵¹ TsDAMLM, f.8, o.1, d.260, l.3.

Toward a Standard *Sotsgorod* Design

Two types of evidence, textual and graphic, suggest how Aleshin and his design team broke down and organized the *sotsgorod* project in order to complete it in the time allotted. The written program for the *sotsgorod* provides a project description rife with social context, programmatic assumptions, demographic, and dimensional data. The KhTZ project program exists in various iterations and was differently crafted depending upon the constellation of organizations involved in its compilation.⁵⁵² The single version dated February 17, 1930, and signed by the design team, is the most concretely authored and will be the version utilized here. Project drawings at four scales will be viewed as spatial solutions to the problems posed by the program and the deadlines. Architectural and planning drawings from this period are elusive, and even when they can be found information about their provenance, authorship and date of creation is often missing. Three of the four drawings examined here reside in Aleshin's personal archive, although none has a legible date; their temporal sequence can be deduced, however, by close reading. The fourth is a pair of unit plans from a 1932 book on KhTZ published immediately after the first phase of construction was completed.

Many of the official documents prepared in advance of the KhTZ *sotsgorod* design are voluminous—one hundred or more pages of exhaustive text, worked and re-worked demographics, justifications and charts. The architects' brief, on the other hand, is a concise twenty-five-page instruction manual, filled only with information pertinent to design concerns. Aleshin later stated that the design team's charge was “not only to study the materials available at

⁵⁵² UkrGirpomez, NVKD UkrSSR and Giprograd were some of the parties engaged in defining the KhTZ *sotsgorod* project, but often the project briefs found in the archives are devoid of identifying information, including dates, signatories or the organizations involved in their formulation.

the end of 1929 and early 1930's, but also to develop new facilities regarding the *byt* in all of its manifestations: housing, childrearing, education, nutrition, exercise, medical care, recreation, etc. in architectural design terms.”⁵⁵³ In line with this understanding, the brief is organized by building type: communal dining halls; childcare and educational facilities; zhilkombinat (“living combine” or residential block); “physical culture” and sport facilities; workers’ clubs; food preparation facilities; mechanical laundries; and additional services (garages, shoe repair shops, etc.). Each of these categories is introduced with a short textual explanation of the general program, but the majority of the content is relayed in lists and charts that spell out the internal programmatic requirements for each type, their quantities and square footages. The structure of the KhTZ brief mirrors the Magnitogorsk competition brief—it opens with information about demographics and territory then moves on to programmatic specifics—but it is exceedingly more detailed.

The organization of the KhTZ brief suggests that the Giprograd design office was comprised of programmatically dedicated teams. Cordoned off in small single-minded ateliers, the design groups could focus on a single new architectural type, whether a *byt*-transforming residential building, workers’ club, live-in crèche or factory kitchen. In January 1930, in his professorial role, Aleshin put out an open call to Kharkiv’s 3rd through 5th year architecture students to assist with the New Kharkiv project.⁵⁵⁴ Led by a limited number of seasoned designers, a small army of inexperienced but enthusiastic drafters could cycle through numerous typological iterations. But even with dedicated type teams, the schedule was near impossible.

⁵⁵³ TsDAMLM, f.8, o.1, d.265, l.4.

⁵⁵⁴ TsDAMLM, f.8, o.1, d.261, l.62.

“Such a shock-work pace necessitated work not 6 ½ hours a day, but often around the clock,” Aleshin wrote after project completion.⁵⁵⁵

The divide and conquer typological method worked. According to Aleshin, the sotsgorod design team met its obligations 40 days before the contractual deadline, while the Traktorstroi factory design team could not. Despite having a construction-ready drawing set from which to work, the engineers at Traktorstroi were 52 days late in delivering their final draft of the KhTZ factory design, a delay that caused coordination grief between the two projects.⁵⁵⁶ The sotsgorod site plan was intended to take its dimensional cues from the factory, so that the standard and repeatable zhilkombinat blocks might rationally connect across the green zone to production entrances. The size of the smallest planning units—the residential buildings—was thus also pegged to and dependent upon the elusive factory layout. Nonetheless, the tractor factory site plan lingered. “It is important to note that the construction management did not have a definitively established final master plan at the beginning of actual construction with the exception of the exact location of the three main shops and the repair shop, as well as the main office of the factory,” wrote a Soviet analyst of the KhTZ project immediately after completion of the first phase. “The remaining parts of the general plan were worked out in detail almost over the whole period of the construction. There were up to twelve variants of the general plan [for the factory] during that time.”⁵⁵⁷

⁵⁵⁵ TsDAMLM, f.8, o.1, d.265, l.5.

⁵⁵⁶ TsDAMLM, f.8, o.1, d.265, l.5.

⁵⁵⁷ Baltuzevich, *Opyt I Uroki Stroitel'stva Kbtz*, 10.

The first rendered site plan showed the sotsgorod in a future build-out phase.⁵⁵⁸ (Figure 7.20) The plan was divided into three horizontal zones: heavy rail to the north with the tentatively penciled factory just below; local transportation corridor and 500 meter green band; and lastly the residential sotsgorod comprised of vertically rectangular repeated *zhilkombinat* blocks marching south from the green zone and faintly but insistently eastward, in promise of further colonization of the countryside. In this drawing, the factory set the block size as Aleshin noted: its outside limits were carried down into the residential zone and the total width subdivided into six equal blocks. In the very center of the six-block composition is a north-south road that les directly to the factory's main gates; two minor block-dividing roads led to minor entrances. There were just two prototypical block designs in use here, and they appeared at this tiny scale to utilize the same few building types.

The second site plan was a later blueprint at a closer scale, and evidence of the lingering coordination troubles between the two design teams. (Figure 7.21) The tractor factory was off the sheet to the north, but its final adjusted width seems to have forced recalculation of the *zhilkombinat* block size, since in this first residential construction phase (and eventually the final build-out) the initial group consisted of five, not six blocks as previously rendered. Despite the functional architectural language of the sotsgorod buildings (more on this below), compositional laws of symmetry drove the plan at multiple scales, which may have been the result of the pre-Soviet architectural training of Aleshin and some of his more experienced staff. In a “high” Constructivist site plan, these buildings would have been arranged as production—in this case social production—required, likely asymmetrically. The factory layout faintly drawn in the early

⁵⁵⁸ There are roughly 38 *zhilkombinat* blocks in this site plan. If each held 1,500 residents, this plan would support a *sotsgorod* population of 57,000, a number well in excess of the original demographic target of 36,500.

site plan demonstrated this functional strategy: the factory buildings were relationally disposed according to the logics of industrial processes, not visual or spatial balance. In the revised sotsgorod plan for the five-block unit, on the other hand, the line of compositional symmetry runs through the odd center block, forcing the creation of a middle block prototype. The interior logic of each of the five blocks is again symmetrical about an implied mirror line. Symmetry plays a pragmatic role here, taste and academic provenance aside. In a functional site plan, spatial relationships are the result of situational contingencies; the designer must assess specific site and programmatic conditions for each case. A symmetrically composed plan, conversely, is largely agnostic about situational particularities. If the goal was to create model urban units, replicable in myriad situations, symmetrical composition made good sense. No instruction manual would be needed.

Building types come into clearer focus in an evocative aerial perspective of the first *zhilkombinat* block (the block rendered is the outside block on the blueprint). (Figure 7.22) Two narrow six-story bars held dormitory-style living cells for singles. Six four-story bars held multi-room family units. In the middle of the composition sat a round-nosed workers' club attached to a communal dining hall and mechanized laundry. Four identical educational buildings—elementary schools, kindergartens and crèches—lined the back of the block. The project program stipulated that, “all rooms in the residential sector must be connected between themselves and the premises of the socialized sector by warm corridors.”⁵⁵⁹ The connecting corridors were indicated on the blueprint by a single line that linked the residential buildings and the social infrastructure together. In the perspective, those lines became second-floor glassed-in

⁵⁵⁹ TsDAVO, f.5, o.3, d.2085, l.25.

skyways sitting atop pilotis. Their elevated position permitted the ground plane to remain freely traversable between the residential bars.

The architects' creative aspirations were drawn into this aerial. The renderer placed a swooping three-propeller plane in the upper right corner of the drawing to align the architectural project with its mechanized age. In addition, this canted aerial perspective highlights three architecturally modernist details: flat roofs, narrow building widths, and broad functional facades. Each of these details, and the buildings' stripped aesthetic, aligns the KhTZ sotsgorod architecture not only with its Constructivist brethren in Moscow, like the Narkomfin, but also the repetitive housing blocks of Ernst May's New Frankfurt (May's austere housing in Magnitogorsk had yet to be designed). Again, amenability to ease of replication was a key design concern. The two additional *zhilkombinat* block prototypes, not rendered but included on the blueprint, added a very limited number of building types: a shorter residential bar and a four other buildings whose programs are difficult to ascertain from their footprints, but which likely hold social infrastructure. In the first phase of construction seventy-eight buildings accommodating upwards of 7,500 residents were created from just ten building types.⁵⁶⁰

The most intimate architectural scale, the individual housing unit, was also designed for replication. As a representative building plan reveals, the single living cell came in one design only. (Figure 7.23) The architectural program made the requirements for this unit type clear. "In the case where a unit is for one person, closets are not placed in the unit, but should be built in a convenient place so as to serve one closet for eight people, separated for men and women.

⁵⁶⁰ These data are derived from the blueprint. Block 1 and 5 each had 14 buildings; blocks 2 and 4 had 16 buildings; and block 3 had 18, adding up to a total of 78 buildings. Each *zhilkombinat* (residential block) was in turn intended to serve 1,500 residents.

Toilets for singles likewise should be built in restrooms at a ratio of one toilet per fifteen people.”⁵⁶¹ The detail plan shows these recommendations as implemented. The unit door opened onto a small foyer with personal sink, then into a narrow 2.88 meter-wide (9.5-foot wide) room (the generous window on which the room was centered was 1.91 meters, or 6.25 feet, wide). Two gendered bathrooms off the corridor held a bathtub and two toilets for common use. Despite the inconvenience of shared toileting and washing, and a notable lack of kitchens, each single was allotted twelve square meters of personal space, a significant spatial improvement on the Union-wide recommendation of nine square meters per person. And each corridor widened every so often to provide common gathering space and a shared balcony. The six-story buildings in the perspective are thus a repetitive series of identical cells, relieved at regular intervals by bathrooms and social spaces. There was more unit variety among the family apartments in the four-story walk-up buildings. (Figure 7.24) A partial floor plan shows four units clustered around a single shared stairwell. The standard requirements for these units included foyer, closet, washbasin and toilet; again, kitchens were not provided. Of the four units in evidence, there is one one-room example, two two-room types, and a single three-room version. In this representative foursome, half of the units enjoyed a balcony, all facing one side of the building.

The speed with which the working drawings were produced, and the limited examples that remain, suggest that the project proceeded along a straight path to completion. Yet Aleshin lamented after the project was finished that, over and above site planning frictions between the factory and sotsgorod design teams, the turbulent intellectual environment was ultimately most

⁵⁶¹ TsDAVO, f.5, o.3, d.2085, l.17.

damaging to both schedule and cost. In a formal explanatory memo written after project completion, Aleshin discussed the toll taken on his team (Giprograd) by “shock-work” conditions paired with fluctuating theoretical imperatives:

From the list of work completed by Giprograd on the Tractor Factory project, it is evident that there was an extremely unclear sense of what the buildings should be, a lack of any material standards for designing the transitional [socialist] city and extremely diverse ideological positions in the various currents within Ukraine and all over the Union. Under these conditions, Giprograd engaged in a rather unexpected agreement not only to study the materials available at the end of 1929 and early 1930, but also to develop new facilities regarding the *byt* in all of its manifestations: housing, childrearing, education, nutrition, exercise, medical care, recreation, etc., in terms of architectural design.

Under shock-work construction conditions, Giprograd took full responsibility for the immediate fulfillment of its design obligations. Giprograd was forced to perform these tasks in the shortest possible time frame by going ahead of other similar construction projects, and without the benefit of other examples of *sotsgorod* construction.

Moreover, during the design process all of the well-known discussions about the ideological establishment of the transitional *sotsgorod* were taking place. There were also numerous commissions constantly reflecting on the creativity of our youth, the very workforce creating the architectural objects for *Traktorstroi*. All of these conditions unnerved (*nerivirovala*) the work, and led to repeated adjustments and improvements on already-completed designs. This led to increased labor and costs.

For Giprograd it was a great pleasure to read the decision by the TSK VKP(b) [Central Committee] in the spring 1930 on the left-wing distorter (*levozagibshchikakab*) Sabsovich. By that time Giprograd had already finished the *Traktorstroi* project, which corresponded to the Party line.

This circumstance could only happen thanks to a deep exploration of the issues and through participation in discussions by professionals in Moscow, Kharkov and Kiev. And through analysis of all of the conditions of the construction and development of the transition-period *sotsgorod* by the whole Giprograd team to reach the correct approach to solving the task.⁵⁶²

Three points in Aleshin’s letter merit special attention. First, he made clear that there was no roadmap for the design work that Giprograd undertook at the KhTZ *sotsgorod*. The terms for new architectural objects and ensembles—*zbi kombinat*, *zbi liachik*—had been coined, but, as he noted, “there was an extremely unclear sense of what the buildings should be.” What ensued was

⁵⁶² TsDAMLM, f.8, o.1, d.265, ll.4-5.

trial and error design, “without the benefit of other examples of sotsgorod construction.” Their project was experimental in the fullest sense. The designers understood themselves to be devising the model for socialist urban form that did not, as yet, exist. Second, to become conversant in the terms of the unfolding socialist urbanism debate, Aleshin and his team engaged in intense research to “study the materials available at the end of 1929 and early 1930.” The vigorously annotated books on the debate in Aleshin’s personal library testify to the architect’s deep engagement with the theoretical material. The original Magnitogorsk competition brief—and the carefully organized envelopes filled with photographs of competition entries—that reside in Aleshin’s archive belong to this research effort. He looked closely at the language and content of the brief, and assessed the merits of the designs, as he and his team crafted their own response to the sotsgorod task. And third, because Aleshin became so well acquainted the material over such a short period of time—tracking the protagonists and their arguments, testing them against Giprograd’s ongoing work to design a material environment—he was in a position to be critical of implausible recommendations. In what remains of Aleshin’s personal library there is only one Sabsovich book: *City of the Future and Organization of Socialist Byt* (1929). It is not well annotated. He made a point in his letter to mention his pleasure at reading the Central Committee’s “Resolution on the work to restructure *byt*,” from May 16, 1930, that admonished “left-wing distorter” Sabsovich by name. Sabsovich’s “extremely unreasonable semi-fantastic schemes” that sought “to attempt in ‘one jump’ to clear those obstacles to the socialist reconstruction of *byt*,” were exactly the types of

recommendations that “unnerved” Aleshin and his design team.⁵⁶³ The theoretical ground was shifting, and yet for Aleshin and team the deadline had to be met.

Luckily for Giprograd, the KhTZ sotsgorod design was deemed a positive exemplar for future sites, in line with the new official position on socialist settlement. Grigol Ordzhonikidze, Politburo member and soon-to-be Commissar of Heavy Industry, reviewed the preparatory working drawings in 1931 and stated that the project “fully met the needs of the given period.”⁵⁶⁴

From Drawing Board to Site

For the KhTZ sotsgorod designers, standardization meant devising a very limited number of replicable options, a strategy that ran from the scale of the residential unit to the building type to the *zhilkompleks* block. Standardization permitted the timely completion of the working drawings, even with hand-wringing setbacks wrought by theoretical inconstancy. But as was the case with the tractor factory, once the design came into contact with the actual construction site, the carefully crafted system of standardized parts had to adjust.

Two onsite conditions affected the Giprograd designs most drastically: material availability, and the skill level of the construction work force. First: materiality. The rendering of the first sotsgorod block—the architectural team’s wish image—showed smooth white volumes horizontally striated with flush ribbon windows and recessed balconies running in the same band across the facades. Building materiality is merely implicit in this drawing, which suggests either reinforced concrete construction or parged masonry to create a materially monolithic effect. In

⁵⁶³ "O Rabote Po Perestroike Byta (Postanovlenie Tsk Rkp(B) Ot 16 Maia 1930 Goda)."

⁵⁶⁴ TsDAMLM, f.8, o.1, d.265, ll.4-5.

reality, there was only one material option for the buildings on the sotsgorod site, and that was brick. In the frantic preparation for construction, a brick factory capable of producing 40 million red bricks a year was built just three kilometers from the KhTZ site, as UkrGipromez had recommended in their siting document.⁵⁶⁵ From the first through the subsequent construction phases, KhTZ was a brick complex.

The architects handled the material foisted upon them with ingenuity. The narrow proportions of the constructed buildings remain as rendered, and from afar the signature horizontal striation also reads clearly. (Figure 7.25) Closer inspection reveals that the continuous ribbon window band is a trompe l'oeil. (Figure 7.26) The standard windows as installed are square and mullioned, and sit back from the building face to produce an undesired shadow frame; they are unmistakably punched openings. The gridded effect of these openings is masked with two simple additions: light colored finish tiles applied on top of the exterior brick, and paint. The dark bands that run around the buildings are comprised of windows, balconies and dark brick infill; the balance of the structure is tiled or painted in a light yellow. The horizontally alternating result is, under the circumstances, in the same company as the rendered aspiration. The detail that most irrevocably divorces the rendering from the constructed condition is the roof profile. (Figures 7.27 – 7.28) No documentation has yet emerged that explains the decision to build the residential buildings with traditional shallow-hipped roofs punctured by rows of chimneys. The pitched roofs, in concert with the brick, break any alliance these buildings might have had with architectural modernism. The shortage of steel on the tractor factory site, which caused significant material substitutions as noted above, also affected the plans for the

⁵⁶⁵ Baltuzevich, *Opyt I Uroki Stroitel'stva Kbtz*, 11.

sotsgorod. The connecting heated skyways, reliant on long-span steel members, were left out of the initial construction phase. Nor were they built in future phases. (Figures 7.29 – 7.31)

The speed and simultaneity of construction on both factory and sotsgorod impacted the composition of the workforce. KhTZ was a shock-work project; all skilled or simply able workers were pooled to complete the factory. While some of the Stalingrad crew had been lured to continue on at KhTZ, the balance of the factory construction workforce was local. The accelerated pace was instituted for the sotsgorod as well, but imbalanced resource allocation between factory and sotsgorod tell the true story. In the short term, thanks to the relative proximity to the city, UkrGipromez believed that both construction and factory workers could suffer the commute from the center to KhTZ.⁵⁶⁶ The sotsgorod would be built as quickly as possible, but not at the expense of the tractor factory.

These circumstances resulted in an under skilled workforce on both the factory and sotsgorod site. According to the account of an American working on site, fifty percent of the construction work was completed by bands of volunteers:

A many as 17,000 workers shared in the construction of the plant. At least half of these workers came from the city of Kharkov and the surrounding small towns, giving their time voluntarily in what is called *subbotniks*. One of the “old timers” here told me that every morning a train and lorries loaded with workers came with bands playing and banners flying to do their share of work—usually unskilled, such as digging and loading dirt—to help the new plant in operation in record time. The Red Army men also did their share of this heavy initial work.⁵⁶⁷

Construction photographs show Red Army soldiers digging trenches, as the excerpt notes.

(Figure 7.32) They were not qualified to do much else on the site. The same held for the civilian

⁵⁶⁶ The original siting document notes that the workforce would come largely from the city and local villages. They calculated that the commute to Losevo from the city center by tram would take an hour, by bus just 40 minutes. TsDAMLM, f.8, o.1, d.259.

⁵⁶⁷ Beal, *Foreign Workers in a Soviet Tractor Plant*, 8.

volunteers who arrived on site to assist construction on Saturday work brigades (the *subbotniks* referred to in both accounts).⁵⁶⁸ Extra hands would have been useful on simple tasks or those that required brute force. But organization of a jobsite staffed by transient unskilled workers must have been a daily logistics challenge.

KhTZ was undoubtedly a site of local curiosity, removed from the established urban core and touted as Kharkiv's most significant contribution to the first Five-Year Plan. The sotsgorod was of particular interest. While there were many modern residential buildings constructed in Kharkiv city center during the late 1920s, KhTZ was the sole fully communalized complex. The sotsgorod was an important material touchstone for the new social order, one that even inner-city Kharkivites might have wished to have a hand in making, if not living in. American engineer Swajian, who oversaw the construction of the tractor factory, recalled later the his impressions of the collegiality and excitement brought by the volunteer work force:

I don't think there was a man or woman in Kharkov who didn't come out to work on that plant. Professors, women, girls, young bands of pioneers - they came every day in organized groups on "subbotniki," volunteering their free day to do unpaid work on their tractor plant. There were 400 to 500 of them every day, sometimes as many as 2,000.

They came as if it was a good picnic. And why wasn't it? They wanted to see the big show and be in on it! Ten kilometers out from Kharkov they came, to where we were building not only the plant but the new workers' city.⁵⁶⁹

Swajian was not party to coercive methods of staffing the site—*subbotniks* and *voskresniks* were, after all, requisite, not volunteer. But, some documentary film footage of the construction site confirms his account. In a short clip, young people standing in open doorways hop to the ground as a train slows in its passage across a barren landscape. They are there to "help speed

⁵⁶⁸ There is copious scholarship on the institution of the *subbotnik* and *vosresnik*, additional unpaid workdays often required of workers for projects for the social good.

⁵⁶⁹ Swajian, "Building the Kharkov Tractor Plant," 414.

construction,” the titles note, and the footage that follows features a young woman catching, turning and flinging bricks in a long line of helpers who stand with the *zhibkombinat* buildings wrapped in wooden scaffolding in the background.⁵⁷⁰ (Figure 7.33)

The largely unskilled workforce negatively affected the project’s quality of construction. Even if the architects had specified the most modern materials and processes, the composition of the labor pool on the construction site precluded complex assemblies. A contemporary assessment of the first phase of construction noted that “the projects of Giprograd, more than any other of the types carried out on the KhTZ, were the objects of public and architectural discussion, and objects of severe criticism—mainly by the production-workers on the construction, which resulted in a lot of defects that had to be rectified.”⁵⁷¹ While the quote blames Giprograd for the so-called construction defects—the result of overreaching design—it is more likely that inexperienced production-workers were at the root of quality control problems.

* * *

KhTZ provides the opportunity to examine how one of the first ground-up, explicitly socialist urban projects was conceived, designed, and constructed. Linked together in a parallel narrative, Magnitogorsk and Kharkiv can be understood as stand-ins for theory and practice. Socialist urban theory was generated for Magnitogorsk and successfully utilized in Kharkiv.

The designers for KhTZ did not have the benefit of a research and development period before tackling the final version of the sotsgorod design. Shock-work tempo for completion meant that there would be no open competition for KhTZ; it was simply given to a local

⁵⁷⁰ TsDKFFA, VUKFU Newsreels, Archive number 1447.

⁵⁷¹ Baltuzevich, *Opyt I Uroki Stroitel'stva Kbtz*, 23.

architect who used both professional experience and research of prevailing trends to resolve the design problem as quickly as possible. Giproggrad accomplished what Standartgorproekt, even under the seasoned leadership of Ernst May, could not. Namely, they created a standardized unit of urban development: the replicable *zhibilkombinat*. Under much less scrutiny, Giproggrad was able to experiment in real time: drawing quickly, incorporating new theoretical precepts, but also just making the thing.

By 1931, with a deeper collective understanding of large-scale planning issues, Giproggor (the State Institute for City Planning) began to work out the theoretical and methodological issues related to socialist settlement by applying the practice of architectural standardization to the problem of settlement types.⁵⁷² The Soviet desire to replicate industrial concerns and residential quarters quickly across vast territories met success, finally, through the interscalar standardization of architectural details, standard building types and predesigned settlement modules, like those devised for the KhTZ sotsgorod.

⁵⁷² Mark Meerovich, "Giproggor: Organizatsiia I Liudi," *www.archi.ru* (2014).

CONCLUSION

The truth is that the economic and cultural reconstruction of all life in the USSR has no parallel in the history of mankind. *It is equally true that this reconstruction is being accomplished by a sober evaluation of all the realities, and it should be obvious to any observer that in each successive stage, matters recognized as desirable and ideal are being consciously subordinated to matters that are feasible and possible within the limitations of the present.*⁵⁷³

—Ernst May, 1931

A year into his design consultancy with the Soviet government German architect, Ernst May, tempered his expectations of what he might accomplish in the USSR. He still asserted that the first Five-Year Plan was a development project unparalleled “in the history of mankind,” but he also understood that it was beset by severe limitations. While the fiscal, material, and labor shortages that plagued Soviet construction projects were still in the future for May and his German brigade, they encountered stubborn topographies and client inconstancy within weeks of arrival. Desires and ideals became subordinate to reality under such difficult conditions, May concluded in 1931.

The process of subordination that May described supports two readings of the early Soviet planning trajectory, one negative, and one positive. In the first—let’s call this the failure narrative—the idealized vision of future settlement was gradually erased by the sober conditions of the present. This reading aligns with Manfredo Tafuri’s assessment that there was no radical break between what he called the visionary (1920s) and technocratic (1930s) periods in Soviet planning. Instead, Tafuri claimed, once realism killed vision, avant-garde designers like Moisei

⁵⁷³ May, "City Building in the Ussr." Translated in Lissitzky, *Russia : An Architecture for World Revolution*, 190. Original italics.

Ginzburg simply disappeared into the “black fog” of anonymous state planning offices.⁵⁷⁴

Recent Russian scholarship on this early period of Soviet urban planning, like the work produced by Meerovich, Khmel'nitskii, and Kōnysheva, arrives at similar conclusions.

In the second reading—what I will call the praxis narrative—improbable fantasy was *vanquished* by material fact. In my own lexicon, I use design, experimentation, and praxis interchangeably to define iterative problem solving informed by interdisciplinary research, close observation, and haptic experience. As a former practitioner, I read in May’s assessment of the Soviet situation circa 1931 the evaluation of a seasoned pragmatist. He may have been blinded at the start of his work by the “magnitude of the task, and also the fact that nothing like it [had] ever been attempted before,” but, faced with facts on the ground, he and his team settled down to accomplish what was possible under the circumstances.⁵⁷⁵ Under Leninist praxis, the success of a plan was gauged by its ability to engage the present as a means to affect change. For Ivanitskii, May, and Aleshin—our designer protagonists in Baku, Magnitogorsk, and Kharkiv—practical work prevailed over utopian dreaming. This dissertation has attempted to look closely at how they approached the problem of the socialist environment and, most importantly, intervened.

The question of whether the mercurial conditions of War Communism, NEP, and the first Five-Year Plan restricted or spurred on the development of socialist urban theory and practice is one that I returned to throughout this research. The answer is, of course, dependent upon the particular context to which it is posed. By electing to make this a study of three sites instead of a monograph, I sought to debunk the myth that Soviet planning was a centralized or

⁵⁷⁴ Manfredo Tafuri, *Modern Architecture*, ed. Francesco Dal Co (New York: Electa/Rizzoli, 1986), 190.

⁵⁷⁵ "City Councillor May's Russian Plans," 174.

totalized activity from the onset. Early Soviet planning practice was incredibly diverse and highly contingent upon the particular geography, industry, and actors in play at specific sites.

Chronology also interjected variation into this narrative. The planning stories on these sites spanned three distinct economic periods, each of which differently engaged the construction of socialist space. During War Communism and NEP in Baku, the locally based oil company, Azneft, played a strong role in shaping the built environment because funding and direction from Moscow were not forthcoming. It took Azneft and Baksovet some time and many false starts to recognize the importance of planning forward, but eventually they did, through a combination of imported, and increasingly, local expertise. During the start of the first Five-Year Plan, socialist spatial theory caught fire. The shift to a full command economy during the Plan made large capital construction projects possible and imperative, and Magnitogorsk was held up as the site on which burgeoning theories of socialist space would be tested. The remoteness and difficulty of the site limited the scope of experimental built work at Magnitogorsk, but the ideas written into its competition brief nonetheless circulated and in turn affected the fates of other sites in the Union. By Kharkiv, a later first Five-Year Plan project, the socialist settlement debate took a backseat to frantic on-the-ground efforts to meet the Plan's construction goals. The architectural strategy of standardization was utilized to demonstrate how the industrial, residential, and social lives of the working populace might be constructed through an integral, replicable model.

The standard history of early Soviet urbanism (if there is such a thing) holds that the experimental phase ended summarily with the “Resolution on the work to restructure *byt*” in

May 1930, which denounced “utopian” urban theories in favor of replanning existing cities.⁵⁷⁶ Just weeks after the resolution was published in *Pravda*, Lazar Kaganovich, Stalin’s right hand, was appointed first secretary of the Moscow Committee. In a mid-1931 speech, later published as *Socialist Reconstruction in Moscow and Other Cities in the USSR*, Kaganovich held up Moscow as the sole model for all future Soviet urbanism.⁵⁷⁷ To do so, he had to elide the issue of urban form, and assert that means of production alone made a context socialist: “There are at present many who decline in every possible declension the formula, ‘we must build a socialist city.’ They forget one little trifle: that the cities of the USSR are already socialist cities. Our cities became socialist from the very moment of the October Revolution.”⁵⁷⁸ The 1935 Moscow General Plan, conducted under Kaganovich, organized, modernized, and radically transformed the capital city. Movement was smoothed and quickened in Moscow through monumental boulevards widened for cars, waterways widened for boats, a new metro and expanded surface transportation.

This dissertation has shown that Moscow was not the only socialist urban model and further, that experimentation continued on sites outside of the capital beyond 1931. The monumental, Socialist Realist ensemble city of Kaganovich’s Moscow was one socialist urban model. The well-organized *zhibkombinat*, with free-standing housing, social and recreational programming, dedicated schools and commercial centers tested at various scales in Armenikend, the Kirov District, and the KhTZ sotsgorod, was another. The *zhibkombinaty* developed in the 1920s and early 30s became the post-war *mikroraiiony* (microregions), dense residential quarters

⁵⁷⁶ "O Rabote Po Perestroike Byta (Postanovlenie Tsk Rkp(B) Ot 16 Maia 1930 Goda)."

⁵⁷⁷ “[B]y means of the concrete experience in Moscow we shall solve problems of city development for the whole of the Soviet Union.” L. M. Kaganovich, *Socialist Reconstruction of Moscow and Other Cities in the U.S.S.R.*, vol. no. 159, [Williams College Propaganda Pamphlet Series] ; (New York: International Publishers, 1931), 61.

⁵⁷⁸ *Ibid.*, 83.

that finally addressed chronic housing shortages Union-wide through standardized plans and construction methods. These models for socialist urbanism were not mutually exclusive: while monumental ensembles marked the central, representational spaces in Soviet cities, the outskirts were ringed with *mikroraiony*.

In the course of my research I visited each of the settlements explored in this dissertation. While nearly a century has passed, and the system under which they were designed and constructed has been superseded, the built environments persist. They are crumbling, but they persist. Armenikend, the socialist settlement at the edge of Baku, has been nearly subsumed by the oil boom city of the present. (Figure 8.1) A handful of the original Constructivist buildings remain, but they are under threat by new high rises that mimic their dynamic volumetric massing in metal panels and reflective glass. The Kirov District in Magnitogorsk ceased to play an important role in the city once residential construction in that city was moved definitively to the right bank of the Ural River in the late 1930s. (Figure 8.2) Some of May's housing has been left to ruin, and the green spaces described by John Scott are overgrown, but much of the neighborhood is still, improbably, occupied. The KhTZ sotsgorod also remains populated, but it is no longer a celebrated site in the former Ukrainian Soviet capital. (Figure 8.3) In spring 2011, a future resident of Kharkiv posted a question on a local web forum: "Which region of Khar'kov would you recommend for someone relocating to the city?" The very first respondent replied definitively: "только не ХТЗ" —*anywhere* but KhTZ.⁵⁷⁹ A recent national

⁵⁷⁹ "Kakoi Raion Posovetuete Priezzhaiushchemu Zhit V Khar'kov?," <http://www.kharkovforum.com/>.

newspaper poll cited KhTZ as one of the ten most dysfunctional and dangerous residential communities in all of Ukraine.⁵⁸⁰

I was deeply affected by these visits, and had difficulty “unseeing” the sites’ current conditions. My struggle with presentism was compounded by local presentism. In the post-Soviet states of Azerbaijan, Russia, and Ukraine, the material legacy of socialism is nothing more (to most) than detritus of a failed experiment. In my attempts to permit the past its due, I was helped immeasurably by the archival meeting minutes, memos, briefs, and drawings produced in the months leading up to the planning and construction of these sites. The settlements’ import in their time, and the designers’ and administrators’ seriousness of purpose to create new environments for a new way of life, emerged from the bound sheaves of typing paper and stiff blueprints.

I entered into this project with the mindset of a practitioner. Practicing designers are notoriously acquisitive where historical precedent is concerned. Of what use is history to *my* design, *now*—is the implicit question students of design pose architectural historians. So, what does the origin story of socialist urbanism have to offer contemporary urban practice? In attempting to formulate an answer to this broad question, I have gone back to the original Marxist spatial postulate: that the material environment determines consciousness. Or, put another way (via Lefebvre): space not only emerges from a particular culture, it has the capacity to shape cultural practices. If we apply this principle to the issue of contemporary working class housing, for instance, we can insist that housing is much more than a number in a real estate

⁵⁸⁰ Korrespondent Sostavil Top-10 Samikh Neblagopoluchnykh Zhilmassiv V Ukraine," (<http://korrespondent.net/ukraine/events/1058465-korrespondent-sostavil-top-10-samyh-neblagopoluchnykh-zhilmassivov-v-ukraine2010>).

pro-forma, a dot on a map, or a statistical data point. Housing is a *habitat*—a material environment in which everyday lives are made. The shape, size, and location of housing matters greatly, as does the addition of social programming to create community, if not communality. My provisional answer, therefore, is that contemporary designers can learn from their early Soviet counterparts to strive to create work that generates more than mere public pleasure. The urban fabric, and the architecture that sits within it, can and should be designed to accommodate critical acts of political and social engagement.

Finally, through this project I have found that the elements universally agreed to compose a “good city” are largely the same in capitalist and socialist planning contexts. They are housing (ideally close to the workplace), reliable transportation, convenient social and commercial services, educational and cultural infrastructure, green space, and recreational opportunities. What differs in capitalist and socialist city making are the funding and delivery methods. Under socialism, the state is responsible to provide all elements—an expensive, and logistically complex undertaking. Many socialist and post-socialist cities do have extraordinary public transportation, ample green space, and excellent cultural amenities; but inadequate housing is also a significant legacy of socialism. Architectural standardization and mass production did not solve the Soviet housing delivery problem—post-Soviet cities are plagued by repetitive and disintegrating *mikroraiony* in dire need of intervention. Yet in order to intervene in the post-socialist condition, contemporary planners first need to understand the historical conditions that produced this particular material legacy. This dissertation has sought to provide that history.

APPENDIX

Magnitogorsk Competition Brief
TsDAMLM, f. 8, o.1, d.431, ll. 1-3
Translation: Christina E. Crawford

Magnitostroi Management Announces All-Union Open Competition For the drafting of:

- A. Planning and construction for the socialist city of Magnitogorsk in the Urals, next to the metallurgical plant**
- B. Typical residential communes**

(All interested parties are free to participate in the competition)

NKVD Publications Moscow — 1929

page break

Program. The main provisions.

The newly planned industrial city of the Magnitogorsk metallurgical plant is to be erected in the Urals, located 260 kilometers southwest of the town of Troitsk.

The city is planned on the basis of a complete socialization of cultural, educational and everyday life of all workers, namely:

- a. All the adult population (men and women), except for the elderly, the disabled and the sick, are involved in productive labor and of various kinds of social work.
- b. The life of the workers, aside from production work and destinations of city institutions, is concentrated in the housing communes and its environment, liberating the working people from the worries of maintaining individual farms, but with the active participation of the working people in all kinds of collective economy and way of life of their commune.
- c. Children under 16 years of age live under socialized care and live in closed types of nurseries, kindergartens and boarding schools, which are located near the adult dwellings, but they are not isolated in children's and school campuses.

Note 1: Space for children is not provided in the living quarters for married couples.

Note 2: For handicapped children, special centralized institutions will be provided.

- d. Meal preparation for the entire population of the city is carried out by a centralized organization by means of food processing plants that deliver to all manufacturing facilities, public agencies and residential communes all types of food.
- e. Supplies for the entire population—items of general and individual consumption—will be taken care of by a department store as well as a commodity supply network organized by the residential communes.
- f. Transportation for the workers in more remote manufacturing locations and institutions will be provided by autobus and automobile transport, which will also be used to provide the population with countryside excursions
On one of the magistral that heads in the direction of possible further development of a city over 50,000 residents, it is necessary to consider the construction of a tram way.
- g. Residential communes may be carried out in the manner of state building, as a housing cooperative;
- h. There is no land planning provided for individual builders.
- i. The premises must be oriented with regard to the most favorable sunlight conditions.

A. Background information for the preparation of preliminary planning and construction of the city of Magnitogorsk

I. The entire population of the city at the full development of the mining plant, including the silicate factories and mines, is determined to be 50,000 residents.

Note: 1. The planning layout of the city should provide roads in the direction of the silica factories and mines to connect workers living in the city with these operations.

I. The city's population distributed by age:

Able-bodied adult population, including men and women ...	34,000 people
Children under 16 years of age	12,000
from 0 - 4	3,500
from 4 - 8	3,000
from 8 - 16	5,500
Elderly and disabled	4,000

III. All construction of the city should be completed over two five-year plans. 30,000 residents should be accommodated in the first five-year plan, with subsequent expansion of 20,000 in the second five-year plan. The city should be planned to accommodate further expansion in future, after the first two five-year plans.

IV. The city will provide the most modern scientific municipal improvements including district heating, water supply, sewerage, electrification and gasification provided by the combined factory installations.

Note 1. The city's water supply is provided from groundwater aquifers on the floodplain of the Urals, intake wells are located on the banks of flood plains.

Note 2. Release of sewage after biological treatment is planned for the Ural River below the dam, in the direction of the Magnitkoi station.

V. The open steppe type nature of the city calls for the planting of trees, especially in the area that separates the factory enterprises of the city.

VI. Data that describes the topography of the city, the location of the individual parts of the mining plant, railway lines to populated areas nearby, and more, are outlined in the attached master plan, presented at a scale of 1/5000.

The above note should be considered when designing the street network.

VII. The planning and development of the city includes *) *) The buildings of the Main Administration of the mining plant factory and the hotel are already built, and their locations are indicated on the master plan.

1. Residential communes
2. Palace of Labor and Culture with a library-reading room, and meeting rooms for trade unions and health education.
3. House of Soviets.
4. House of the protection of public order
5. Theater and Cinema.
6. Kindergartens and day nursery for disabled children.
7. Educational institutions with no more than 800 children of different ages in any given complex.

Note: Schools should be located so as to provide the opportunity for sufficient land for planting crops and raising animals.

8. VTUZ (*Vyshee tekhnicheskoe uchebnoe zavedenie* / Higher technical school, factory-technical college) with the following departments: metallurgical, chemical and mining, all located on a single land plot and located near the factory grounds.
9. Central Clinic and two regional branches, which are in a location convenient for use of the industrial complex and the residential part of the city.
10. Hospital with 400 beds in the first phase, followed by a second phase expansion of 100 beds, consisting of departments for:
 - a. Maternity
 - b. Gynecology
 - c. Surgery
 - d. Therapy
 - e. Ear, nose and throat
 - f. Eye
 - g. Skin venereal disease
 - h. Childhood diseases
 - i. Nervous system
 - j. Infectious disease
 - k. Pathological wing with morgue
 - l. Pharmacy
 - m. Administrative wing with a kitchen
 - n. Chronic disease
11. Disinfection station
12. Isolation unit for 100 people

13. Sanitary hygienic and clinical laboratory
14. Tuberculosis sanatorium (for children)
15. House for mothers and children

Note: When locating the health and sanatorium facilities, one must consider their distance from noise, and their proximity to green areas, in addition to the Commissariat of Health's rules for the location of hospitals.

16. Central children's house and club
17. Food processing plant, consisting of:

- a. Factory kitchen
- b. Baking factory
- c. Production facilities for sausage- and cheese-making, confectionery products, kefir and various drinks
- d. Slaughterhouses
- e. Refrigerators and warehouses
- f. Disposal plants

Note: 1. The factory kitchen, bread factory and other such production facilities should be so as to feed a population of 30,000 people, with the subsequent expansion of the facility to serve the entire population of 50,000.

Note 2. Food processing plants should be located near railway tracks.

18. Department store
19. Mail, telegraph, and telephone building
20. Radio broadcasting center
21. Central mechanical laundry
22. Banya (sauna) with pool for swimming
23. Garage
24. Central incineration plant
25. Fire station
26. Material warehouses and repair shops serving the city
27. Park of Culture and Leisure with stadium and other sporting institutions, as well as fields for youth of pre-military age
28. Municipal nurseries and greenhouses
29. Crematorium
30. Squares, boulevards and other tree-planted places

The size of plots allocated for public buildings should be allocated at a width to permit future expansion of such public and economic facilities.

B. Background information for the preparation of conceptual design of the residential commune.

1. The housing commune (complex of buildings) is designed for a capacity of 1,500-3,000 people of all ages who will occupy their own respective sectors of the commune.
2. Sleeping accommodation for adults can be designed for both single capacity and for 2 or 3 people.

In order to obtain a variety of solutions, the authors have complete freedom to choose the number of each type of residential room. When calculating the area of rooms, utilize 9 sq. meters for singles, and for other types utilize 7.5 sq. meters per person.

Note: For elderly workers sleeping accommodations are located in a quieter part of the building.

3. With each group of sleeping rooms service spaces should be designed, such as: pantry with gas stove for heating food, social room (for greeting guests), bathroom, showers, washroom, toilet, laundry and common balcony.

4. The sleeping quarters shall be provided furniture in the form of folding beds, sofa chairs, cupboards and so on.

5. The common areas for the adult population are made up of:

a. Central vestibule with cloakroom, or a series of individual cloakrooms organized by section;

b. Dining room for 25% of the adult population to eat at the same time, with an area near the buffet for snacks and individual meals, a kitchen that allows for partial cooking of food, thermos, pantry, washing, laundry, etc. have,

c. Club facilities, consisting of: common room for meetings, movies and so on.

Capacity for 20-30% of the adult population of the commune; red corner; library reading room; room for music, study circles, and sports with showers and toilets;

d. Small commercial area with a hairdressing salon,

e. Laundry with dryer and ironing (for small washables) and toilet,

f. Solarium and sports playing fields,

Note 1. Common-use areas associated with the housing may be mixed in with the housing or separated, but in any case must be connected by heated passageways.

Note 2: The total floor area for public use programs, not counting auxiliary areas (lobby, hallway, stairs, bathrooms, showers, toilets), shall be calculated at 2-3 square meters per adult.

6. Nursery for children from 0-4 years of age.

7. Kindergarten for children aged 4 to 8 years.

Note: Nurseries and kindergartens must meet all requirements set by the People's

Commissariats Health and Education with regard to the size of each respective age group and the spatial norms for each type.

8. Play yards should be provided near all nurseries and kindergartens.

9. Boarding schools for school-aged children should consist of:

g. Dormitory rooms with a capacity of up to 10 children each, with bathrooms, showers, toilets, linen closet and bathrooms near the sleeping area;

h. Common areas, composed of: dining room that can accommodate half of the children at the same time, with service areas included; red corner; classrooms with a library-reading room; room for different kinds of entertainment and sports, with the shower and toilets;

i. Lobby with cloakroom.

10. The spaces of the nurseries, kindergarten and boarding schools must be connected with the rest of the commune by heated passageways.

11. Buildings within the residential commune are allowed to be no more than 4 stories. The ceiling height of the residential spaces should be 2.8 meters, and the common areas from 2.8 - 4 meters. The exception is a large hall (theatre) space, which should have ceiling height of no less than 4 meters.

The composition of the preliminary designs.

The submitted projects must consist of:

1. General plan of the city at the scale of 1/5000 with indication on the plan of residential,

public and administrative structures, their parcels, as well various types of green spaces and schematic locations of water and sewer mains.

2. Cross sections of streets.
3. General plan of a typical residential commune at the scale 1/500.
4. Plans of each unrepeated floor of the residential commune at the scale of 1/200, with the typical residential cells at the scale 1/100.
5. Sections of the commune buildings that clarify the general construction of the buildings and the height of the most important spaces, at a scale of 1/100.
6. Main facade at the scale of 1/200.
7. Axonometric or perspective views of one or a few of the buildings of the residential commune.
8. Explanatory notes that outline the basic information about the total composition, containing estimates with formulas.

On the layout of the city

- a. Area of the of the entire territory of the city;
- b. % of area occupied by public and administrative buildings;
- c. % of area occupied by residential communes;
- d. % of area occupied by all residential and public buildings;
- e. % of area occupied by green spaces (parks, squares and green buffer zones);
- f. % of area occupied by streets, trains, public squares, etc.

On the project of the residential communes

g. Volume of the residential commune buildings (volumes calculated from the sidewalk to the attic floor).

Note: When a basement is to be constructed, volume is calculated from the basement floor to the attic floor.

h. For each age group, determine: 1) living area (bedrooms); 2) the public area; 3) service area (corridors, passages, toilets, bathrooms, washrooms, etc., with the exception of stairs.

i. Relationship between cubic capacity of the residential buildings of the commune and total area for all population groups.

j. Volume of the buildings of the residential commune assigned to each resident, including children

Note: Schematic drawings indicating the calculations and estimates should be attached; drawings and calculations must be in meters. On the plans areas and dimensions should be indicated, as well as height in the sections. How the drawings are organized is up to the author, but must clearly express the construction of the buildings and their external materiality.

No drawings, other than those indicated above, will be allowed in the competition submission, and if included will not be considered by the Members of the Jury nor will they be included in the exhibition.

General terms and schedule for the Members of the Jury

22 December 1929, at 10 o'clock in the morning: competition programs will be issued.

Competition programs will be distributed by the Magnitostroi Administration (Moscow, at

the corner of Nikolskaya Street and Bol. Bogoyalavlenskogo lane, 1/8) and the Moscow Architectural Society (Ermolaevsky Pereulok, 17).

5 January 1930, at 4 pm: deadline for submission to the Jury questions about the competition program.

7 January 1930, at 4 pm: the Jury issues answers to the competition questions via the Magnitostroi Administration and the Moscow Architectural Society. Nonresident answers may be communicated by mail on request.

2 February 1930, at 8 pm: projects must be deposited at the Magnitostroi Office at the above address with a receipt that notes the day and hour of the project submission.

Projects must be submitted under a slogan/motto (verbal or graphic), with the author's name and address in a sealed envelope with the same slogan.

Projects not submitted under a slogan/motto, or in which the name of the author is provided, are disqualified.

Projects submitted by mail are considered to have met the deadline if they were mailed no later than the date of the competition deadline. Out-of-town competitors must send a telegram announcing their submission at the same time that they send the project, and must secure documentation that certifies the mailing (postal receipt, etc.). If a project has not been received 7 days after the after the deadline noted in the program, out-of-town competitors lose the right to participate in the competition.

2 March 1930: completion of the Jury deliberations and award of prizes.

For the best projects, the following prizes will be given:

1st Prize	5,000 rubles
2nd Prize	4,000 rubles
3rd Prize	3,000 rubles
4th Prize	2,000 rubles
TOTAL		14,000 rubles

From the non prize-winning projects, the Administration of Magnitostroi retains the right to acquire projects of their own selection at the price of the last award.

28 February - 1 March 1930: comprehensive public exhibition before the award of prizes.

3 - 4 March 1930: comprehensive public exhibition after the award of prizes.

Prize-winning and “acquired” projects become the property of Magnitostroi.

Remaining projects that are not retrieved by their authors before 1 April 1930 become the property of Magnitostroi, although the sealed envelope with slogan will be destroyed, unopened.

The family names of the prize-winning projects’ authors will be published in the same press outlets that the competition itself was published in; likewise will the names of the authors of the “acquired” projects be published.

Magnitostroi retains the right to publish the competition projects.

The Members of the Jury may not participate in the development of competition projects, and will not give any clarifying information about the competition program, except for the official question and answer from the Jury that is included in the program to the this competition.

Members of the Jury

1. Lunacharskii, A.V.—Chair
2. Miliutin, N.A. (representative of the M. SNK)

Participants:

3. Magnitostroi
4. Uralobl. (Ural Regional Government)
5. NKVD (Ministry of Internal Affairs)
6. Narkompros (Ministry of Education)
7. Narkomzdrav (Ministry of Health)
8. Stroikom RSFSR (Construction Committee of the Russian Republic)
9. VTsSPS (All-Union Central Soviet of Trade Unions / 4 participants)
10. TsK VLKSM (Central Committee of the Young Communist League)
11. Zhenotdel TsK (Women's Department of the Central Committee)
12. Vesnin, V.A., civil engineer
13. Mashkov, I.O., architect
14. Ivanov, A.K., architect-artist

Upon publication of this program the composition of the Members of the Jury shall not be altered.

Мособлит No. 62044.

Зак. No. 989

Тир. 500 экз.

Типография Изд. ва НКВД. Мал. Каменщика, 16

GLOSSARY OF TERMS and ACRONYMS

STATE DEPARTMENTS and INSTITUTIONS

Azneft: Azerbaijan state oil company

Baksovet: The Baku Soviet, the local Party decision-making body

Giprogor: State Institute for City Planning, founded 1929

Giprograd: State Institute for City Planning in the Ukrainian SSR, founded 1930.

Gipromez: State Institute for the Design of Metallurgical Factories

UkrGirpomez: Ukrainian SSR State Institute for the Design of Metallurgical Factories

Glavneftkom: Main Oil Committee, under the VSNKh, for the RSFSR

GOELRO: State Commission for Electrification of Russia, established 21 February 1920. Pet project of Lenin; considered the first attempt to plan the entire territories of the USSR.

Gosplan: State Planning Committee, was the agency responsible for central economic planning in the Soviet Union. Established in 1921 and remaining in existence until the dissolution of the Soviet Union in 1991, the main task of Gosplan involved the creation and administration of a series of five-year plans governing the economy of the USSR. (Under STO).

GUKh: General Administration of Communal Services under the NKVD

Kommunkhoz: Department of Communal Services

Magnitostroi: Magnitogorsk ...

Narkomfin: People's Commissariat for Finance

Narkompros: People's Commissariat for Education

Narkomtorg: People's Commissariat for Trade

Narkomzdrav: People's Commissariat for Health

NEP: New Economic Policy (1921-28)

NKPS: People's Commissariat for Transportation

NKVD: People's Commissariat for Internal Affairs

NKZ, or Narkomzem: Ministry of Agriculture and Food, People's Commissariat responsible for the planning and management of the agricultural production of the USSR

Planovoe Khoziaistvo: *Planned Economy*, the monthly magazine of Gosplan

Sovnarkom / SNK: Council of People's Commissars

STO: Council of Labor and Defense, first established as the Council of Workers' and Peasants' Defense in November 1918, was an agency responsible for the central management of the economy and production of military materials.

STROIKOM RSFSR: Building Committee of the Russian Republic

Sektsii sotsrasseleniia: Section for Socialist Settlement in the Construction Department at Gosplan RSFSR

Tekhniko-Stroitel'naia Sektsiia VSNKh: Technical-Building Section of the Main Economic Department of the Supreme Council of National Economy of the USSR.

Traktorstroii: The state entity set up to direct and oversee the delivery of the Kharkov Tractor Factory (such an entity was also established for Stalingrad and Cheliabinsk).

TsK KPSS: The Central Committee of the Communist Party of the Soviet Union. The TsK was the highest body of the Communist Party, able to enact resolutions between the Party Congresses.

Tsekombank: Central Bank of Communal Services and Housing was a specialised state bank that practiced lending for public utilities and facilities as well as construction and repair of residential buildings.

TSFSR: The Transcaucasian Socialist Federative Soviet Republic, also known as the Transcaucasian Soviet Federative Socialist Republic, the Transcaucasian Federation, the Transcaucasian SFSR and the TSFSR, was a constituent republic of the Soviet Union that existed from 1922 to 1936. Comprised of Armenia, Azerbaijan and Georgia. The capital was Tbilisi.

VARNITSO: All-Union Association of Science and Technology to Promote Socialist Construction

VATO: All-Union Association of the Auto-tractor Industry of the USSR Supreme Economic Council

VSNKh: Supreme Soviet of the National Economy, Superior Soviet of the People's Economy. Also: Vesenkha.

VTsSPS: All-Union Central Soviet of Trade Unions

Zhenotdel TsK: Women's Department of the Central Committee

TERMS

byt: the everyday way of life, domestic habits

meshchanskii byt: petty bourgeois way of life

novyi byt: the new, socialist way of life

chernozem: "black earth" region of northeastern Ukraine and southern Russia

dan': "tribute"

dom-kommuna: communal house, usually with small sleeping quarters and common dining, recreating, laundry and childcare facilities.

khoziastvo: communal economy

KhTZ: Kharkiv Tractor Factory

kolkhoz: collective farm, in which individual peasants worked together to share agricultural labor and production.

kommunal'ka: communal apartment, typically in converted prerevolutionary apartments, in which families were granted single rooms, with shared kitchen and bathroom facilities on the hallway.

kommunal'naia khoziastva: communal or municipal economy

kontrol'nye tsifry: “control figures” that predicted annual revenues for each branch of industry, which in turn set hard limits on that branch’s expenditures for the year.

kulak: wealthy peasant

MAO: Moscow Architectural Society

MTS: Machine and tractor station. Beginning in 1928, these state-run stations owned and managed agricultural machinery.

opytnyi proekt: experimental project (eg: “*pristupleno k postroiki 110 opytnykh kvartir amarianizirovanno tipa*” – *Azneft, Obzor* 1925, 69)

OSA: Society of Contemporary Architects, founded in 1925. Primary purveyors of architectural Constructivism. Vesnin Brothers, Moisei Ginzburg, etc.

perekachka: the practice of “pumping” agricultural resources into industry, instituted especially during the First Five-Year Plan.

planirovaniia: social and economic planning

planovik: social and economic planner

planirovka: physical/ spatial planning

planirovshchik: physical/ spatial planner

priviazka: practice of adjusting standardized architectural types to a specific site

SA: Constructivist architectural journal *Modern Architecture (Sovremennaia Arkhitektura)*, published from 1926-1930. Mouthpiece for the Society of Contemporary Architects, OSA.

smychka: “union” or “bond”. In the early Soviet context, *smychka* was the unity of urban and rural; an alliance between workers and peasants.

sotsgorod: socialist city (*sotsialisticheskii gorod*). A sotsgorod is typically a settlement that was designed to support an industrial enterprise.

sovkhoz: "Soviet farm", typically translated as state farm; is state-owned. The sovkhoz was the goal of communist agricultural practice; the kolkhoz was considered an interim stage.

subbotnik and voskresnik: Volunteer (often forced) work performed on Saturdays and Sundays.

technical crops: fruit, tobacco, volatile oils, India rubber, sugar beets, fibers corkwood, and other industrial crops.

zogatovki: procurement of agricultural produce

SOURCES

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Azərbaycan Respublikası Dövlət Arxiv [State Archive of the Azerbaijan Republic], ARDA

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Magnitogorsk kraevedcheskii muzei [Magnitogorsk Local History Museum], MKM

Nauchno-tekhnicheskaiia biblioteka OAO "Magnitogorskii metallurgicheskii kombinat" [Scientific Technical Library of the Magnitogorsk Metallurgic Factory]

OAO Magnitogorskii Gipromez [Archive at the Magnitogorsk Metallurgic Design Institute, Gipromez]

Rossiiskii gosudarstvennyi arkhiv ekonomiki [Russian State Archive of Economics], RGAE

Rossiiskii gosudarstvennyi arkhiv literatury i iskusstva [Russian State Archive of Literature and Art], RGALI

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Planovoe khoziaistvo

Pravda

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Sovremennaia arkhitektura (SA)

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FIGURE 0.1: Kharkiv Tractor Factory site, 1930

Tsentral'nyi derzhavnyi kinofotofonoarkhiv Ukrainy im. G.S. Pshenychnogo [Central State Cine-Photo-Phono Archives of Ukraine, named after G.S. Pshenychnyi], TsDKFFA. VUKFU Newsreels, Archive numbers 1429, 1447, 1469, 1483, 1486, 1516, 1517, 1529.



FIGURE 0.2: Horse-drawn building supplies, Kharkiv Tractor Factory site, 1930



FIGURE 0.3: Foundation pit diggers, Kharkiv Tractor Factory site, 1930

**Робітники
службовці
підприємств Харкова..**

**..допомагають прискорити
будівництво**

FIGURE 0.4: “Workers and employees of Kharkiv enterprises...help to speed up construction,” of the socialist city next to the Kharkiv Tractor Factory, 1930



FIGURE 0.5: City worker “volunteers” arrive by train to assist construction, Kharkiv Tractor Factory site, 1930



FIGURE 0.6: Worker “volunteers” sling bricks, Kharkiv Tractor Factory site, 1930



FIGURE 0.7: Map of sites for the *Socialist Settlement Experiment*
Map by author



FIGURE 0.8: Map of the USSR during the first Five-Year Plan, 1931
<http://ausstellung-gulag.org/>

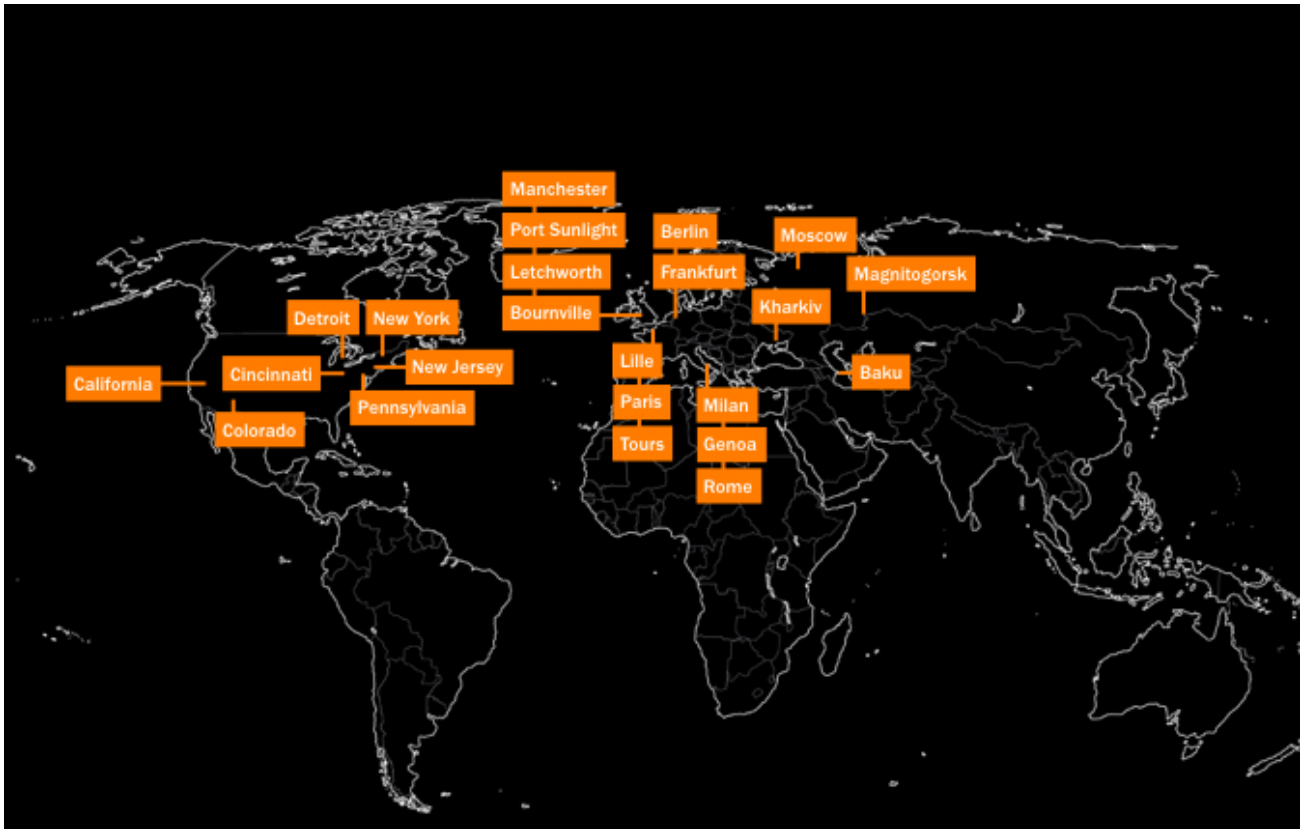
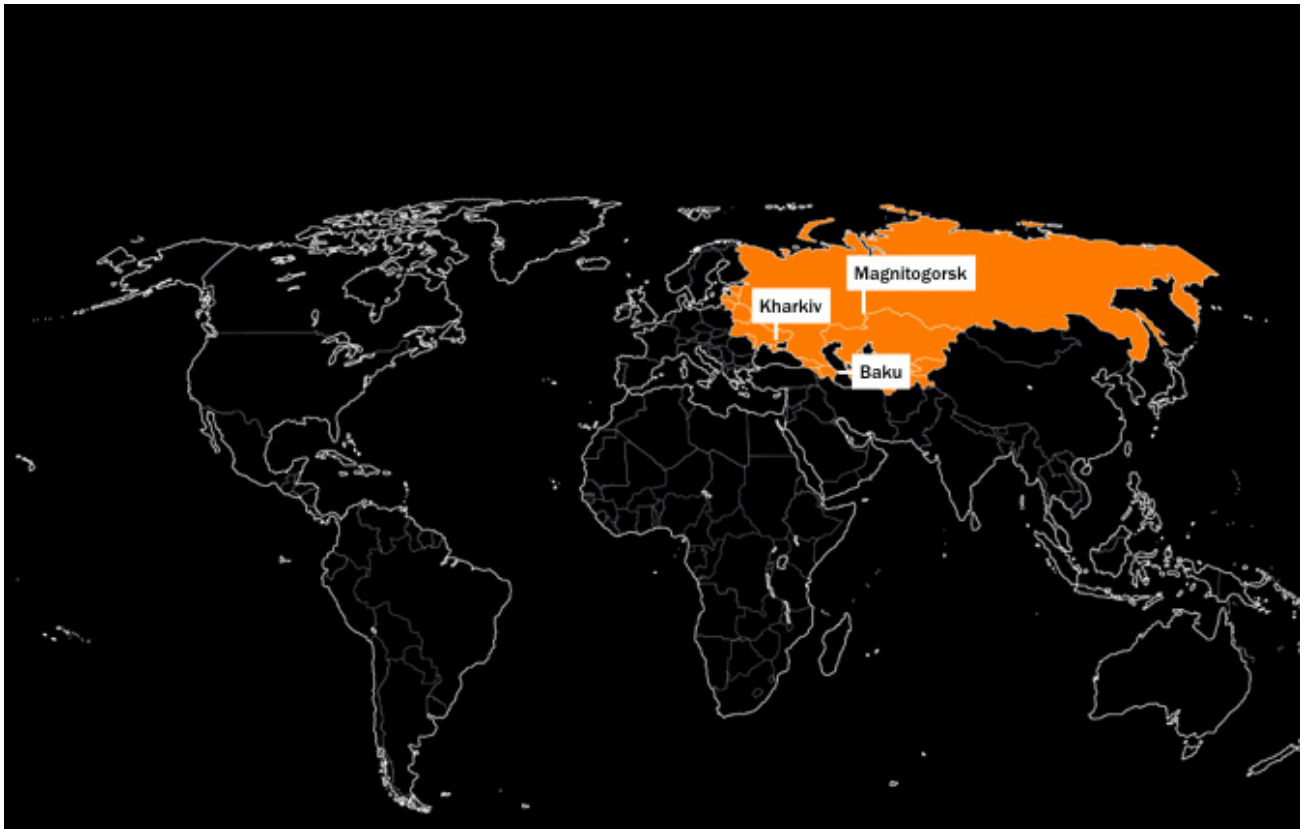


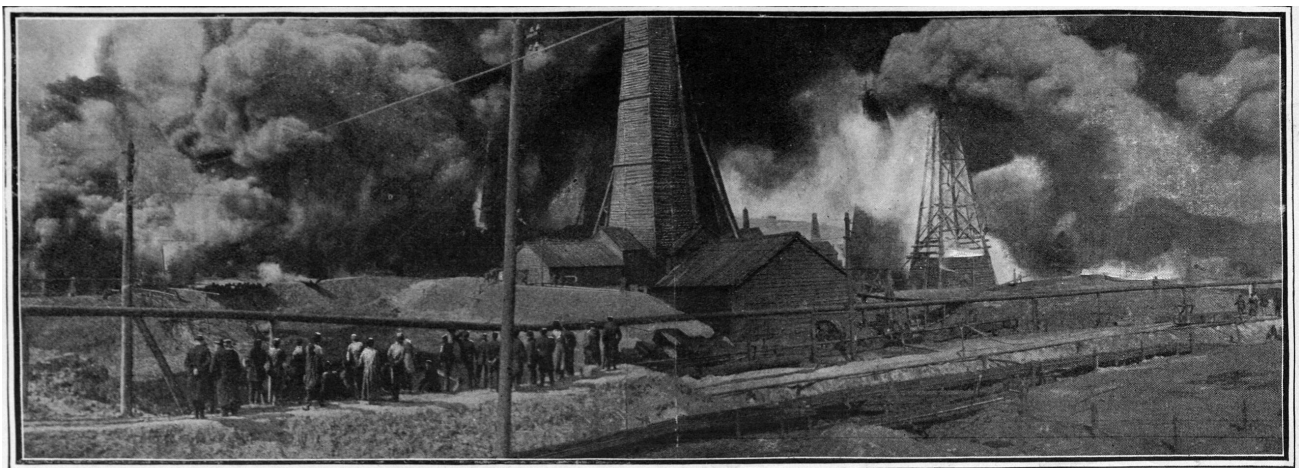
FIGURE 0.9: Research sites within Soviet sphere (top), and research sites in transnational dialogue (bottom)
 Maps by author



ПОМЕЩЕНИЕ СОЮЗА НЕФТЕПРОМЫШЛЕННЫХ РАБОЧИХ В 1906 ГОДУ.

FIGURE 1.1: Meeting of the Society of Oil Industry Workers, 1906

Azerbaijan State Kino-Foto Archive



The latest fire at Baku took place recently at the Bibi-Eibat oil-field. Damage was done to the properties of Mantasheff and Company and the Russian Petroleum and Liquid Fuel Company, both of which have London offices. The fire, started by the striking of a bailer against a pulley, broke out on plot No. 57 of Mantasheff. The derrick was destroyed in a few minutes, and the flames spread to a tank in which, fortunately, there was only a small quantity of crude oil. They were then carried to

another Mantasheff derrick, and thence to the property of the Russian Petroleum and Liquid Fuel Company, where three bailing wells were destroyed. The wind increasing, the burning timber and sparks were carried across the northern part of the field and started another conflagration on the Kokoreff property. There a small tank caught fire, and the flames spread to a larger one filled to the brim with about 1,000 tons of crude oil. Three tanks and eight derricks were destroyed.

AN UNQUENCHABLE BLAZE: ANOTHER SERIOUS FIRE AT A BAKU OIL-FIELD

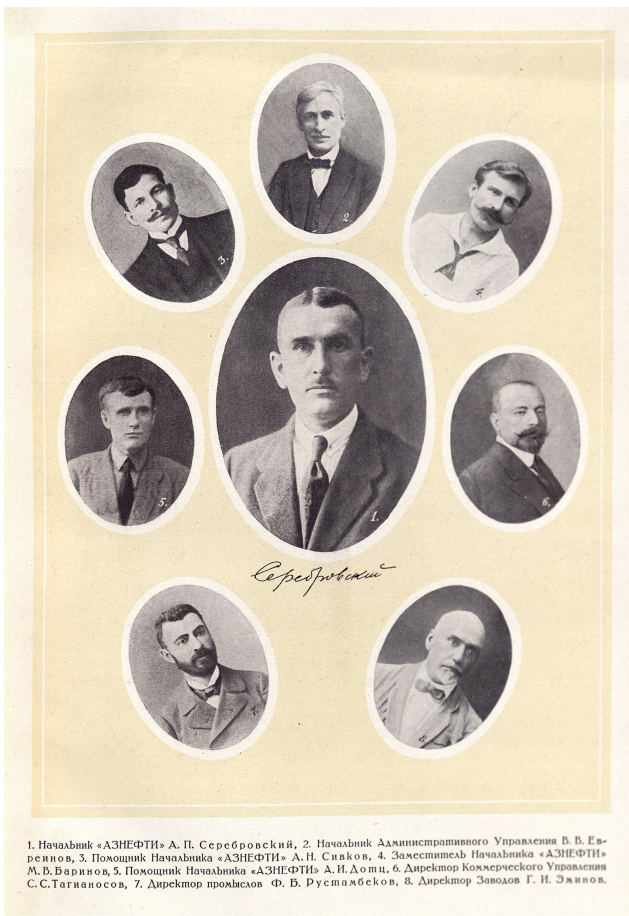
FIGURE 1.2: "An Unquenchable Blaze: Another Serious Fire at a Baku Oil-field"

The Graphic, May 6, 1905



FIGURE 1.3: 1905 Revolution in Baku

wikimedia



1. Начальник «АЗНЕФТИ» А. П. Серебровский, 2. Начальник Административного Управления В. В. Еренинов, 3. Помощник Начальника «АЗНЕФТИ» А. Н. Сивков, 4. Заместитель Начальника «АЗНЕФТИ» М. В. Баринев, 5. Помощник Начальника «АЗНЕФТИ» А. И. Дотц, 6. Директор Коммерческого Управления С. С. Тагианов, 7. Директор промыслов Ф. В. Рустамбеков, 8. Директор Заводов Г. И. Эжнин.

FIGURE 1.5: Aleksandr Serebrovskii (center left)

Azneft. *Obzor Azerbaidzhanskoi Neftianoj Promyshlennosti Za Dva Goda Nacionalizatsii: 1920-1922.* Baku: Azneft, 1922.



1. Шеф промыслов и Секретарь Центрального Комитета Азербайджанской Коммунистической Партии С. М. Киров, 2. Председатель Центрального Проленция Азербайджанского Отдела Союза Горнорабочих А. А. Никитин, 3. Член Президиума ЦПАОСГ—А. Крылов, 4. Член Президиума ЦПАОСГ—П. И. Мешков, 5. Почетный Член ЦПАОСГ—Н. В. Лаврентьев, 6. Член Президиума ЦПАОСГ—И. И. Нейман, 7. Исполнительный Начальник Коммунального Управления «АЗНЕФТИ» П. А. Белоусов.

FIGURE 1.6: Sergei Kirov (center right), 1922

Azneft. *Obzor Azerbaidzhanskoi Neftianoj Promyshlennosti Za Dva Goda Nacionalizatsii: 1920-1922.* Baku: Azneft, 1922.



FIGURE 1.7: Prerevolutionary worker housing in the oil fields, Baku, before 1917
Collection of the Shchusev Museum, Moscow (MUAR)



FIGURE 1.8: Village of Balakhany
Azneft. Obzor Azerbaidzhanskoi Neftianoï Promyshlennosti Za Dva Goda Nacionalizatsii: 1920-1922. Baku: Azneft, 1922, 15.

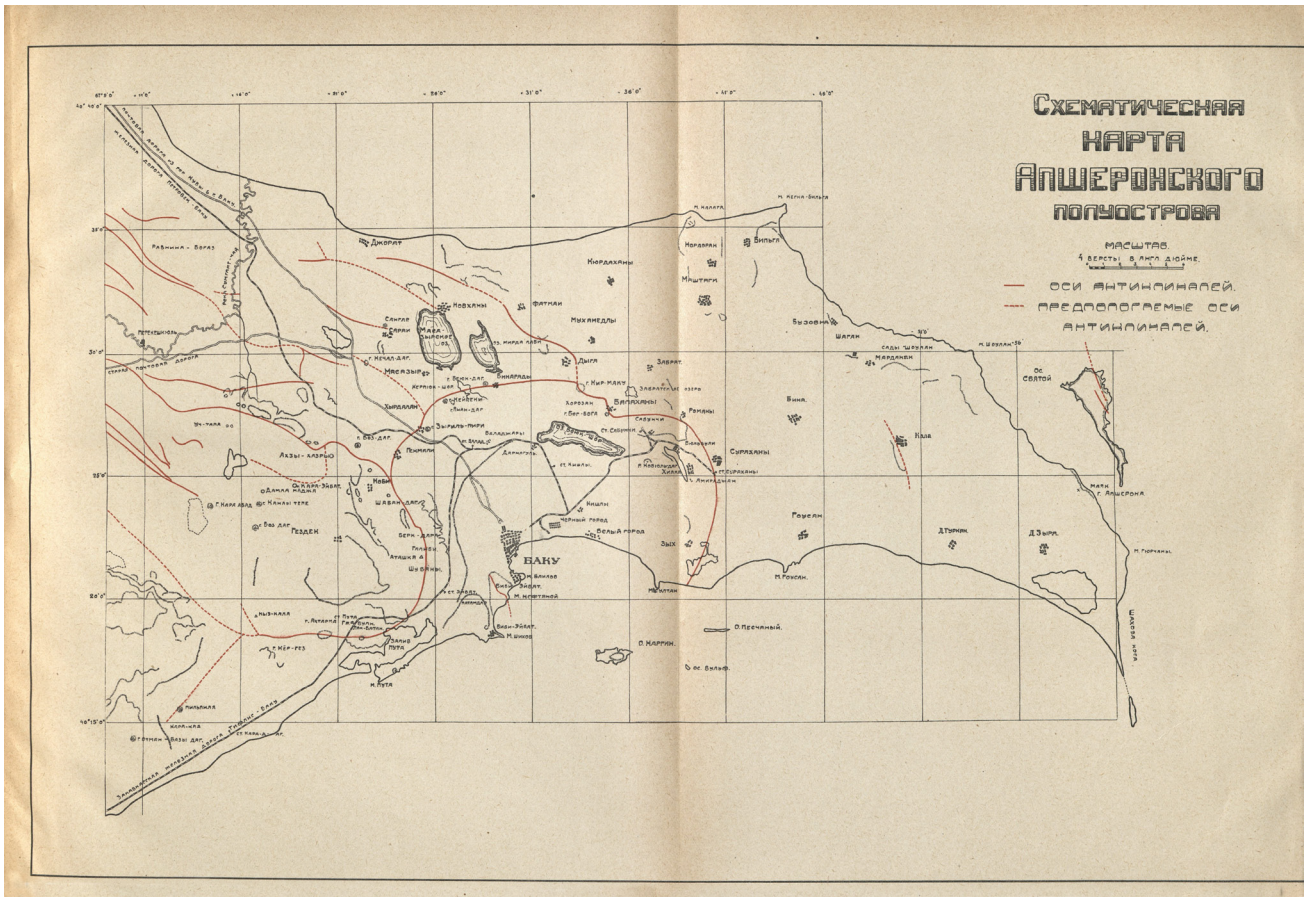
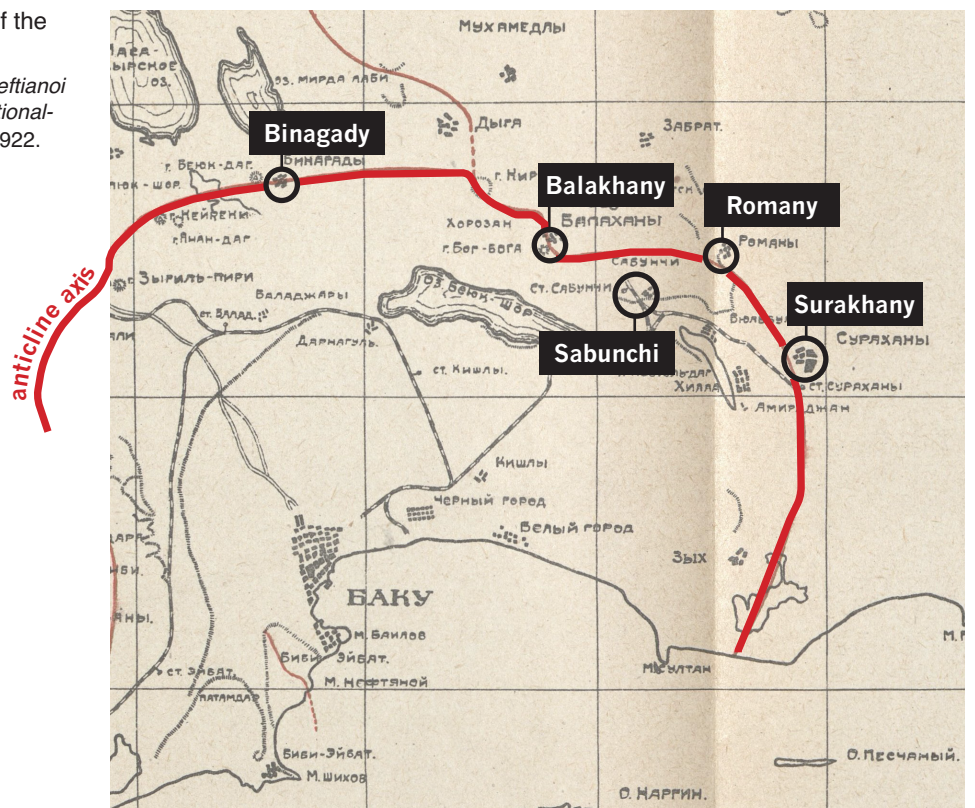


FIGURE 1.9: Schematic map of the Apsheron peninsula, 1922
 Azneft. *Obzor Azerbaidzhanskoi Neftianoj Promyshlennosti Za Dva Goda Nationalizatsii: 1920-1922.* Baku: Azneft, 1922.



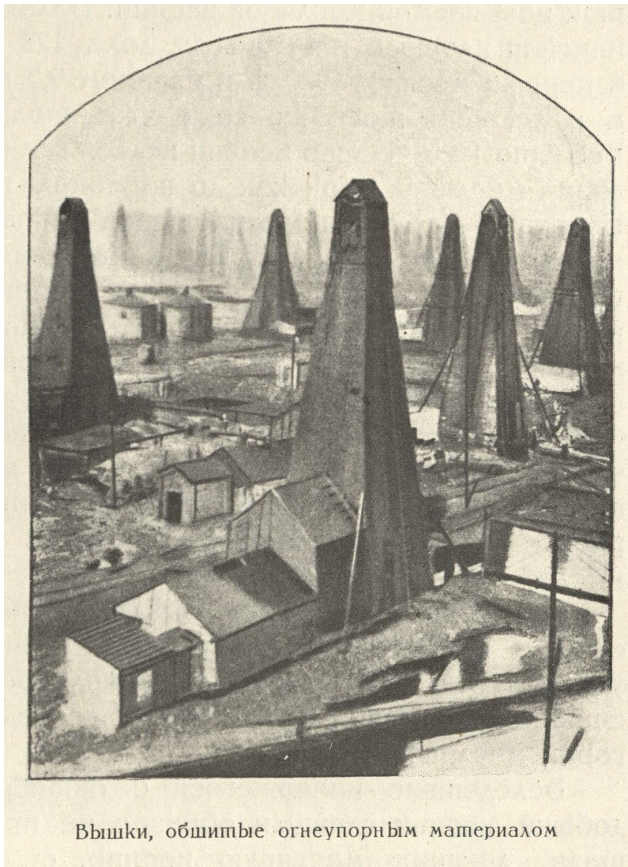


FIGURE 1.10: Catching the borehole remainders with drilling tools

Azneft. Obzor Azerbaidzhanskoi Neftianoi Promyshlennosti Za Dva Goda Nacionalizatsii: 1920-1922. Baku: Azneft, 1922, 91.

FIGURE 1.11: Derricks, sheathed with nonflammable materials

Azneft. Obzor Azerbaidzhanskoi Neftianoi Promyshlennosti Za Dva Goda Nacionalizatsii: 1920-1922. Baku: Azneft, 1922, 85.



FIGURE 1.12: Canteen in an oil workers' house of rest in the area surrounding Baku

Azneft. Obzor Azerbaidzhanskoi Neftianoi Promyshlennosti Za Dva Goda Nacionalizatsii: 1920-1922. Baku: Azneft, 1922, 233.



Дом отдыха для детей нефтяников в Белом городе

FIGURE 1.13: House of rest for the children of oil workers in the White Town

Azneft. *Obzor Azerbaidzhanskoi Neftianoi Promyshlennosti Za Dva Goda Nacionalizatsii: 1920-1922*. Baku: Azneft, 1922, 247.



Сад при доме отдыха нефтяников в окрестностях Баку

FIGURE 1.14: Garden near the oil workers' house of rest in the vicinity of Baku

Azneft. *Obzor Azerbaidzhanskoi Neftianoi Promyshlennosti Za Dva Goda Nacionalizatsii: 1920-1922*. Baku: Azneft, 1922, 265.



FIGURE 1.15: Competition house in the Montina settlement, White Town

Azneft. *Obzor Azerbaidzhanskoi Neftianoi Promyshlennosti Za Piat' Let Nacionalizatsii: 1920-1925*. Baku: Azneft (VSNKh SSSR - Gosudarstvennoe Ob"ednenie Azerbaidzhanskoi Neftianoi Promyshlennosti), 1925, 70-71.



FIGURE 1.16: *Top:* Balakhany region in Zarbat / *Bottom:* Sabunchi region in Zarbat

Azneft. *Obzor Azerbaidzhanskoi Neftianoi Promyshlennosti Za Piat' Let Nacionalizatsii: 1920-1925*. Baku: Azneft (VSNKh SSSR - Gosudarstvennoe Ob"ednenie Azerbaidzhanskoi Neftianoi Promyshlennosti), 1925, 70-71.



FIGURE 1.17: *Top:* “American” house in Shubany / *Bottom:* General view of the Bingady settlement

Azneft. *Obzor Azerbaidzhanskoi Neftianoi Promyshlennosti Za Piat' Let Nationalizatsii: 1920-1925.* Baku: Azneft (VSNKh SSSR - Gosudarstvennoe Ob"ednenie Azerbaidzhanskoi Neftianoi Promyshlennosti), 1925, 70-71.

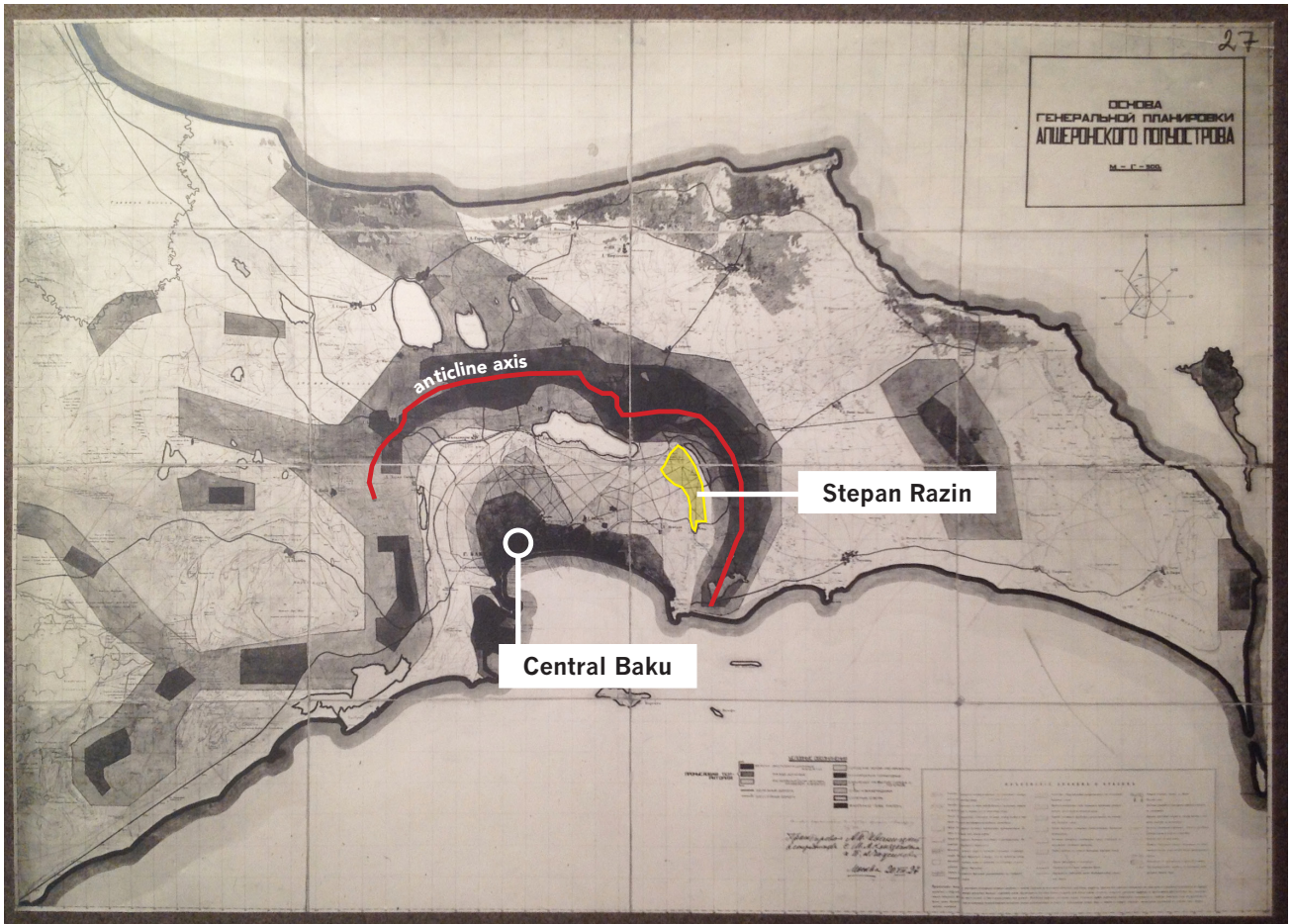


FIGURE 1.18: Location of Stepan Razin on the Apsheron Peninsula general plan, 1925

Diagram by author on top of plan by Ivanitskii et al.

RGALI, f.299, o.1, d.1, l.27

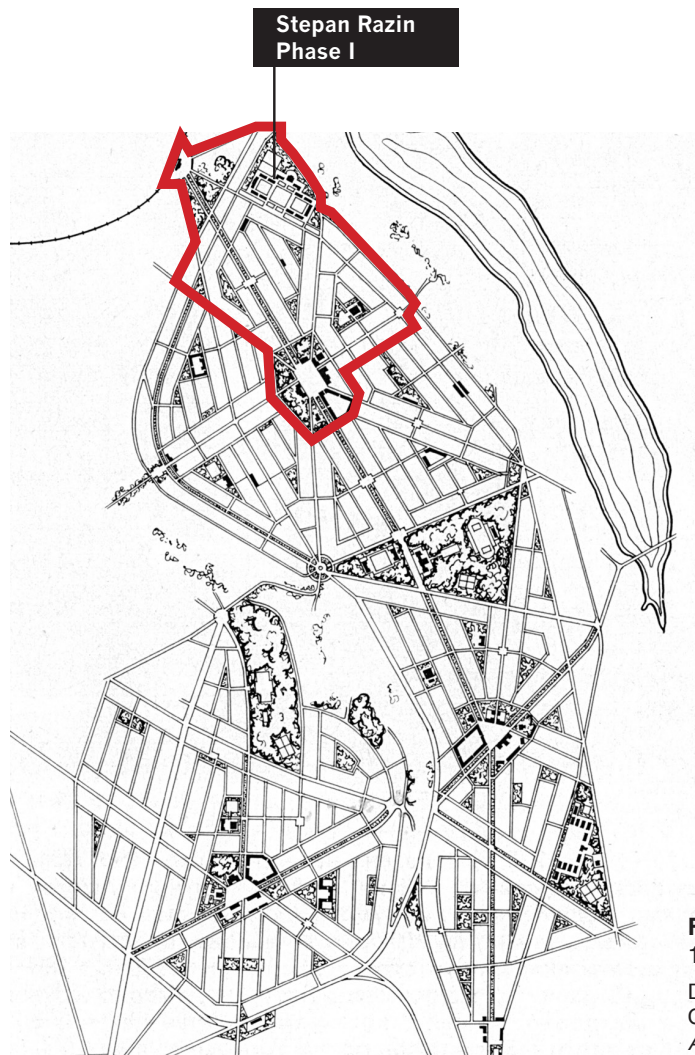


FIGURE 1.19: Stepan Razin settlement design, 1925 Planners: Ivanitskii et al Davidovich, V. G., and Tatiana Aleksandrovna Chizhikova. *Aleksandr Ivanitskii. Mastera Arkhitektury*. Moskva: Stroizdat, 1973, 46

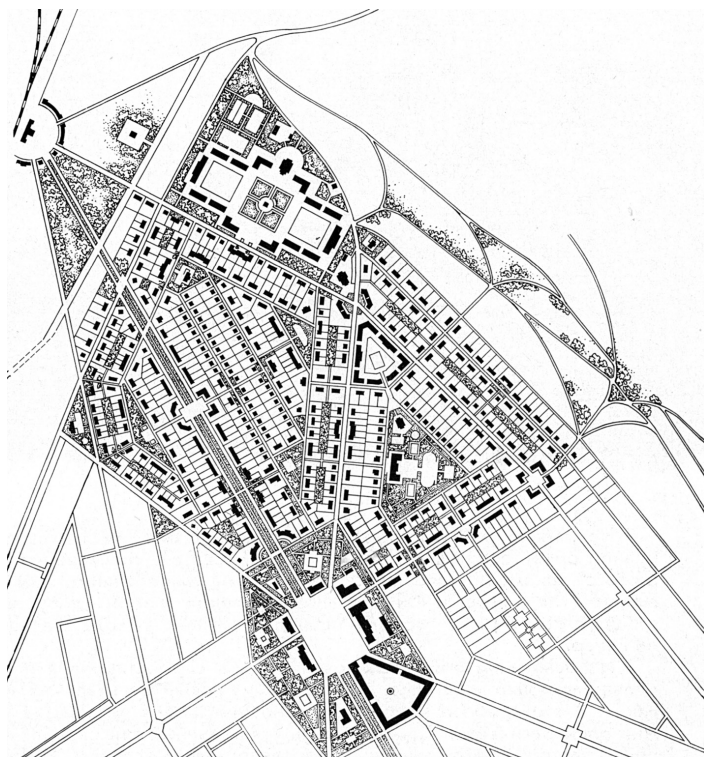


FIGURE 1.20: Stepan Razin Phase I design, 1925 Planners: Ivanitskii et al, 1925 Davidovich, V. G., and Tatiana Aleksandrovna Chizhikova. *Aleksandr Ivanitskii. Mastera Arkhitektury*. Moskva: Stroizdat, 1973, 47



FIGURE 1.21: Viktor Vesnin, Leonid Vesnin, Le Corbusier, Aleksandr Vesnin, Andrei Burov (left to right), Moscow, 1928
Cohen, Jean-Louis *Le Corbusier and the Mystique of the Ussr : Theories and Projects for Moscow, 1928-1936* Princeton, N.J.: Princeton University Press, 1992, 117.

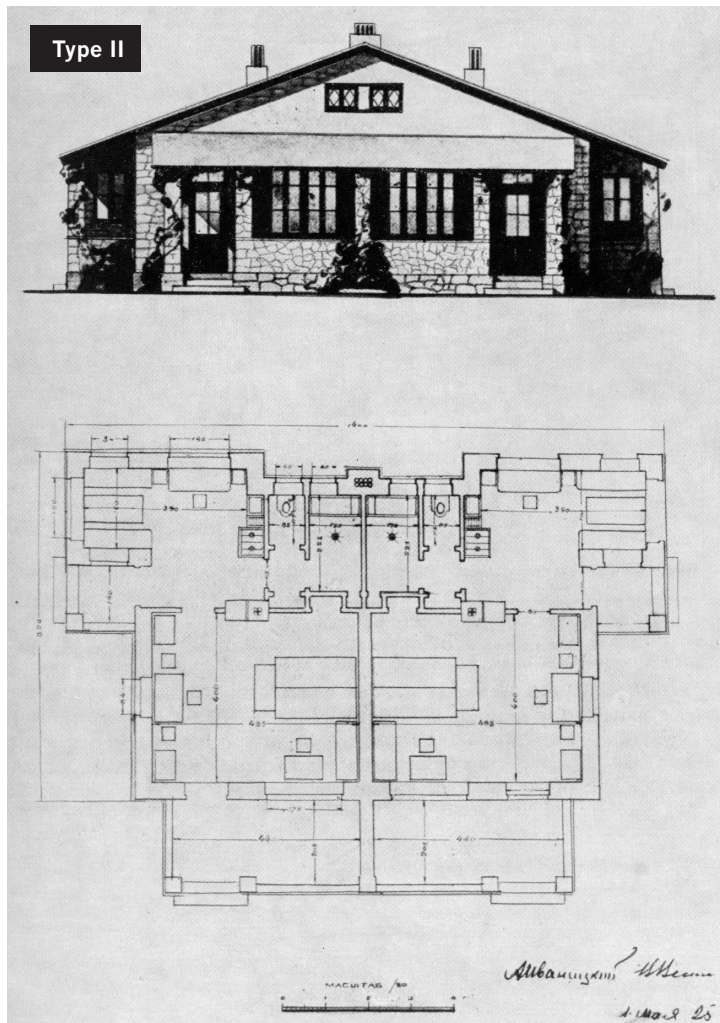


FIGURE 1.22: Type II, Stepan Razin settlement housing type, 1 May 1925

Architectural team: A. Ivanitskii, V. Vesnin

Davidovich, V. G., and Tatiana Aleksandrovna Chizhikova. Aleksandr Ivanitskii. *Mastera Arkhitektury*. Moskva: Stroizdat, 1973, 52.

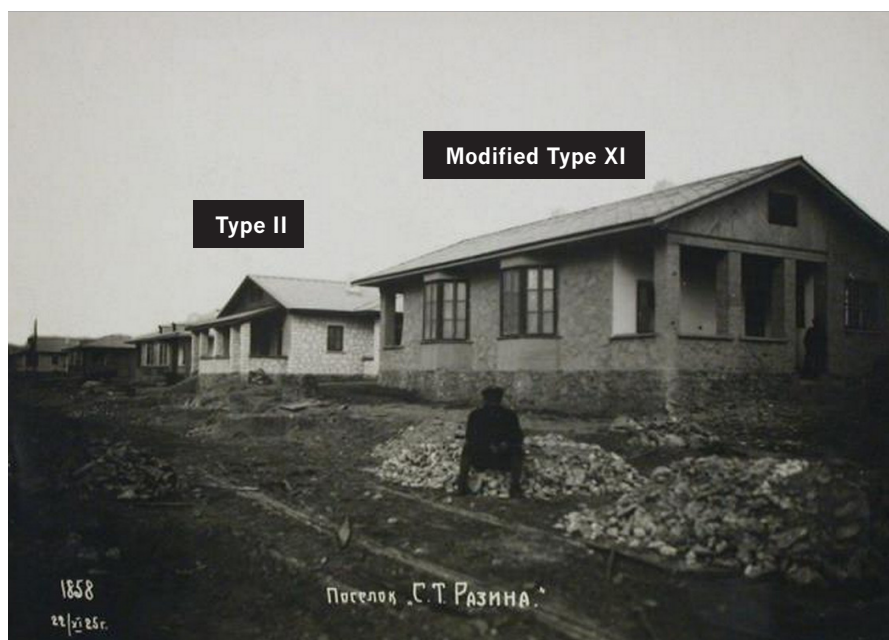
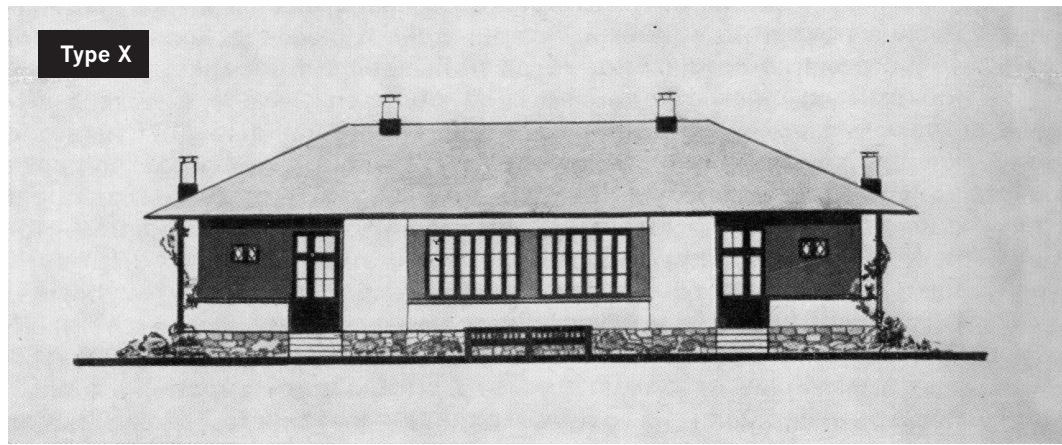
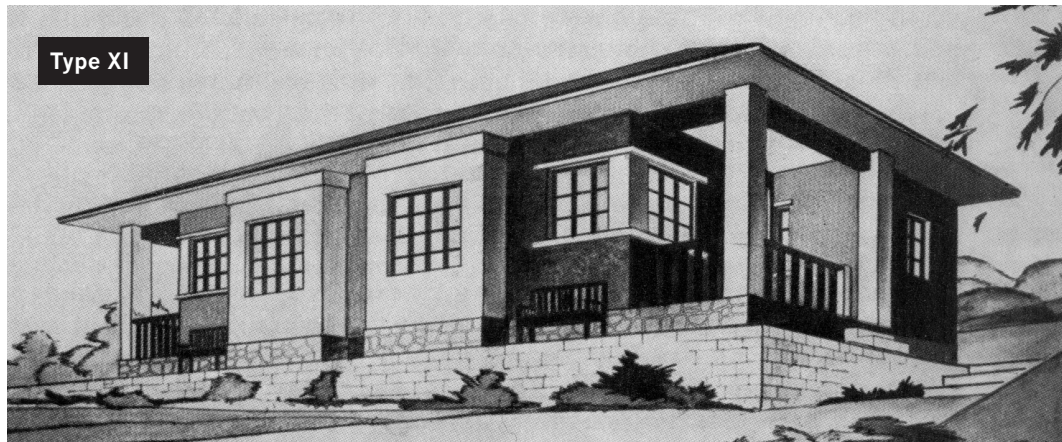


FIGURE 1.23:View of houses in Stepan Razin settlement_22 November 1925
Canadian Centre for Architecture, Montreal [PH1998:0011:015]



Type X



Type XI

FIGURE 1.24: Stepan Razin settlement housing types, 1925
 Architectural team: Samoilov, Vesnin Brothers, Ivanitskii
 Davidovich, V. G., and Tatiana Aleksandrovna Chizhikova. Aleksandr Ivanitskii. *Mastera Arkhitektury*. Moskva: Stroizdat, 1973, 53.



Type X

FIGURE 1.25: View of Type 1 houses Stepan Razin settlement, 11.22.1925
 Canadian Centre for Architecture, Montreal [PH1998:0011:014]



FIGURE 1.26: View, first sector of Stepan Razin settlement, 11.22.1925
Canadian Centre for Architecture, Montreal [PH1998:0011:016]



FIGURE 1.27: View, first sector of Stepan Razin settlement, 11.22.1925
Canadian Centre for Architecture, Montreal [PH1998:0011:017]



FIGURE 1.28: Aerial view of Stepan Razin settlement, 11.22.1925
Canadian Centre for Architecture, Montreal [PH1998:0011:018]



FIGURE 1.29: Stepan Razin settlement, 1927
RGAKFD, 2-96919

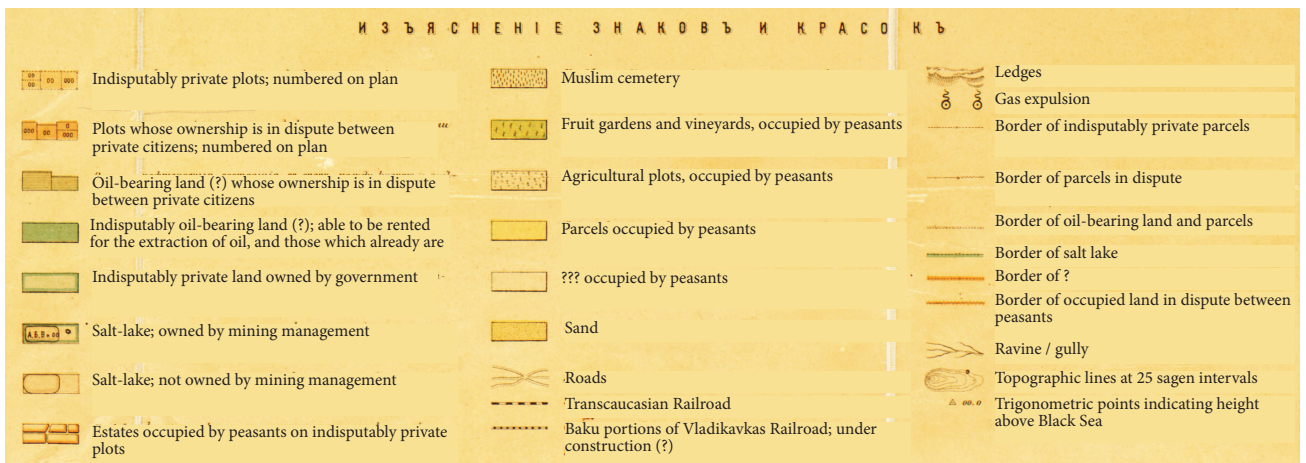
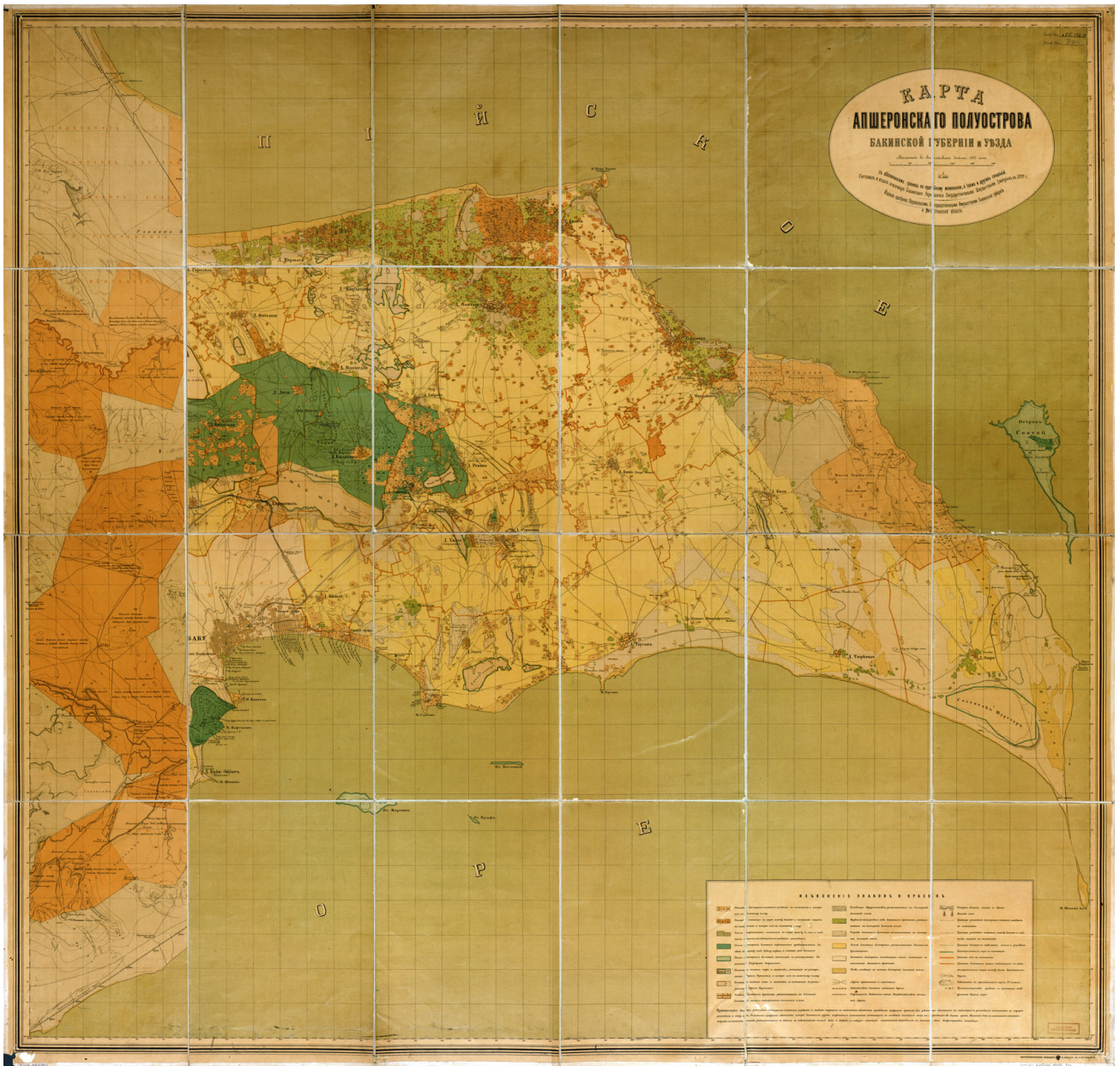


FIGURE 2.2: Apsheron Peninsula Map, 1899
Library of Congress Map Collection



FIGURE 2.3: Apsheron Peninsula general plan, 1925
 Planner: Ivanitskii et al
 RGALI, f.299, o.1, d.1, l.27



FIGURE 2.4: Cartogram showing relative size of European states
 Pierre Émile Levasseur, 1868

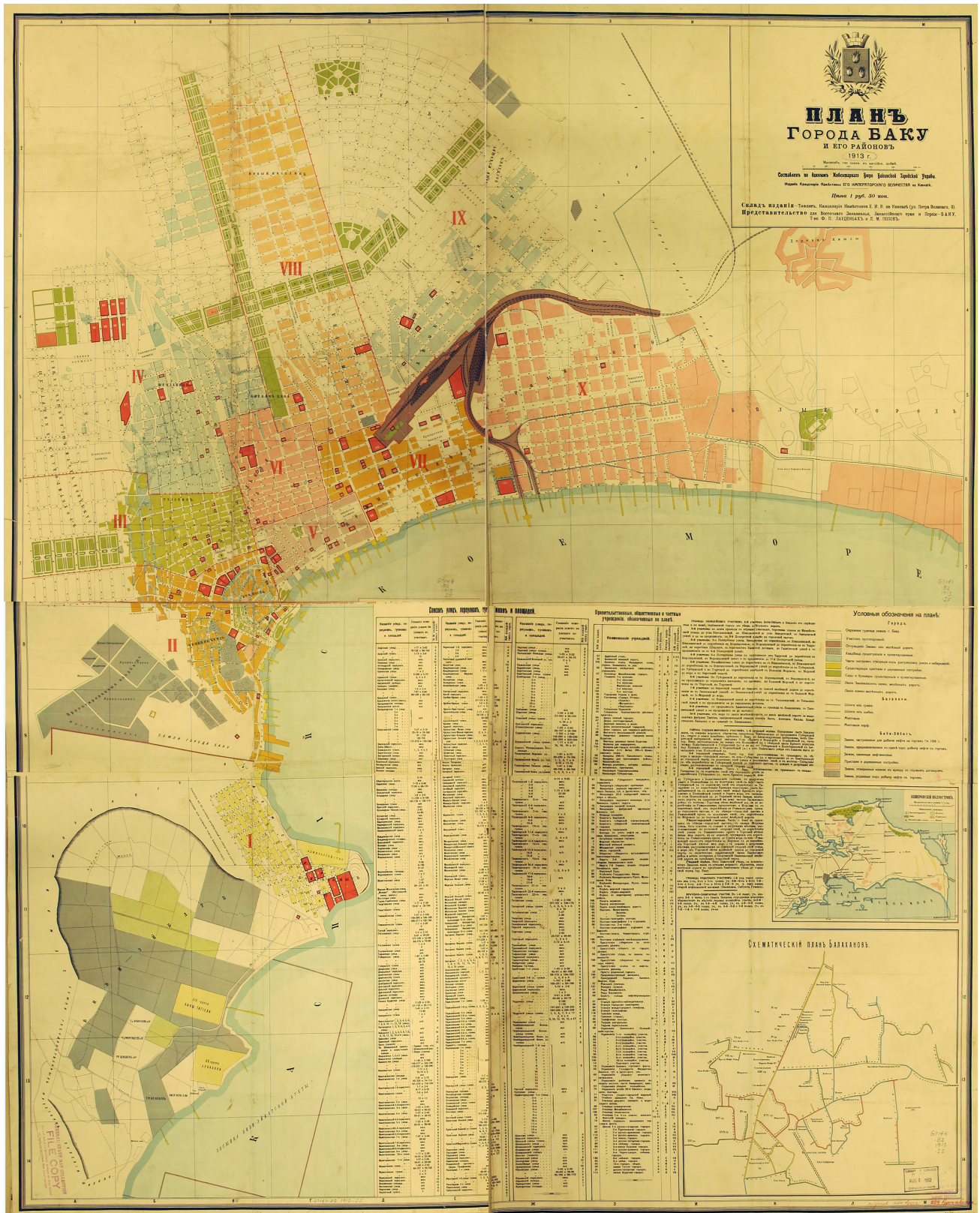


FIGURE 2.5: Plan of Baku, 1913
Library of Congress Map Collection

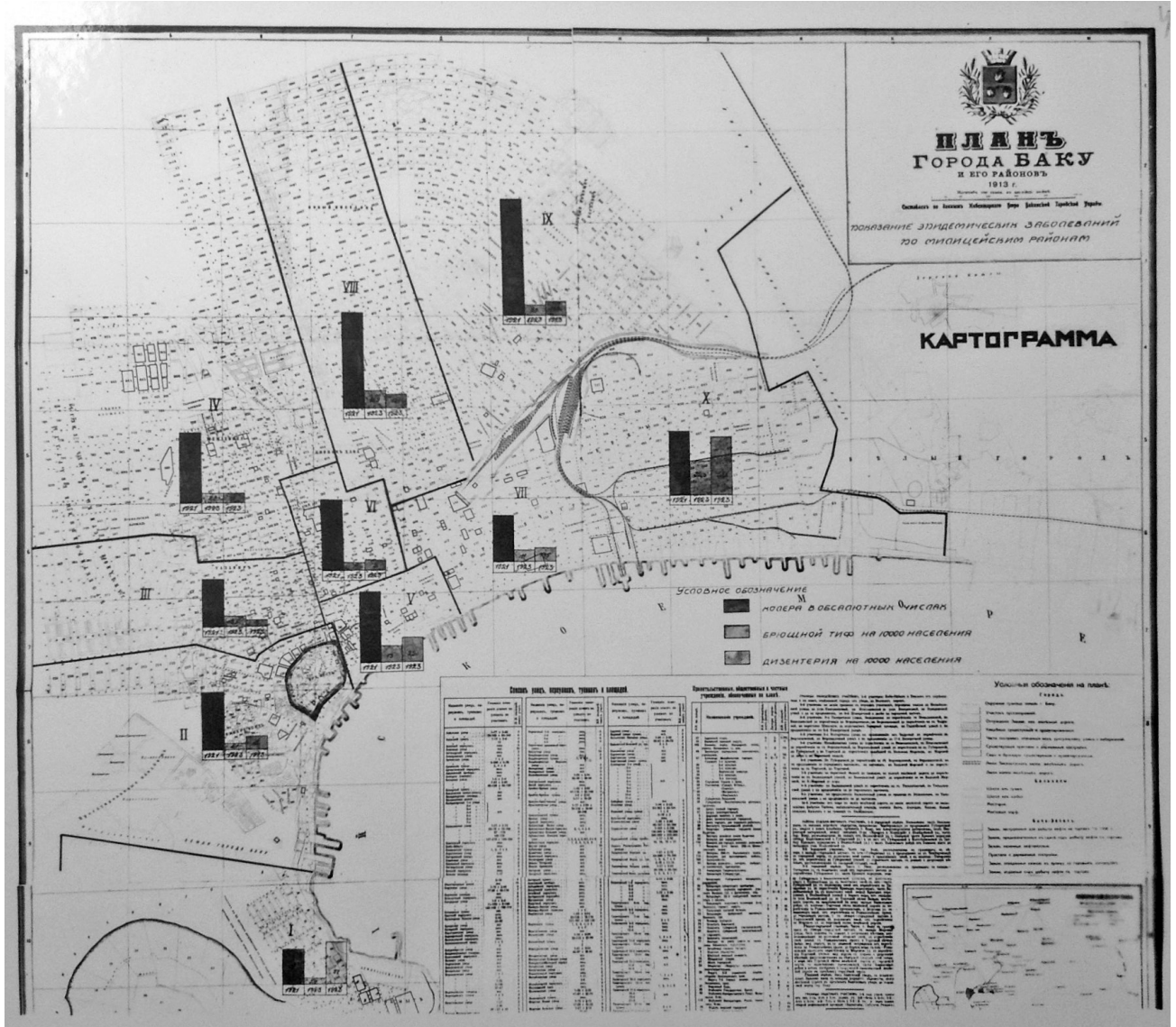


FIGURE 2.6: Baku, Cartogram of epidemics by region, 1925
 RGALI, f.299, o.1, d.1, l.30

- cholera
- typhus
- dysentery



FIGURE 2.7: Baku, Growth of the city, 1925

Planner: Ivanitskii et al

RGALI, f.299, o.1, d.1



FIGURE 2.8: Baku, Regions of the city, 1925

Planner: Ivanitskii et al

RGALI, f.299, o.1, d.1

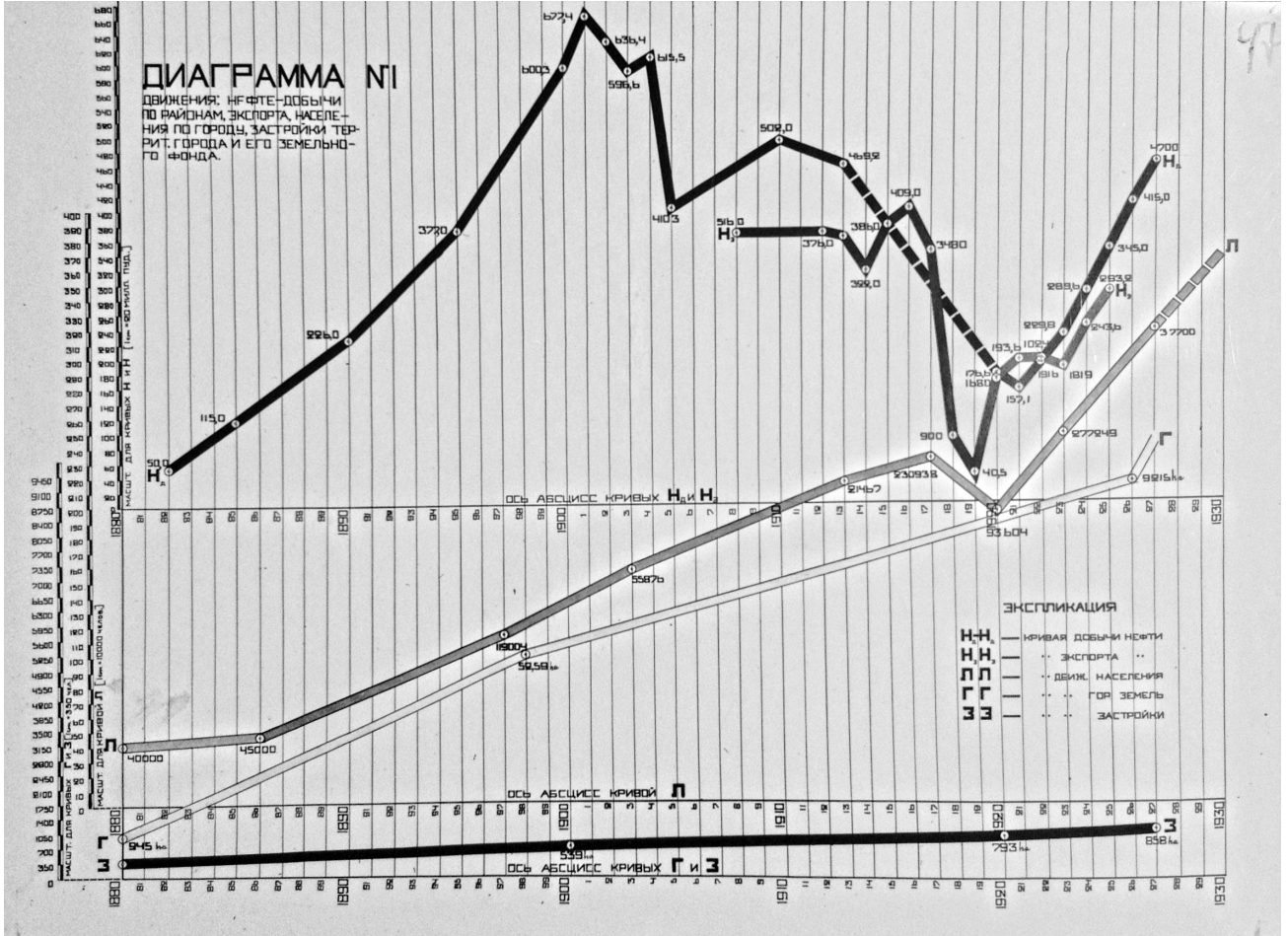


FIGURE 2.9: Baku oil extraction, export, population, development and territory diagram, 1925

Planner: Ivanitskii et al

RGALI, f.299, o.1, d.1, l.47

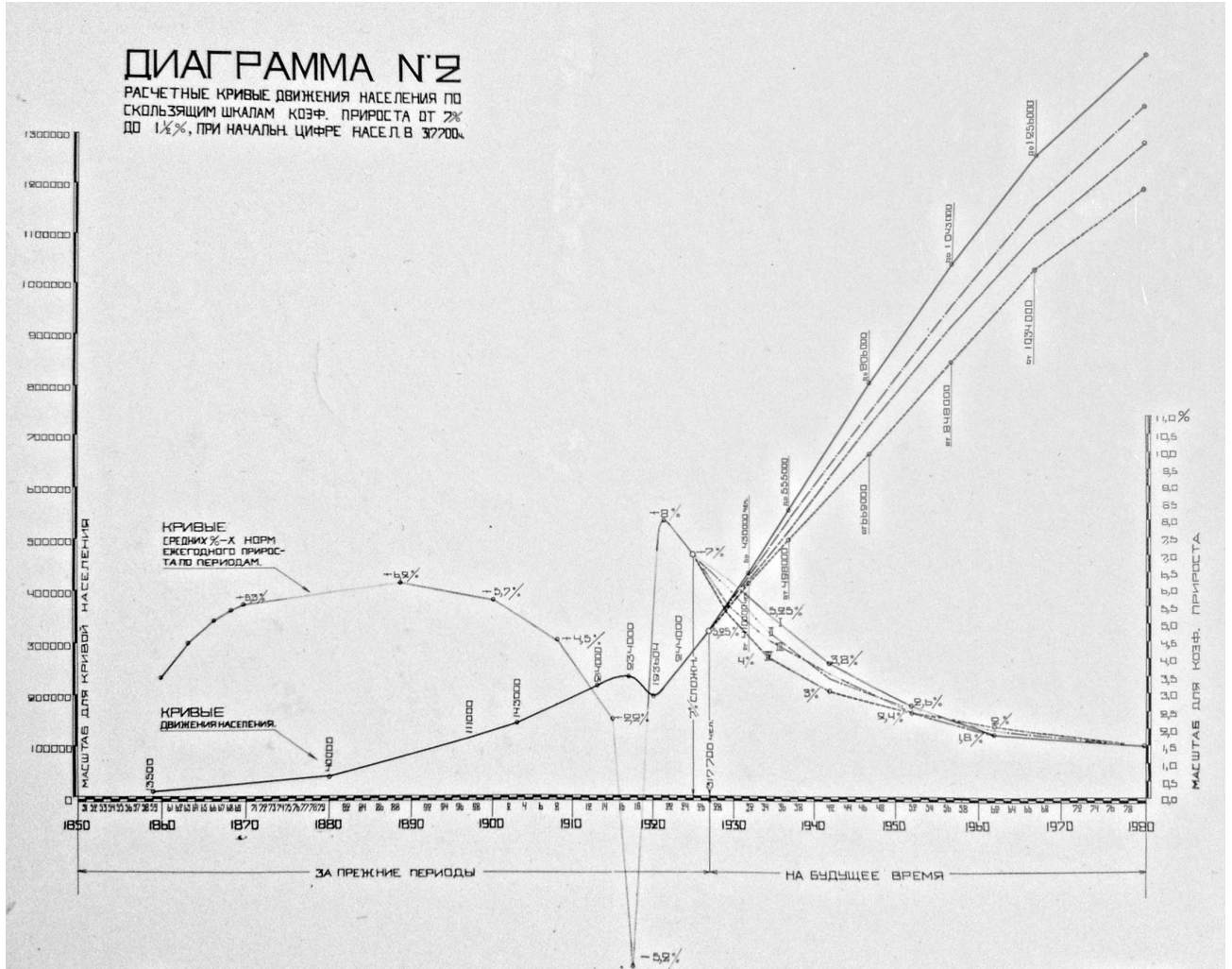


FIGURE 2.10: Baku, Population growth diagram, 1925
Planner: Ivanitskii et al
RGALI, f.299, o.1, d.1, l.48



FIGURE 2.11: Sketch project for re-planning Baku, 1925
Planner: Ivanitskii et al
RGALI, f.299, o.1, d.1, l.51



FIGURE 2.13: Zavokzalnyi Region (rail station region), detailed plan, 1927

Planner: Ivanitskii et al.

RGALI, f.299, o.1, d.1, l.66



FIGURE 2.14: Bailov and Chamberikend, detailed plan, 1927
Planner: Ivanitskii et al.
PRGALI, f.299, o.1, d.1, l.85



FIGURE 3.1: Baku Plan, 1927
Planner: Ivanitskii et al
RGALI, f.299, o.1, d.1, ll. 152-155

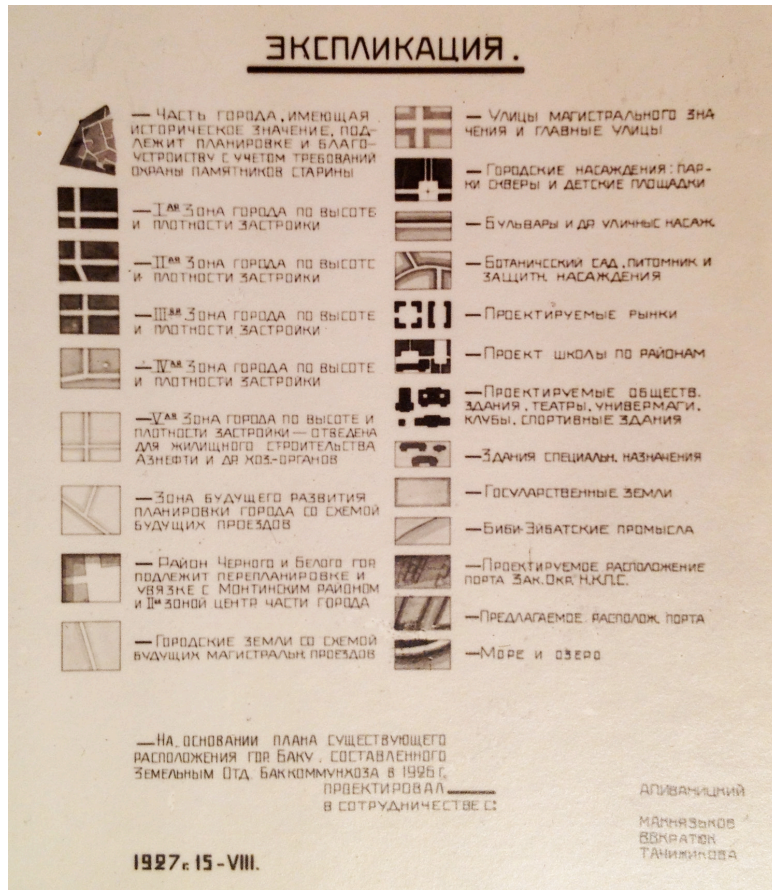


FIGURE 3.2: Key from Baku Plan, 1927
Planner: Ivanitskii et al

RGALI, f.299, o.1, d.1, l.152

БАКУ СХЕМА РАЙОНОВ ЗАСТРОЙКИ

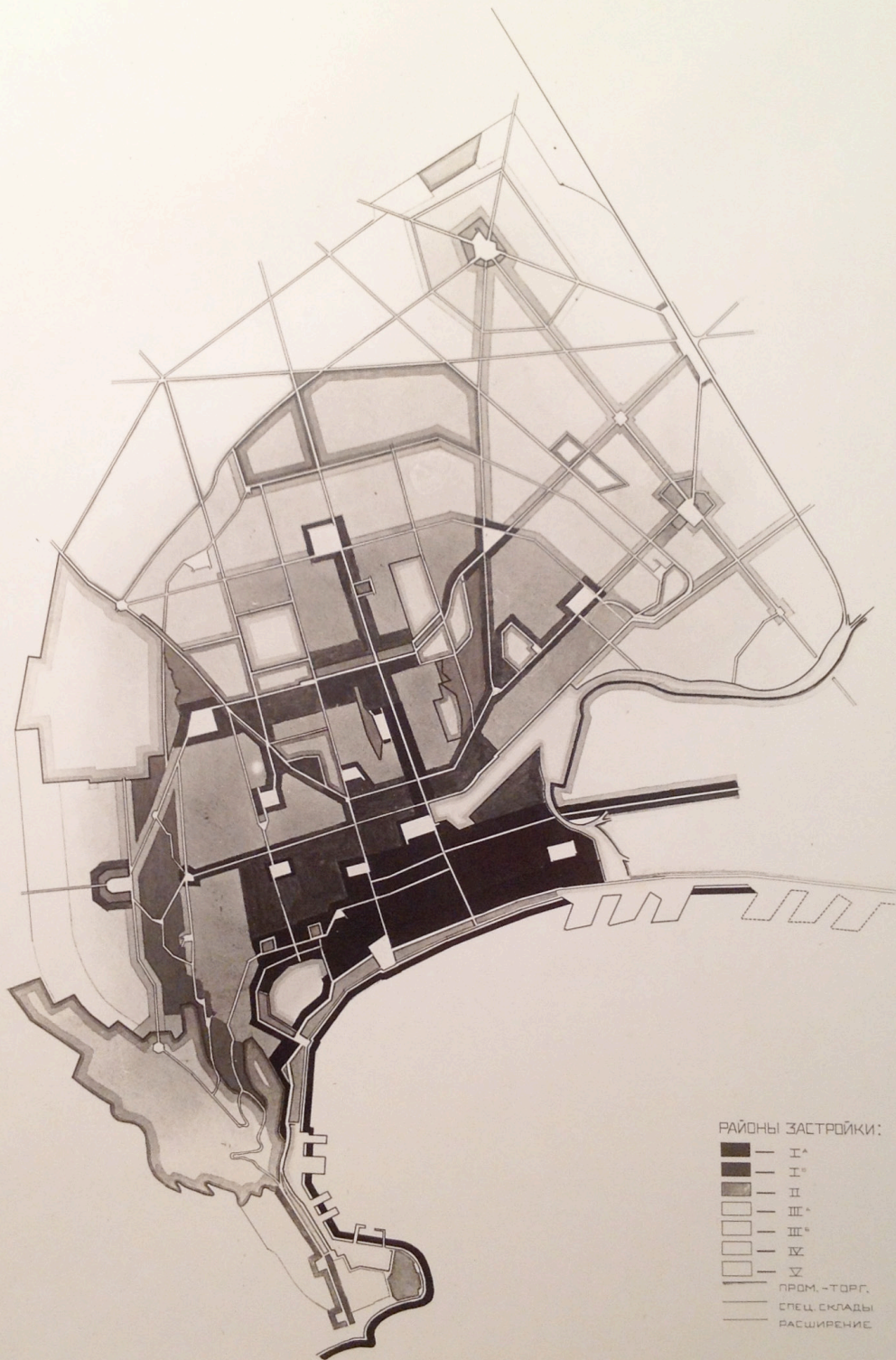


FIGURE 3.3: Baku, phasing scheme by region, 1927
Planner: Ivanitskii et al
RGALI, f.299, o.1, d.1, l.61

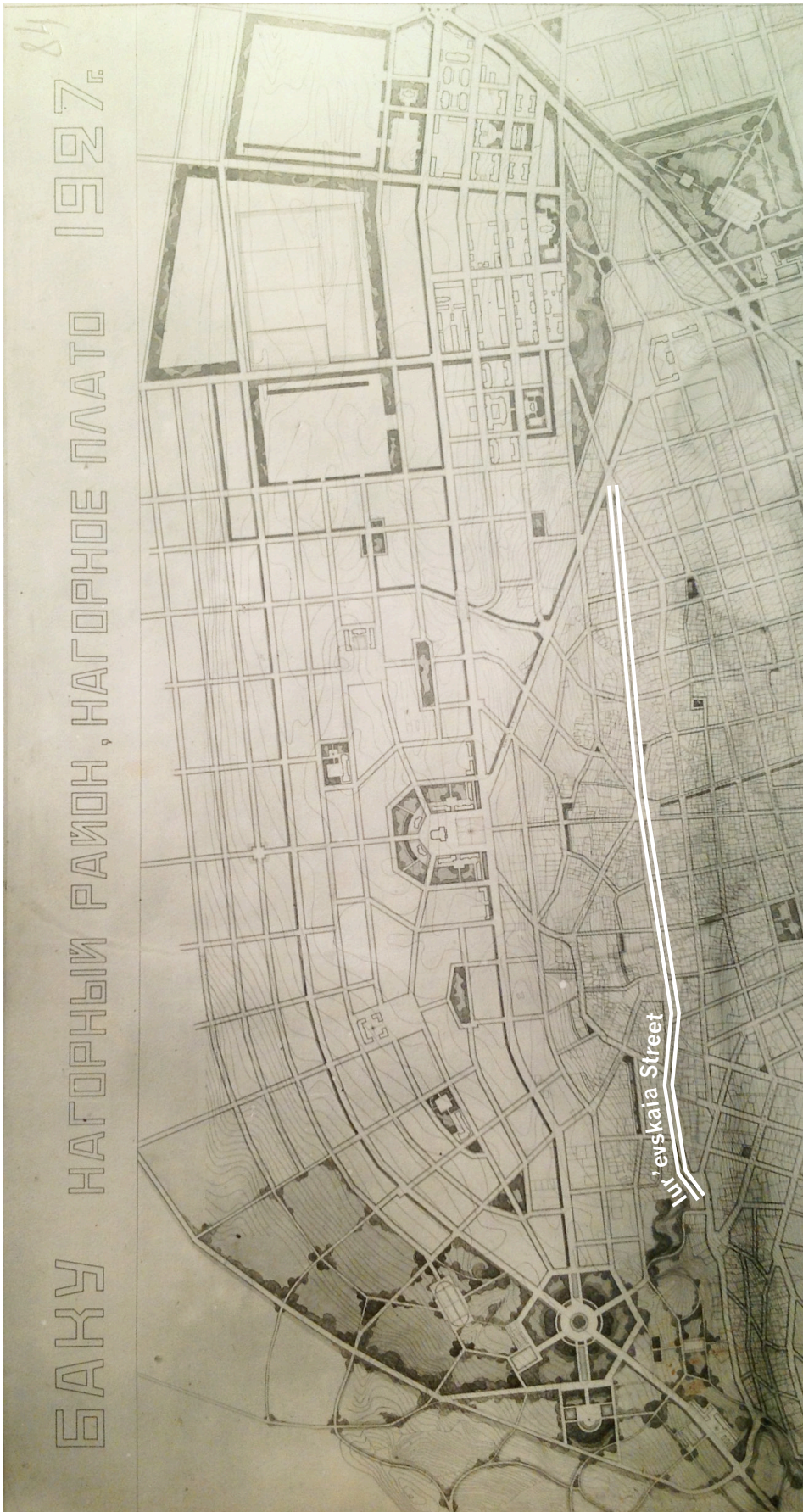


FIGURE 3.4: Nagornyi Region and Nagornoe Plateau, detailed plan, 1927
 Planner: Ivanitskii et al.
 RGALI, f.299, o.1, d.1, l.84

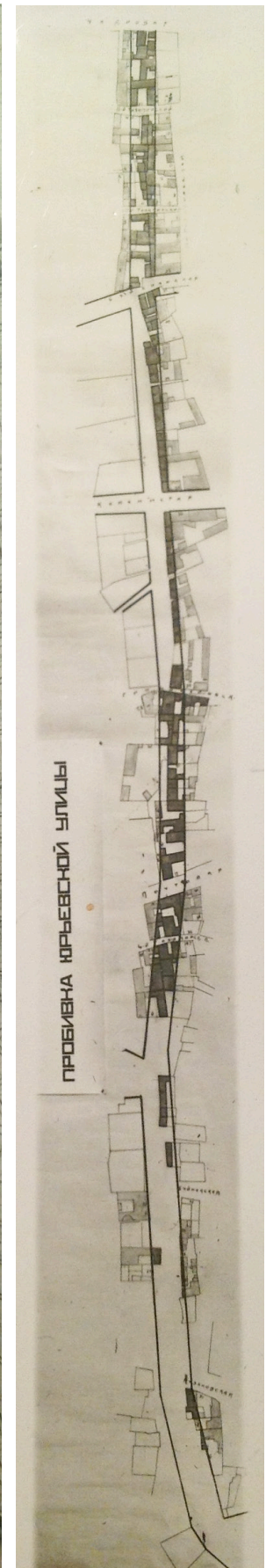


FIGURE 3.5: Punching through Iur'evskaia St, 1927
 Planner: Ivanitskii et al.
 RGALI, f.299, o.1, d.1, l.71

ПЛАН БАКУ
ПРОЕКТ ПЛАНИРОВКИ

1927.

"Armenikend"
see [unclear]
Newspaper, No.3

widening of street
in the center

work on
Balakhanskoe
shosse - see
photo.

places of work
[Iur'evskaia]
see photographs of
the street punch-
through (probivka)
from the replanning
A.I.-skii -

new park in
Chemberekend

work on the
seafront
boulevard
(naberezhnaia)
1st phase
completed. See
photo.

FIGURE 3.6: Baku Plan with Ivanitskii's hand notations, 1927
Planner: Ivanitskii et al
RGALI, f.299, o.1, d.1



ПЕРЕПЛАНИРОВКА в БАКУ. Юрьевская ул. Снос домов от 16-го Тазавирского пер. 19⁵_{VII} 28 г. ф.о.ф. Брег. архив.

FIGURE 3.7: “Replanning the city of Baku”
 Yur’evsiaia Street, Removal of houses from 16th Tazavirskogo per., July 5, 1928
 Photo: L. Bregadze
 RGALI, f.299, o.1, d.1, l.125



ПЕРЕПЛАНИРОВКА в БАКУ. Юрьевская улица. Снос домов от 8-Пржевальской до 1-й Кавказской 19⁵_{VII} 28 г. ф.о.ф. Брег. архив.

FIGURE 3.8: “Replanning the city of Baku”
 Yur’evsiaia Street, Removal of houses, July 9, 1928
 Photo: L. Bregadze
 RGALI, f.299, o.1, d.1, l.126



FIGURE 3.9: “Replanning the city of Baku”
 Yur’evsiaia Street, Removal of houses, July 9, 1928
 Photo: L. Bregadze
 Azerbaijan State Kino-Foto-Fono Archive, Inv. 5-377

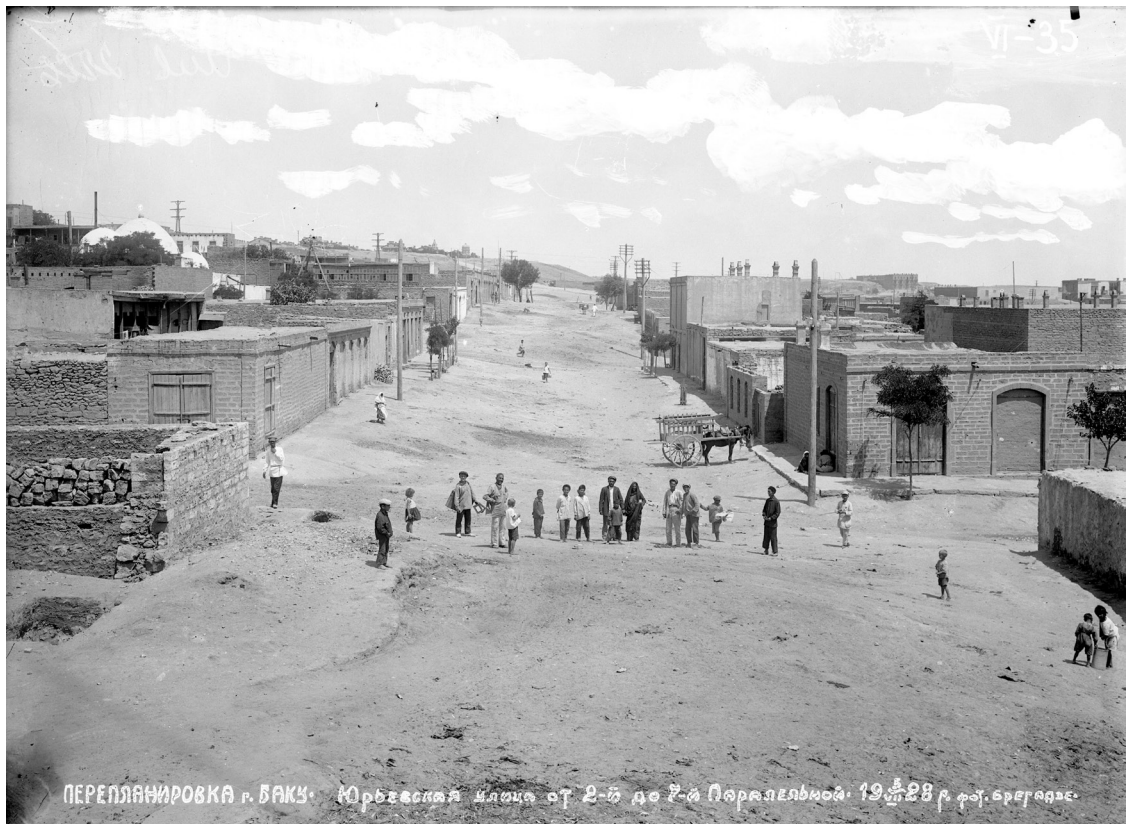


FIGURE 3.10: “Replanning the city of Baku”
 Yur’evsiaia Street from the 2nd - 7th parallel, July 5, 1928
 Photo: L. Bregadze
 Azerbaijan State Kino-Foto-Fono Archive, Inv. 5-378

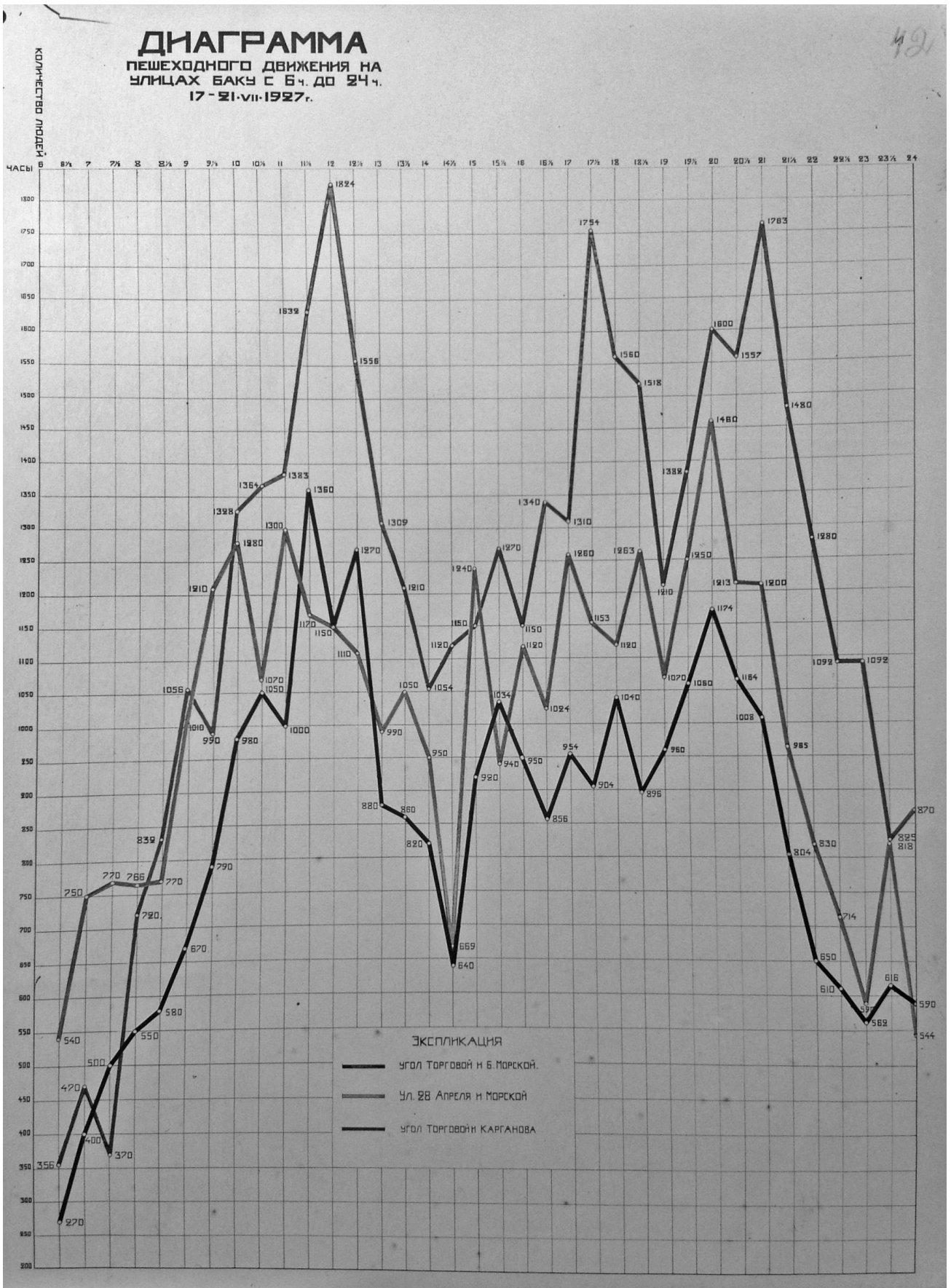


FIGURE 3.11: Pedestrian movement on the streets of Baku from 6:00-24:00, 17-21 July 1927

Planner: Ivanitskii et al

RGALI, f.299, o.1, d.1, l.42

БАКУ ТИПОВЫЕ ПРОФИЛЯ

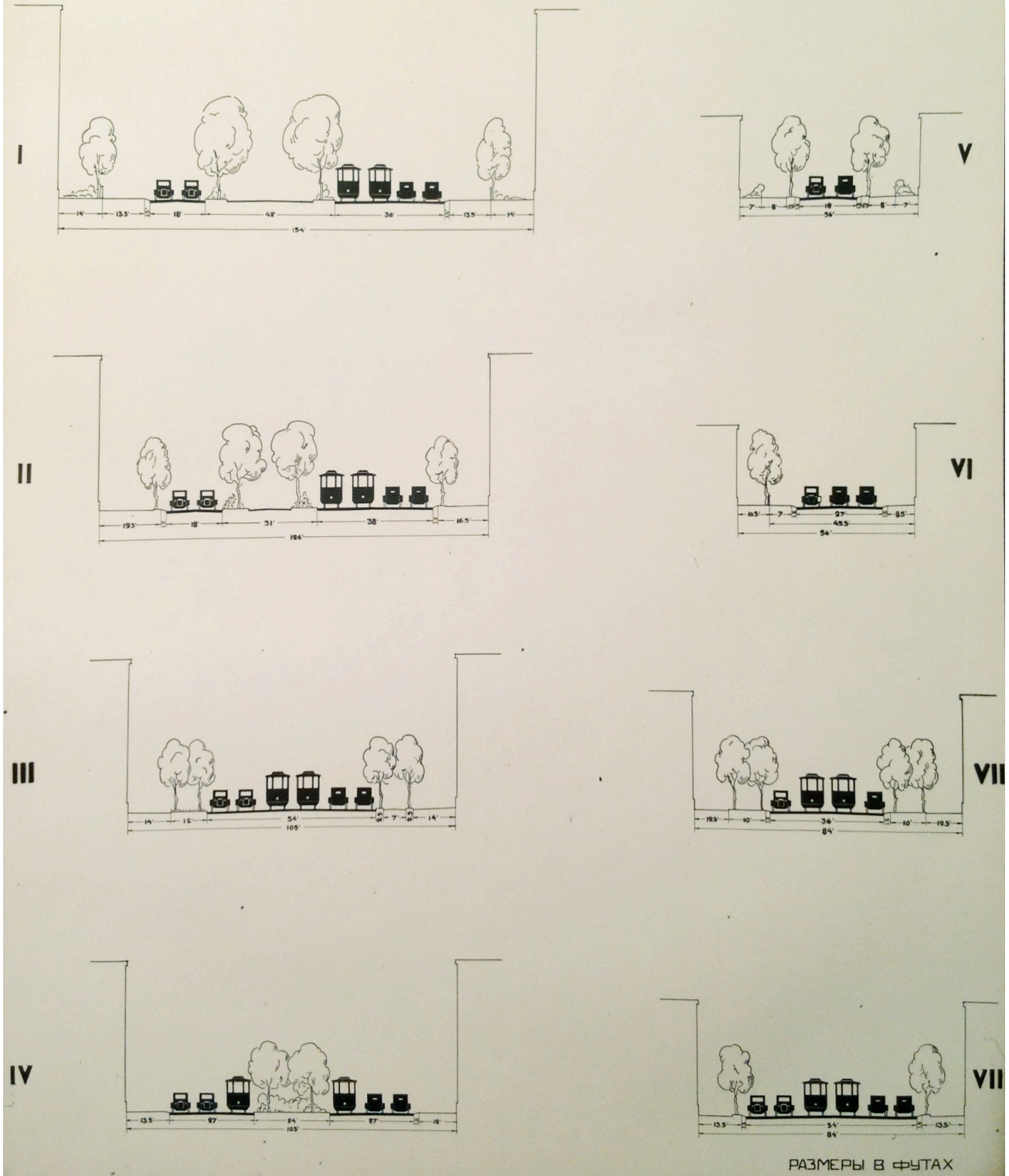


FIGURE 3.12: Baku, typical street profiles (measurements in feet), 1927
 Planner: Ivanitskii et al
 RGALI, f.299, o.1, d.1, l.74



FIGURE 3.13: Karl Marx Street (пр. Зии Буньятова) during reconstruction, February 20, 1933
Photo: L. Bregadze
Azerbaijan State Kino-Foto-Fono Archive, Inv. 5-243



FIGURE 3.14: Karl Marx Street (пр. Зии Буньятова) after reconstruction, May 15, 1933
Photo: L. Bregadze
Azerbaijan State Kino-Foto-Fono Archive, Inv. 5-224



FIGURE 3.15: Gogol Street during reconstruction, February 20, 1933

Photo: L. Bregadze

Azerbaijan State Kino-Foto-Fono Archive, Inv. 5-243



FIGURE 3.16: Gogol Street after reconstruction, May 15, 1933

Photo: L. Bregadze

Azerbaijan State Kino-Foto-Fono Archive, Inv. 5-224

- 1. Blocks
- 2. Parks
- 3. Small boulevards + streets
- 4. Large boulevards
- 5. Squares + playgrounds
- 6. Parks
- 7. Gardens + nurseries
- 8. General plantings
- 9. School plots + plantings
- 10. State health clinic
- 11. Radio station
- 12. Reservoirs

УИЛ А Р М Е Н И К Е Н Д И В Е Е Р		К В А Р Т А Л		И Ц Е Н Д И В Е Е Р		П а р к		С а д ы и н у р ь е		О б ъ е к т ы и л и ц е л ь н ы е о т о б р а з о в а н и я		Г о с з д а н и я		Р а д и о с т а н ц и я		Р е з е р в у а р	
Уч. №	Площадь, кв. м	Уч. №	Площадь, кв. м	Уч. №	Площадь, кв. м	Уч. №	Площадь, кв. м	Уч. №	Площадь, кв. м	Уч. №	Площадь, кв. м	Уч. №	Площадь, кв. м	Уч. №	Площадь, кв. м	Уч. №	Площадь, кв. м
1.	1555	31	3708	61	2820	91	1480	121	4550	151	5084	181	2210	211	1270	01	84
2.	4700	32	3708	62	1739	92	2440	122	4000	152	2124	182	1248	212	2528	02	132
3.	3482	33	3455	63	4533	93	2320	123	2400	153	2932	183	2476	213	1872	03	132
4.	2908	34	3462	64	2857	94	5015	124	2820	154	3988	184	1932	214	1224	04	130
5.	3384	35	4104	65	2951	95	2984	125	3015	155	1508	185	1238	215	2016	05	304
6.	3420	36	3455	66	1556	96	2772	126	4400	156	1548	186	2170	216	2240	06	618
7.	3024	37	3050	67	3636	97	3554	127	2884	157	3412	187	2276	217	2340	07	608
8.	2276	38	2424	68	3708	98	3954	128	2712	158	2304	188	1448	218	1850	08	720
9.	3348	39	4958	69	2232	99	3954	129	3451	159	2304	189	2008	219	2410	09	300
10.	4248	40	3050	70	2504	100	3954	130	1440	160	3565	190	1338	220	2411	10	300
11.	4776	41	2448	71	3780	101	2340	131	1440	161	2982	192	2100	221	2412	11	720
12.	4850	42	2395	72	3376	102	2340	132	3485	162	2792	192	2100	222	2413	12	304
13.	3500	43	3050	73	3024	103	3394	133	4248	163	1572	193	2100	223	2414	13	304
14.	1990	44	2160	74	2850	104	3084	134	3070	164	1572	194	2100	224	2415	14	304
15.	2844	45	3348	75	1900	105	3572	135	2988	165	2360	195	2100	225	2416	15	304
16.	2484	46	3168	76	2855	106	4428	136	2375	166	3010	196	2100	226	2417	16	304
17.	2448	47	2772	77	2062	107	1476	137	3204	167	2322	197	2100	227	2418	17	304
18.	3622	48	1728	78	3600	109	1728	138	2938	168	1991	198	2100	228	2419	18	304
19.	3312	49	3033	79	3600	110	3024	140	2808	170	2795	199	2100	229	2420	19	304
20.	3348	50	4312	80	3780	111	2484	141	1168	171	3398	200	2100	230	2421	20	304
21.	3312	51	2705	81	4850	112	2015	142	2232	172	3014	201	2100	231	2422	21	304
22.	4452	52	2772	82	2908	113	4320	143	3492	173	2314	202	2100	232	2423	22	304
23.	3288	53	1536	83	1980	114	2340	144	1600	174	2395	203	2100	233	2424	23	304
24.	2898	54	1536	84	1728	115	2494	145	3412	175	2470	204	2100	234	2425	24	304
25.	3158	55	1980	85	3700	116	2494	146	3412	176	2338	205	2100	235	2426	25	304
26.	4218	56	2448	86	2880	117	2484	147	3400	177	2338	206	2100	236	2427	26	304
27.	2705	57	1680	87	2933	118	2484	148	3195	178	1872	207	2100	237	2428	27	304
28.	2772	58	1332	88	2808	119	3000	149	2195	179	1830	208	2100	238	2429	28	304
29.	3780	59	1440	89	1440	120	3924	150	3972	180	2070	209	2100	239	2430	29	304
30.	3780	60	2448	90	2400	120	4500	150	3972	180	2070	210	2100	240	2431	30	304

FIGURE 3.17: Pricing data for Armenikend and Veer, 1927
RGALI, f.299, o.1, d.4

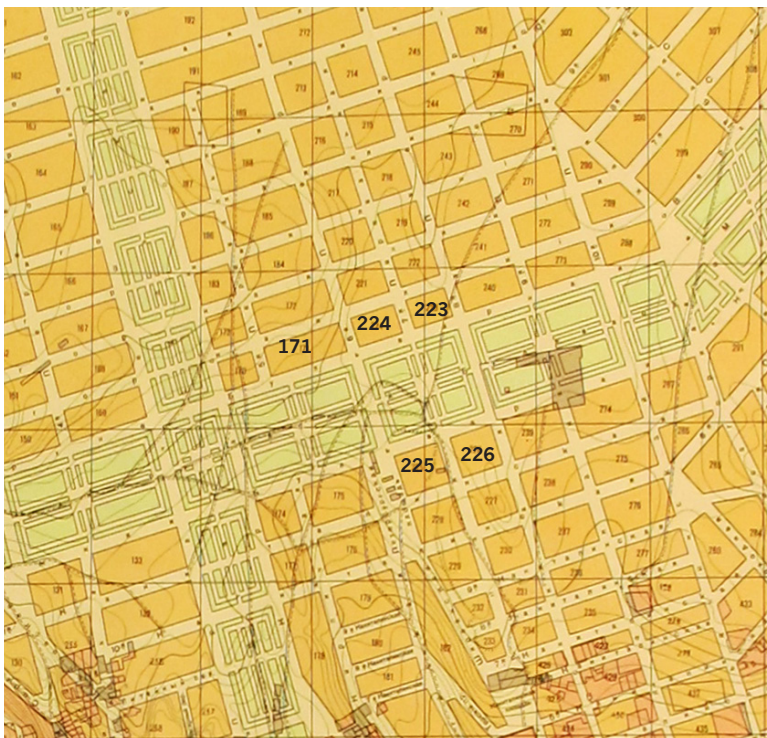
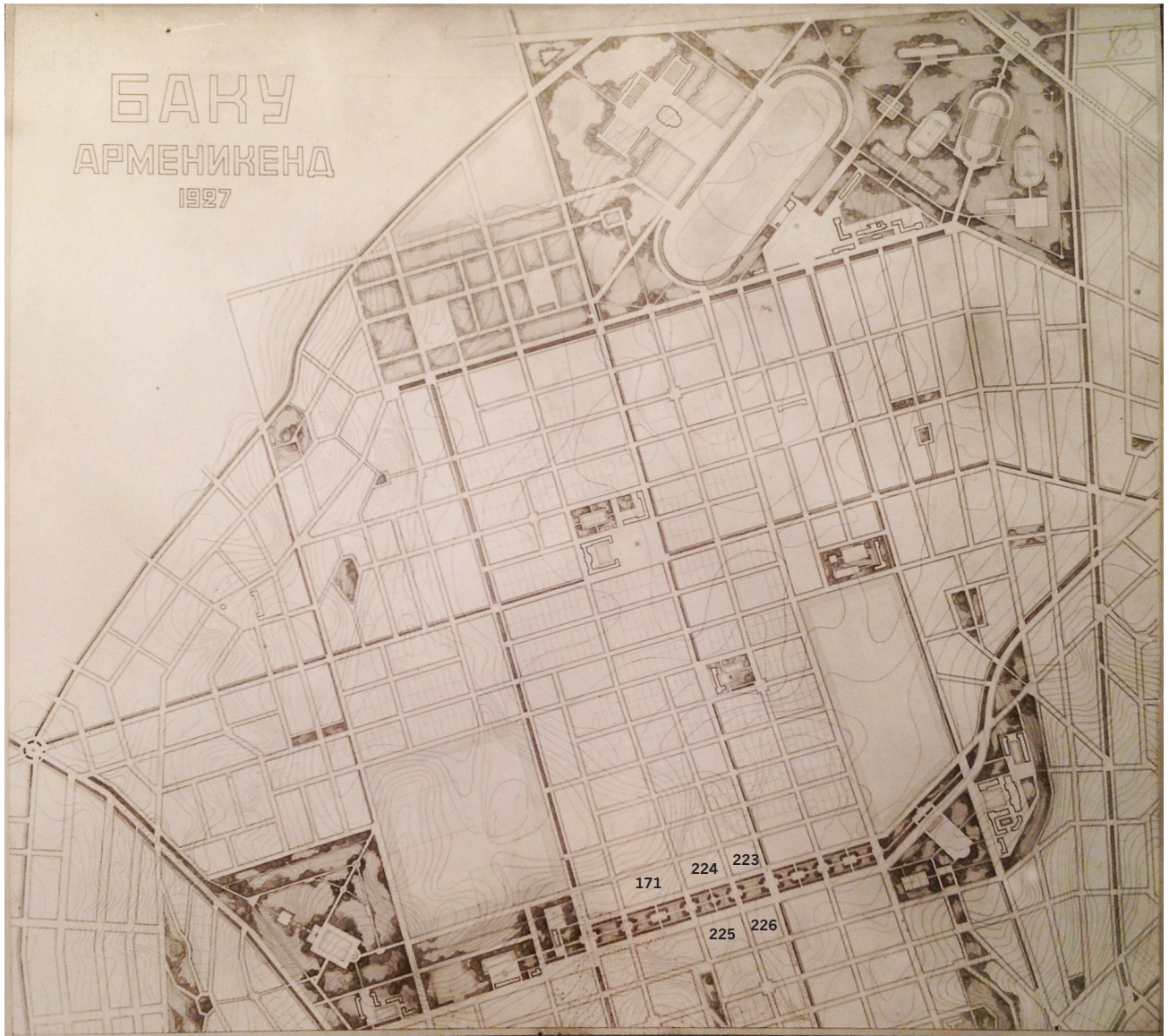


FIGURE 3.18: Armenikend, detailed plan, 1927
Planner: Ivanitskii et al.

RGALI, f.299, o.1, d.1, l.83

FIGURE 3.19: Detail from "von der Nonne plan" for Baku, 1898

Library of Congress Map Collection

БАКУ СХЕМА ЗАСТРОЙКИ КВАРТАЛОВ ПРИ ИНДИВИДУАЛЬНЫХ УЧАСТКАХ [для мелкого строительства]

НЕДОПУСТИМЫЕ ПРИЕМЫ ЗАСТРОЙКИ БЕЗ СКВОЗНОГО ПРОВЕТРИВАНИЯ.

ДОПУСТИМЫЕ ПРИЕМЫ ЗАСТРОЙКИ СО СКВОЗНЫМ ПРОВЕТРИВАНИЕМ.

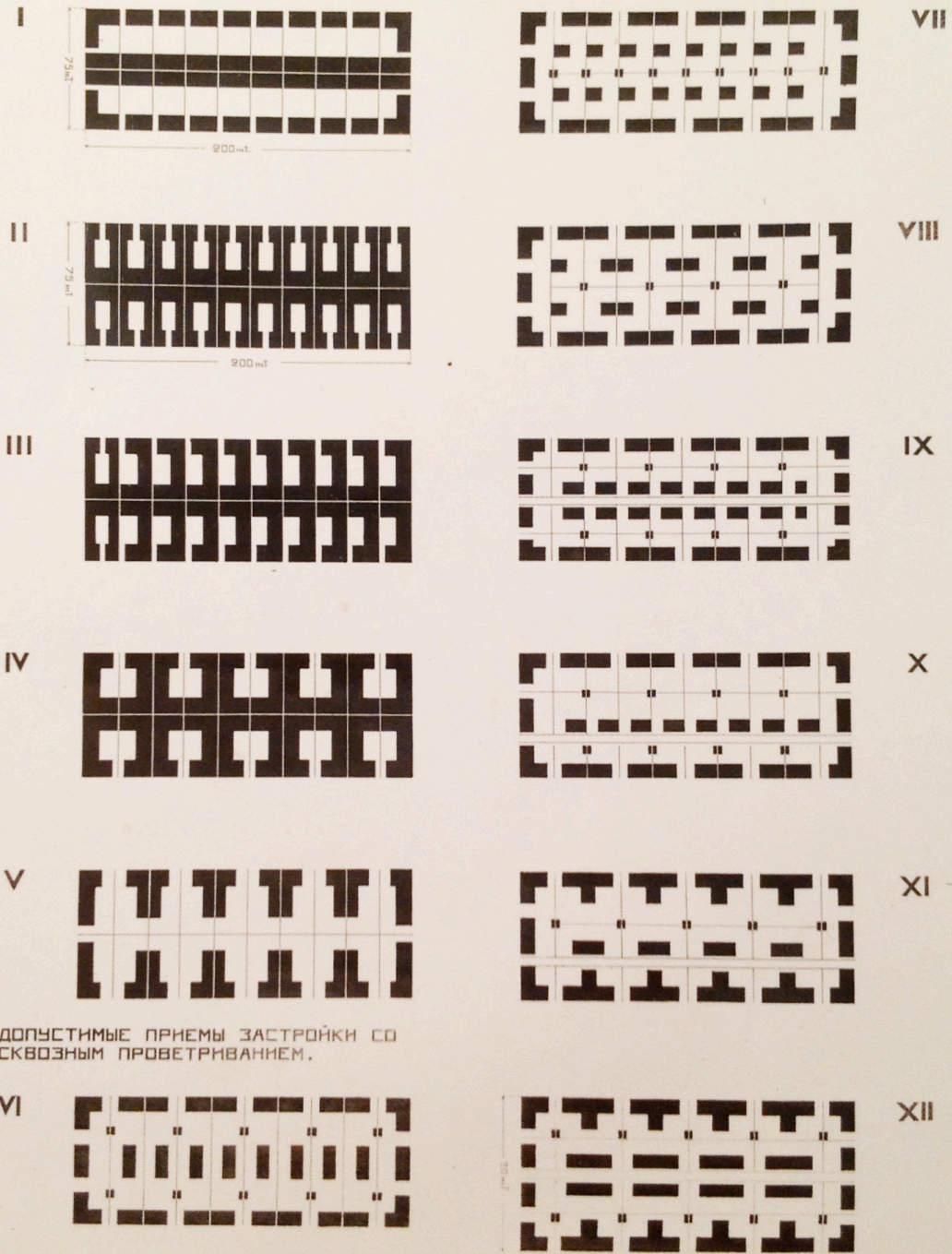


FIGURE 3.20: BAKU: schemes for constructing blocks with individual plots (for small-scale construction), 1927

I-IV: unacceptable construction techniques without through ventilation

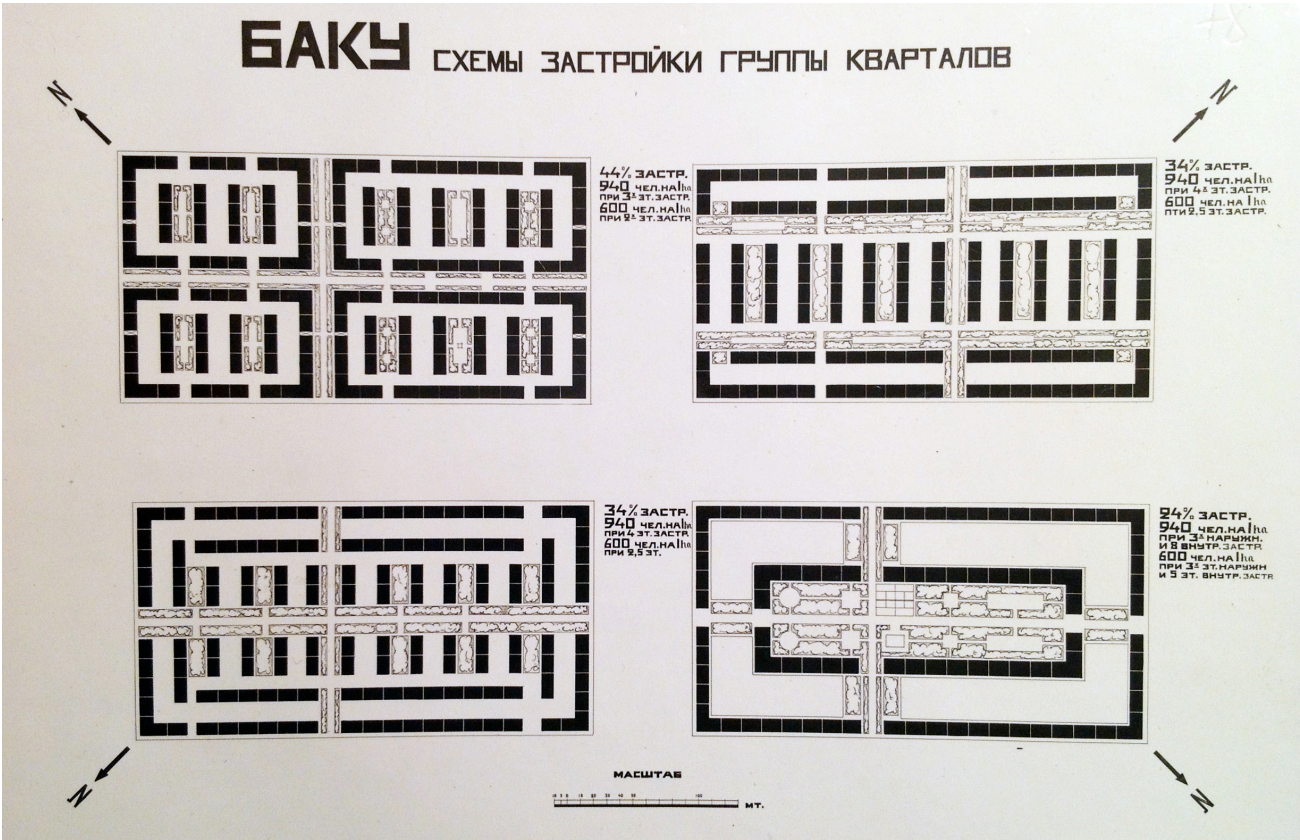
V-XII: acceptable construction techniques with through ventilation

Planner: Ivanitskii et al.

RGALI, f.299, o.1, d.1, l.80

44% coverage
 940 people/ha.
 @ 3 stories
 600 people/ha.
 @ 2 stories

34% coverage
 940 people/ha.
 @ 4 stories
 600 people/ha.
 @ 2.5 stories



34% coverage
 940 people/ha.
 @ 3 stories
 600 people/ha.
 @ 2 stories

24% coverage
 940 people/ha.
 @ 3 stories exterior
 @ 8 stories interior
 600 people/ha.
 @ 3 stories exterior
 @ 5 stories interior

FIGURE 3.21: Schemes for construction of a group of blocks, 1927
 Planner: Ivanitskii et al.
 RGALI, f.299, o.1, d.1, l.78

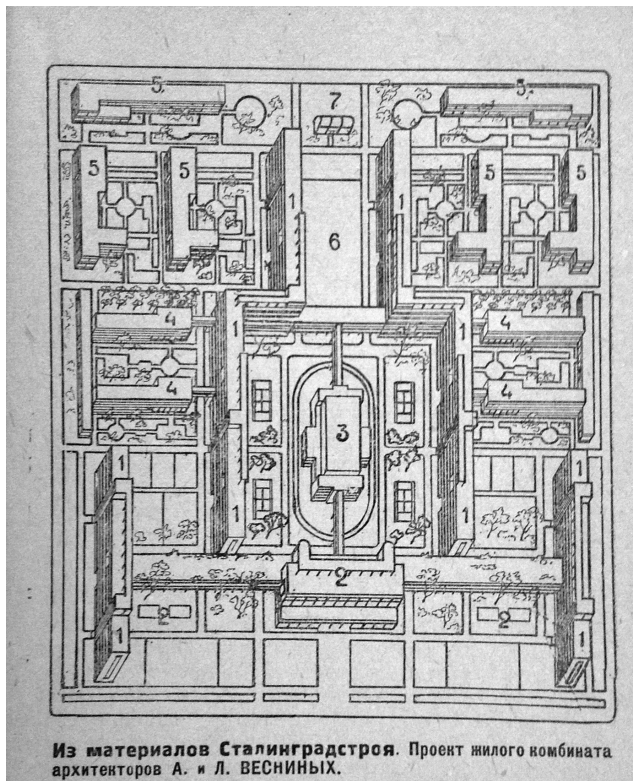


FIGURE 3.22: From the material of Stalingradstroi Housing Combine
Architects A. and L. VESNIN

1. Housing wing for adults --- 5 floors; in the center of the wing, on the second floor, are rooms for individual and group activities.
2. Communal services wing (communal dining hall, library, reading room, rooms for group activities, winter garden, etc.).
3. Gymnasium, swimming pool --- located in the central area, whose width is only slightly smaller than the width of the Sverdlovskaja (formerly Teatral'naia) Square in Moscow.
4. Children's home for toddlers --- connected by heated corridors to the adults' residential quarters.
5. Children's home for pre-schoolers
6. Sports complex
7. Orangerie

Sabsovich, L. M. *Sotsialisticheskie Goroda*. Moskva: Gosizdat RSFSR "Moskovskii rabochii", 1930.

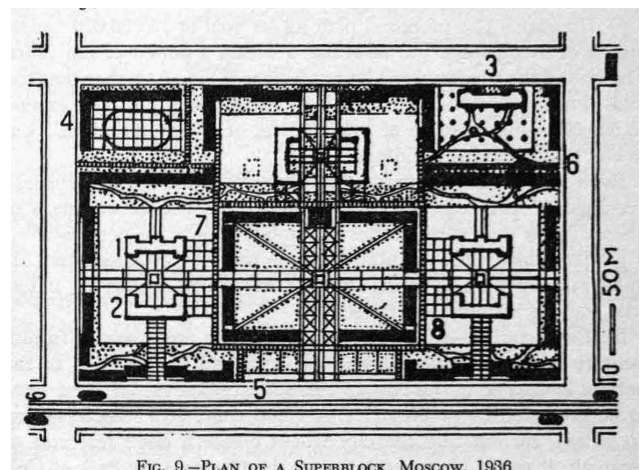


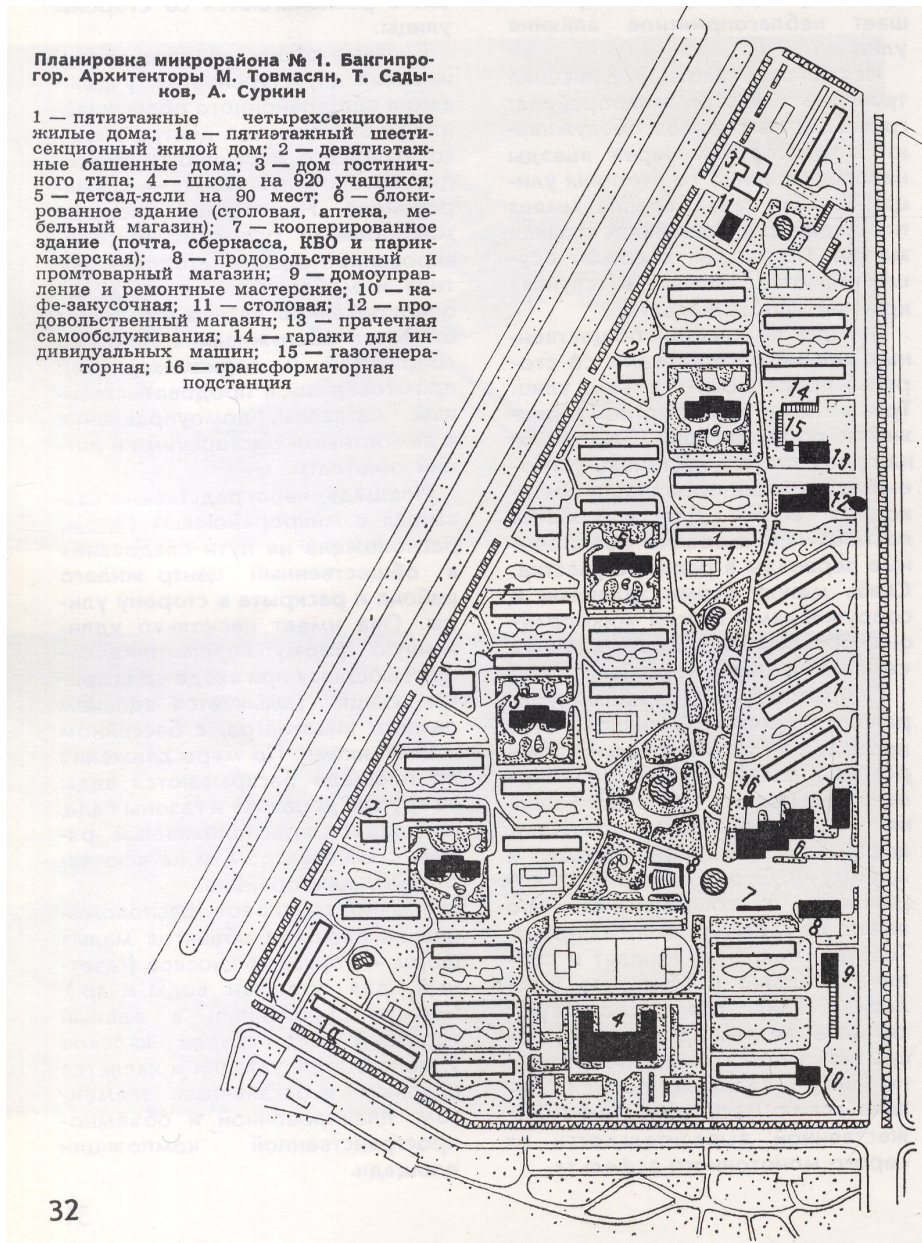
FIGURE 3.23: Plan of superblock, Moscow, 1936
Covering 15 hectares along a main thoroughfare and accommodating 6,000 people.

1. nurseries (3)
2. kindergartens (2)
3. school
4. underground garage
5. auto-parking area
6. streetcar stop
7. road for interior traffic
8. private yards

Parkins, Maurice Frank. *City Planning in Soviet Russia : With an Interpretative Bibliography*. Chicago: University of Chicago Press, 1953. Reprinted from *Arkhitektura SSSR*, Vol. IV, no. 11 (1936).

Планировка микрорайона № 1. Багипрогор. Архитекторы М. Товмасын, Т. Садыков, А. Суркин

1 — пятиэтажные четырехсекционные жилые дома; 1а — пятиэтажный шестисекционный жилой дом; 2 — девятиэтажные башенные дома; 3 — дом гостиничного типа; 4 — школа на 920 учащихся; 5 — детский сад на 90 мест; 6 — блокированное здание (столовая, аптека, мебельный магазин); 7 — кооперированное здание (почта, сберкасса, КВБ и парикмахерская); 8 — продовольственный и промтоварный магазин; 9 — домоуправление и ремонтные мастерские; 10 — кафе-закусочная; 11 — столовая; 12 — продовольственный магазин; 13 — прачечная самообслуживания; 14 — гаражи для индивидуальных машин; 15 — газогенераторная; 16 — трансформаторная подстанция



32

FIGURE 3.24: Planning for Baku Mikroraion No. 1, 1964
Architects M. Tovmasian, T. Sadykov, A. Surkin (Bakgiprogor)

- 1 - five-story, four-sectioned residential building
- 1a - five-story, six-sectioned residential building
- 2 - nine-story tower block
- 3 - hotel-type building
- 4 - school for 920 students
- 5 - kindergarten nurseries for 90 children
- 6 - block building (cafeteria, pharmacy, furniture store)
- 7 - cooperative building (post office, bank, hairdresser)
- 8 - grocery and department store
- 9 - housing management with repair workshop
- 10 - cafe, snack bar
- 11 - cafeteria
- 12 - grocery store
- 13 - laundromat
- 14 - garages for individual cars
- 15 - gas regulator building
- 16 - transformer station

Mkrtychyan, R. "Unique Features of the Development of the First Mikroraion in Baku." *Arkhitektura SSSR*, no. 12 (1964): 32.

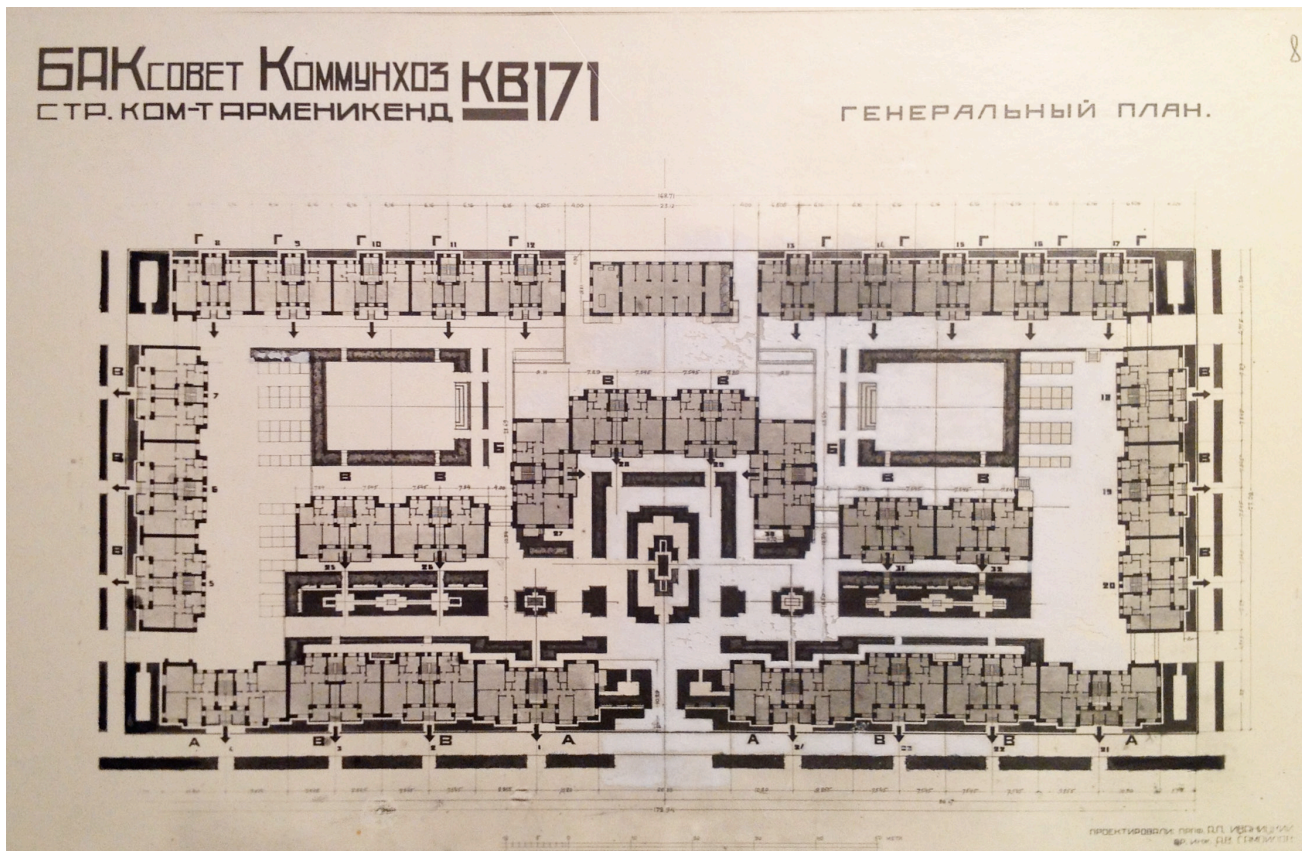


FIGURE 3.25: Armenikend (Shaumian) block 171, detailed plan, 1927

Featuring unit types А,Б,В,Г

Designed by Prof. A.P. Ivanitskii and civil engineer A.V. Samoilov
Baksovet Kommunkhoz and the Building Committee for Armenikend

Approved: А (3-room, 27.5%); В (2-room, 45%); Г (1-room, 27.5%). Also on the plan: Б (2-room?).

RGALI, f.299, o.1, d.1, l.87

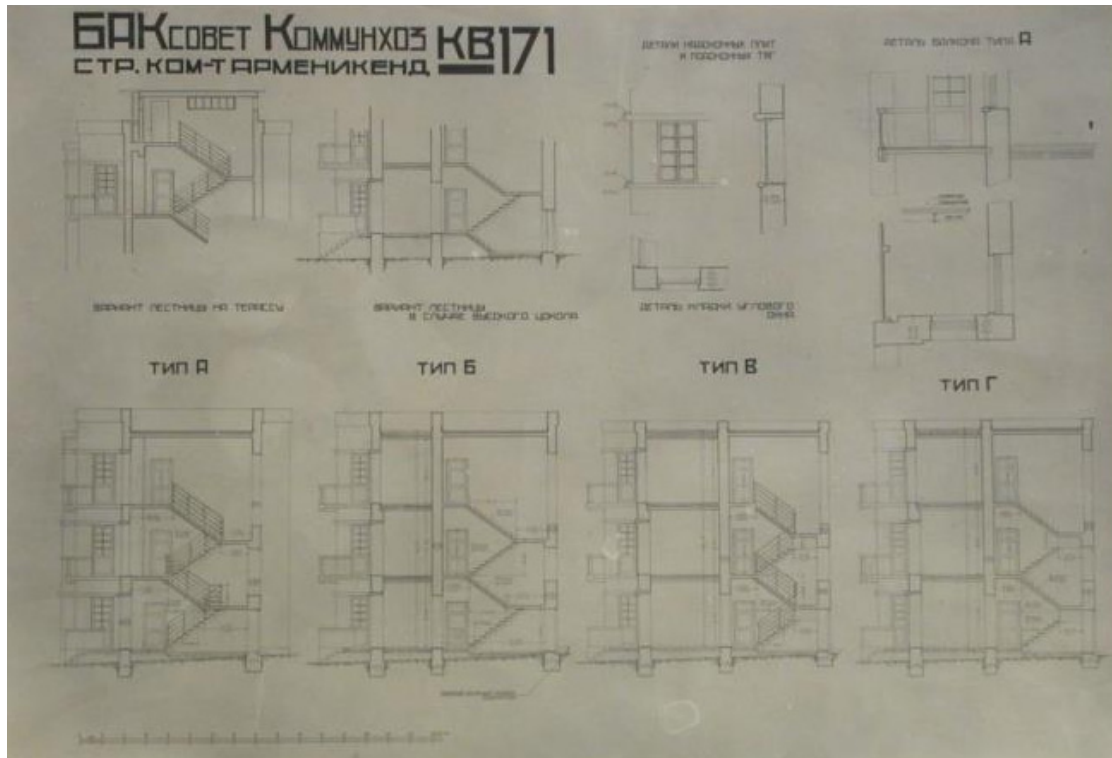


FIGURE 3.26: Armenikend (Shaumian) block 171, detailed sections, 1927
 Featuring unit types А,Б,В,Г
 Designed by Prof. А.Р. Ivanitskii and civil engineer А.У. Samoilov
 Baksovet Kommunkhoz and the Building Committee for Armenikend
 Canadian Centre for Architecture, Montreal [PH1998:0011:003]

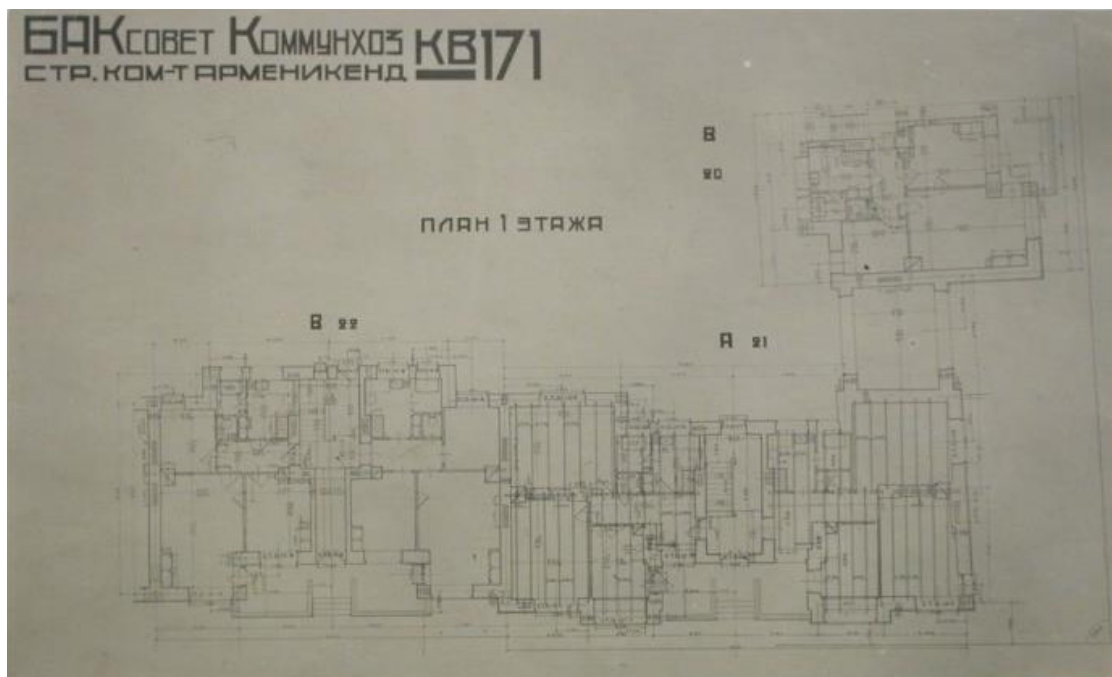


FIGURE 3.27: Armenikend (Shaumian) block 171, detailed plans, 1927
 Featuring unit types А,В
 Designed by Prof. А.Р. Ivanitskii and civil engineer А.У. Samoilov
 Baksovet Kommunkhoz and the Building Committee for Armenikend
 Canadian Centre for Architecture, Montreal [PH1998:0011:002]

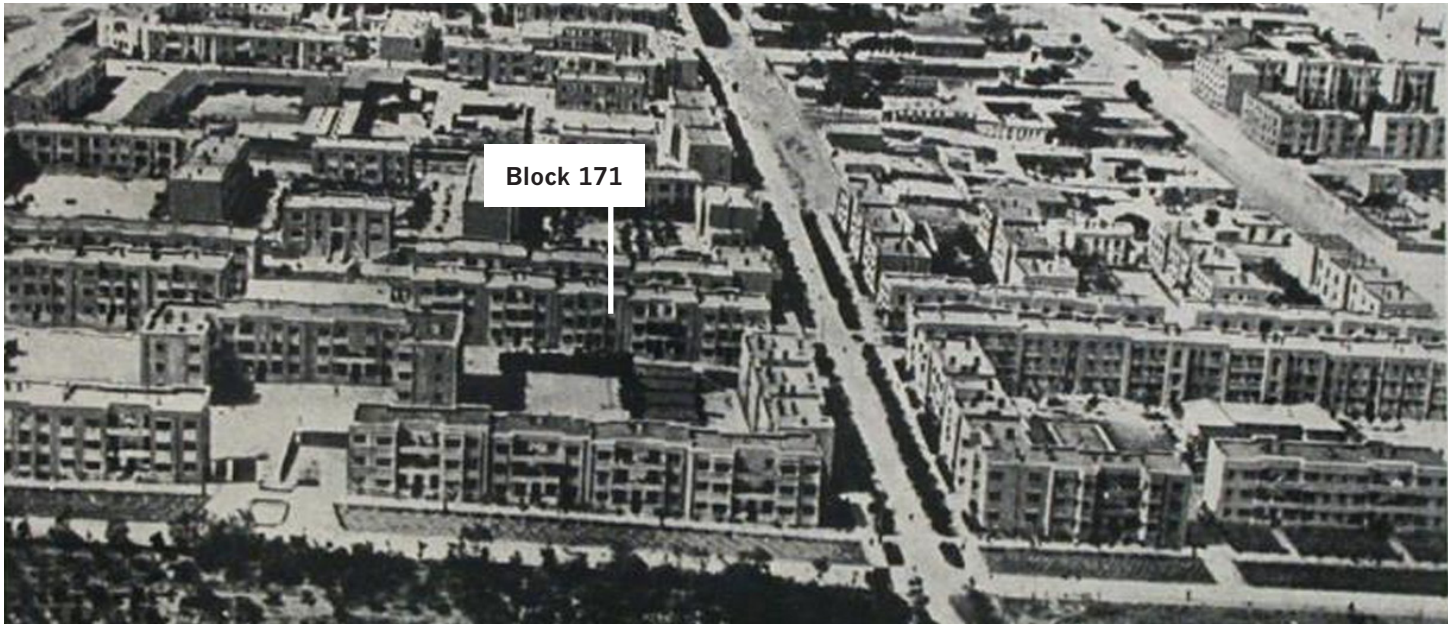


FIGURE 3.28: Armenikend (Shaumian), date unknown
 Canadian Centre for Architecture, Montreal
 [PH1998:0011:004] (top) | [PH1998:0011:013] (bottom)



FIGURE 3.29: "New Workers' Settlement Armenikend"
 MUAR, 05-16139



FIGURE 3.30: Armenikend (Shaumian), Women engineering students, 1938
 RGAKFD, 1-19674



FIGURE 3.31: Armenikend (Shaumian), bottom two images

USSR in Construction, 1931, No.12
 Houghton Library, Harvard University

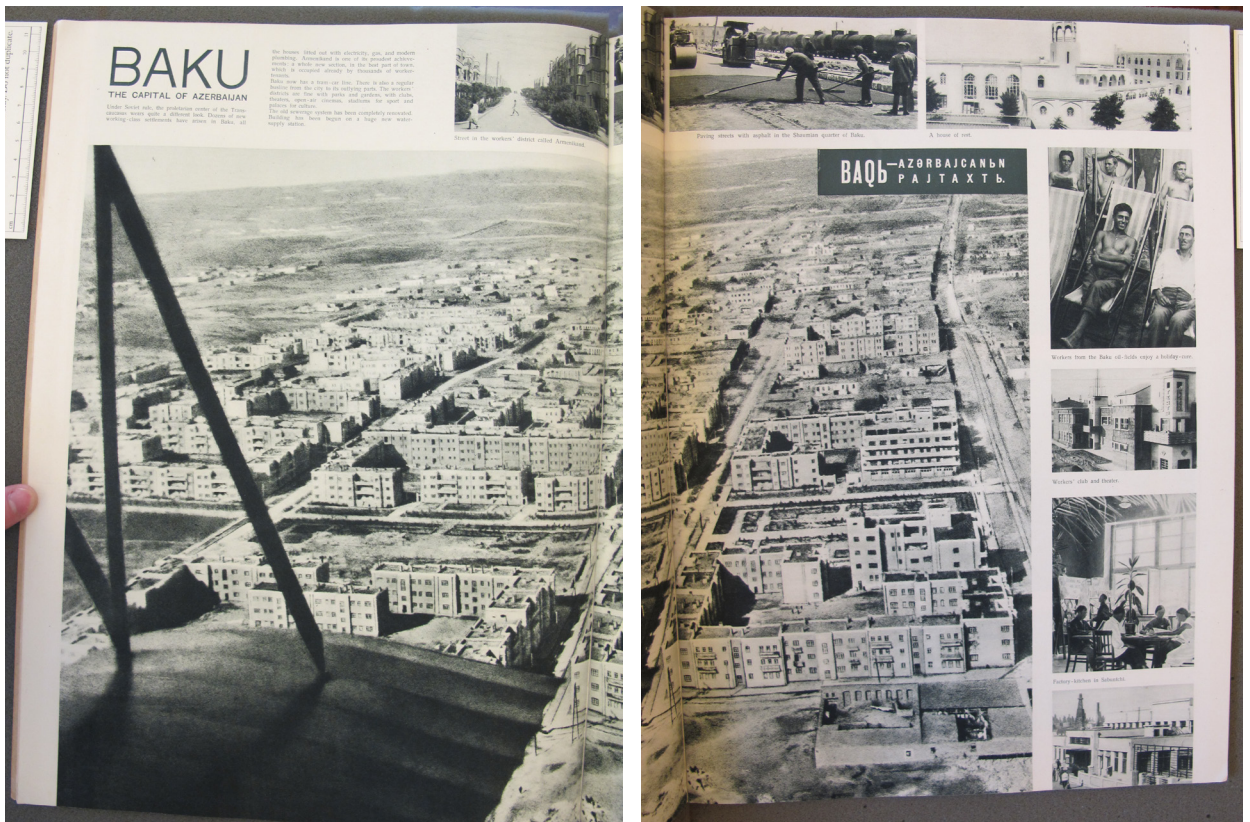


FIGURE 3.32: Armenikend (Shaumian), aerial view

USSR in Construction, 1932, No.3
 Houghton Library, Harvard University



FIGURE 3.33: Armenikend (Shaumian) street view, date unknown
Canadian Centre for Architecture, Montreal [PH1998:0011:012]



FIGURE 3.34: Armenikend (Shaumian) street view, date unknown
Canadian Centre for Architecture, Montreal [PH1998:0011:006]

FIGURE 3.35: Armenikend (Shaumian) street view, date unknown
Canadian Centre for Architecture, Montreal [PH1998:0011:005]

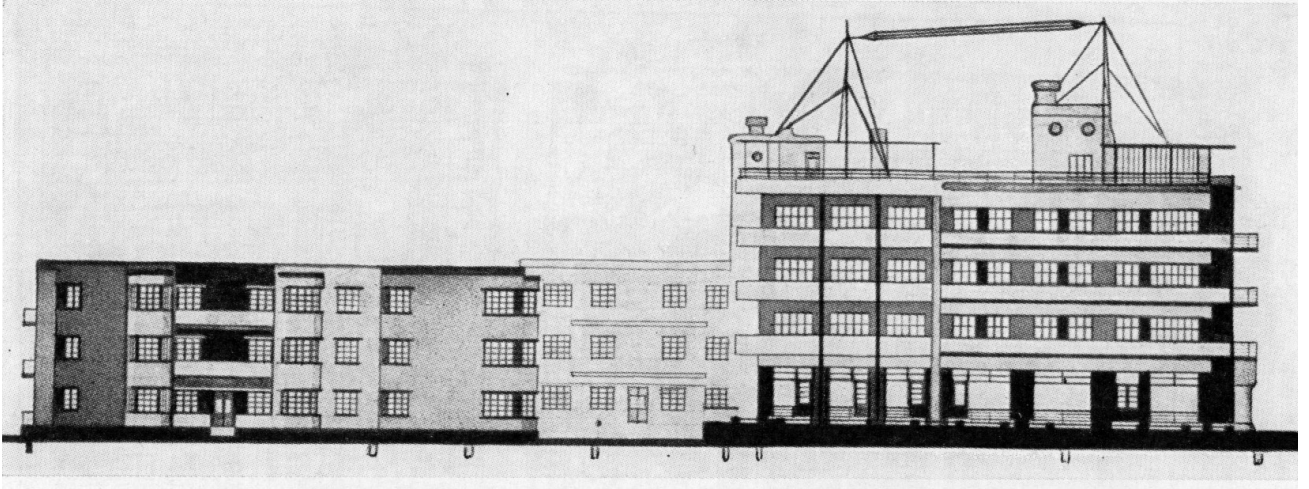


FIGURE 3.36: Armenikend (Shaumian) dormitory drawing, c.1927

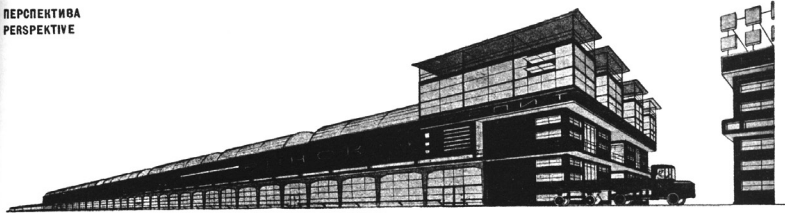
Davidovich, V. G., and Tatiana Aleksandrovna Chizhikova. *Aleksandr Ivanitskii. Mastera Arkhitektury*. Moskva: Stroizdat, 1973, 44.



FIGURE 3.37: Armenikend dormitory, 1932
RGAKFD, 0-15565



FIGURE 3.38: Armenikend (Shaumian) street view, date unknown
Canadian Centre for Architecture, Montreal [PH1998:0011:008]



ВАШИ КОНКРЕТНЫЕ ПРЕДСТАВЛЕНИЯ О ДОМЕ-КОММУНЕ?

Основной задачей, которую устойчиво ставит нашему советскому архитектору наш сегодняшний новостроительный день, является организация-стройка нового жилья трудящимся.

СА рассматривая и подходить критически ко всему сделанному до сих пор в этом направлении, и не имея еще готовых разрешений этой задачи, объявило товарищеское соревнование между членами ОСА и товарищами, разделяющими его производственные положения и взгляды.

Но, учитывая предполагаемое соревнование как организационную базу сегодняшнего социального заказа очень большой серьезности-значимости, СА, желая дать точные материалы для будущей работы и обеспечить этим ее, предлагает у себя двойную-инициативную анкету:

социально-бытовую
для всех трудящихся
техно-производственную
для специалистов:
техников-строителей
производственников-экономистов
хозяйственников.

АНКЕТА СА

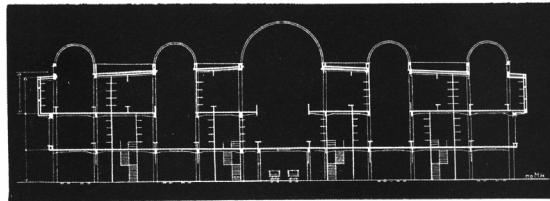
АНКЕТА

ТОВАРИЩ:

- 1 Как представляется тебе вещественное оформление нового быта трудящихся и что ты считаешь мешающим вещей, т.-е. мелко-буржуазной их сущностью?
- 2 Какие у тебя на уме новые навыки быта? Какие новые потребности уже образуются и какие тобой считаются отмирающими?
- 3 Какие из бытовых навыков могут остаться индивидуально-обособленными и какие могут быть организованы, как коллективно-общественные?
- 4 Как увлечется активность организации общественного питания с задачами распределения пищи от вынужденной ее общественной пассивности?
- 5 Как ты мыслишь и смотришь на общественное воспитание детей в новых формах коллективизма и ново-социальных навыков? Возможность организации детских помещений, воспитывающих активную трудовую деятельность?
- 6 Товарищ, есть ли у тебя конкретная наметка плана организации отдыха трудящихся?

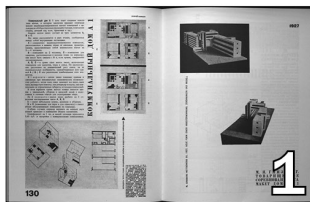
СПЕЦИАЛИСТ:

- 1 Какими новыми строительными материалами и конструкциями должны быть заменены старые в применении к жилому дому при учете их теплового режима и экономичности?
- 2 Какими новыми предметами внутреннего пользования должно быть оборудовано жилье?
- 3 Чем должны быть заменены стационарные перегородки?
- 4 Какие дома более экономичны и рациональны: много-квартирные или много-квартирные (город, деревня)?
- 5 Какое количество этажей наиболее рационально и экономично при том или ином материале и конструкции?
- 6 Какие минимальные размеры площадей и кубатуры допустимы для комнат разного назначения?
- 7 Какова роль стандарта в связи с рациональностью и экономичностью жилищного строительства? Какие стандарты необходимо вводить?

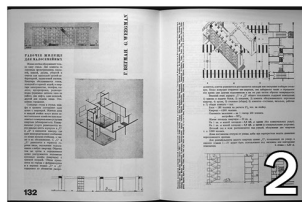


109

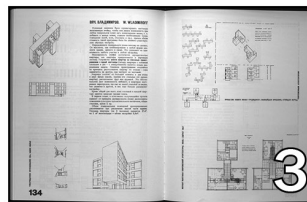
FIGURE 4.2: Questionnaire: "What are your specific ideas about the house-commune?"
Sovremenniaia Arkhitektura, no. 4, 1926, 109.



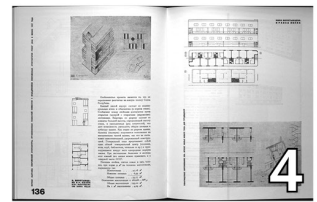
1



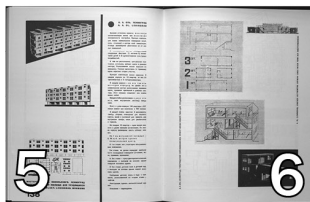
2



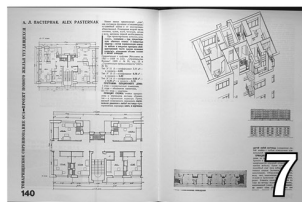
3



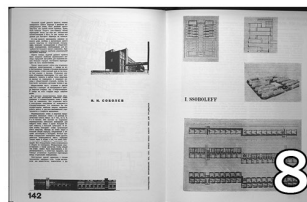
4



5



6



7

FIGURE 4.3: All eight entries for the Comradely Competition for Communal Housing
Sovremenniaia Arkhitektura, no. 4-5, 1927.

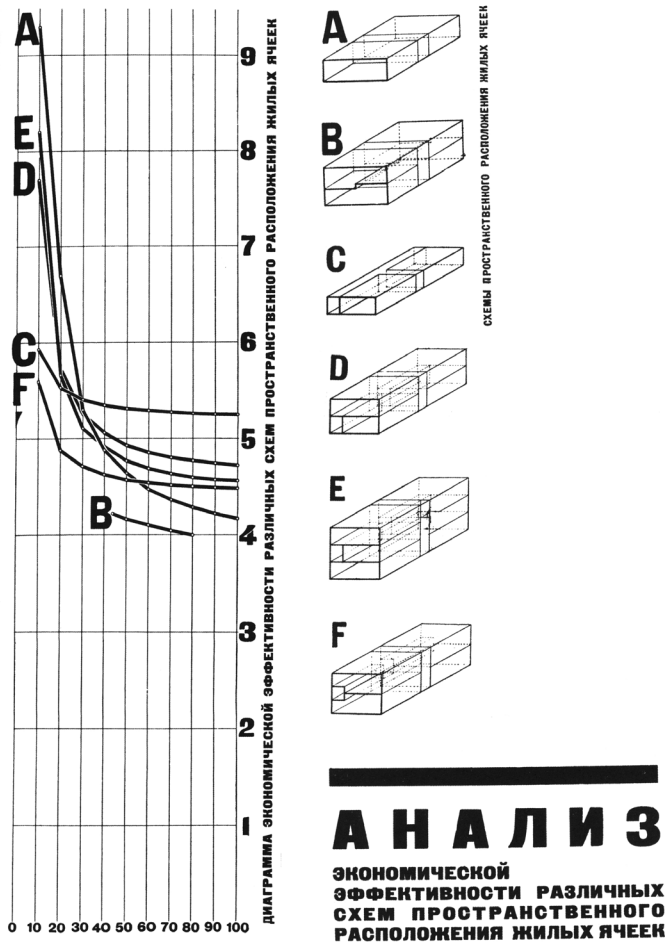
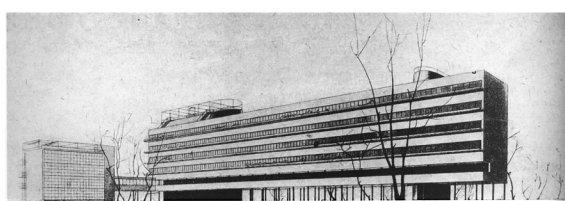


FIGURE 4.4: Diagram of the Economic Efficiency of Various Spatial Configurations, STROIKOM Research Group *Sovremennaia Arkhitektura*, no. 1, 1929



ДОМ СОТРУДНИКОВ НАРКОМФИНА
 МОСКВА
 М. ГИНЗБУРГ и И. МИЛИНИС

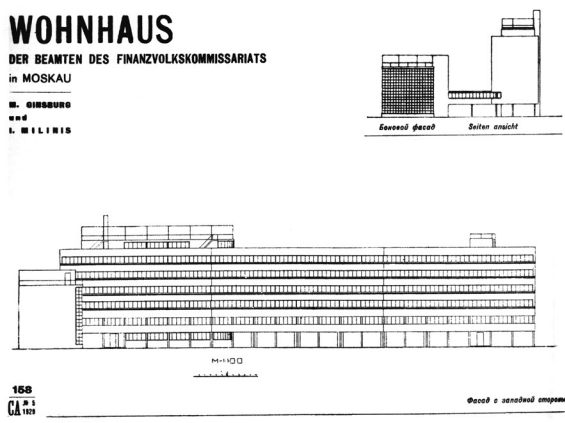
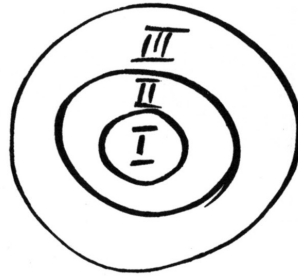


FIGURE 4.5: Narkomfin Building, Ginzburg and Milinis *Sovremennaia Arkhitektura*, no. 5, 1929

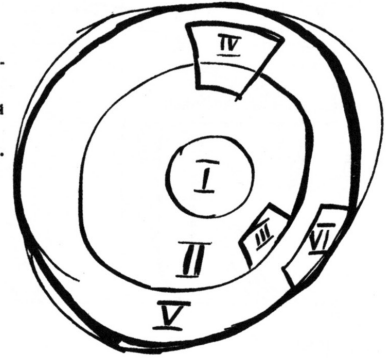
ИСТОРИЧЕСКАЯ КОНЦЕПЦИЯ СОВРЕМЕННОГО ГОРОДА.

- I. Феодалный кремль, castelle. Политический центр.
- II. Простое товарное общество, торговый капитализм, бург, китай-город.
- III. Промышленный капитализм. Рабочая окраина, faubourg, Vorstadt.



РАЙОННАЯ КОНЦЕНТРАЦИЯ СОВРЕМЕННОГО КАПИТАЛИСТИЧЕСКОГО ГОРОДА.

- I. Сити. Административный и деловой центр.
- II. Жилища средней и мелкой буржуазии. Розничная торговля.
- III. Культурно-бытовые учреждения.
- IV. Особняки крупных капиталистов.
- V. Рабочие жилища.
- VI. Промышленные предприятия.



130
СА № 4
1929

HISTORIC CONCEPT OF THE CONTEMPORARY CITY

- I. Feudal kremlin. Political center.
- II. Simple trading community, commercial capitalism, burg, "kitai gorod" (the traditional commercial quarter of Moscow).
- III. Industrial capitalism. Worker outskirts, faubourg, vorstadt.

REGIONAL-CONCENTRATED CONTEMPORARY CAPITALIST CITY

- I. "City". Administrative and business center.
- II. Residential quarter for the middle and bourgeois classes. Retail trade.
- III. Cultural-community institutions.
- IV. Mansions of the major capitalists.
- V. Worker housing.
- VI. Industrial enterprises.

FIGURE 4.6: Hand-drawn diagrams for "Toward the Problem of the City" (*K probleme goroda*), Mikhail Okhitovich *Sovremennaia Arkhitektura*, no. 4, 1929, 130-134.

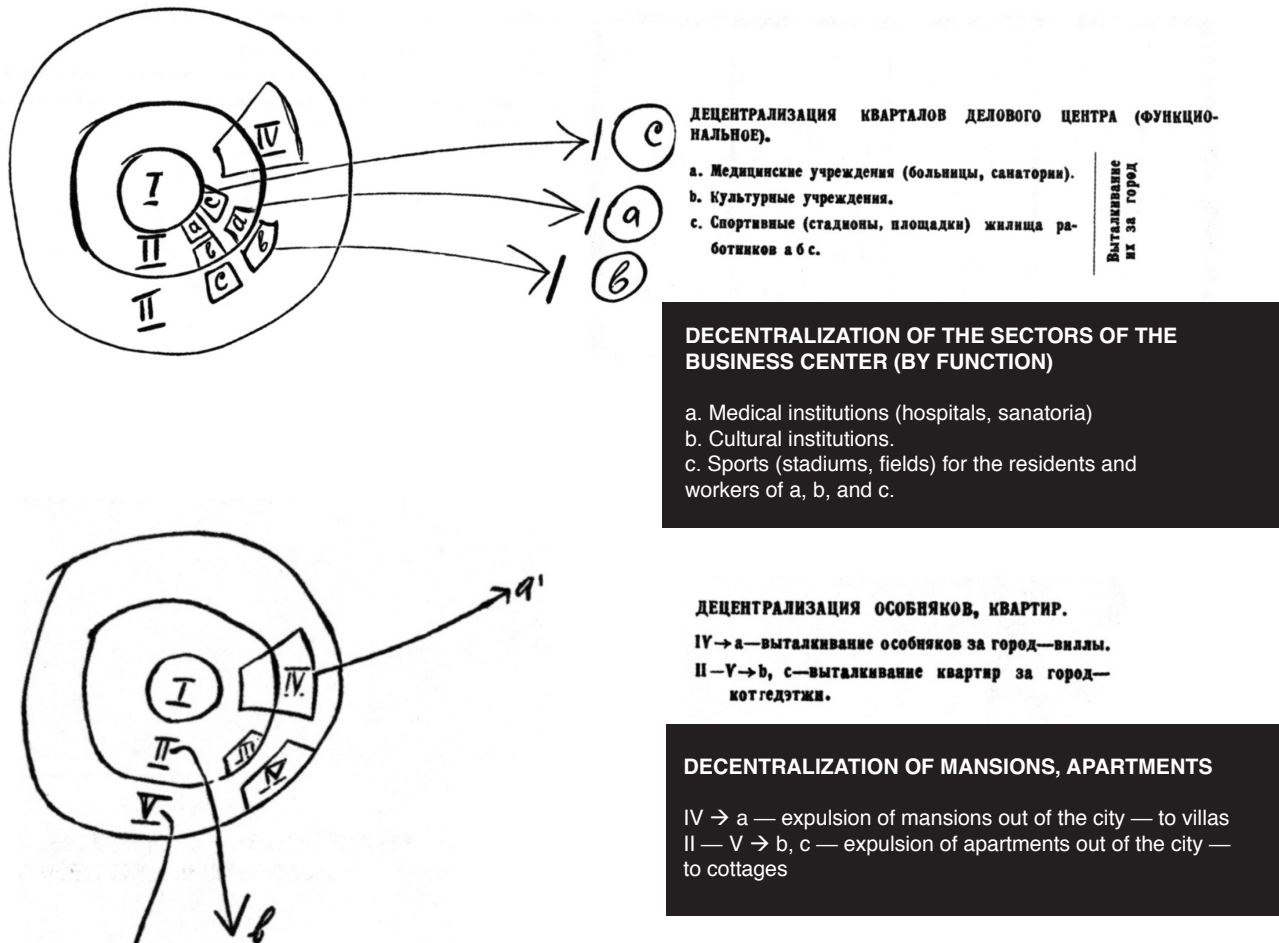
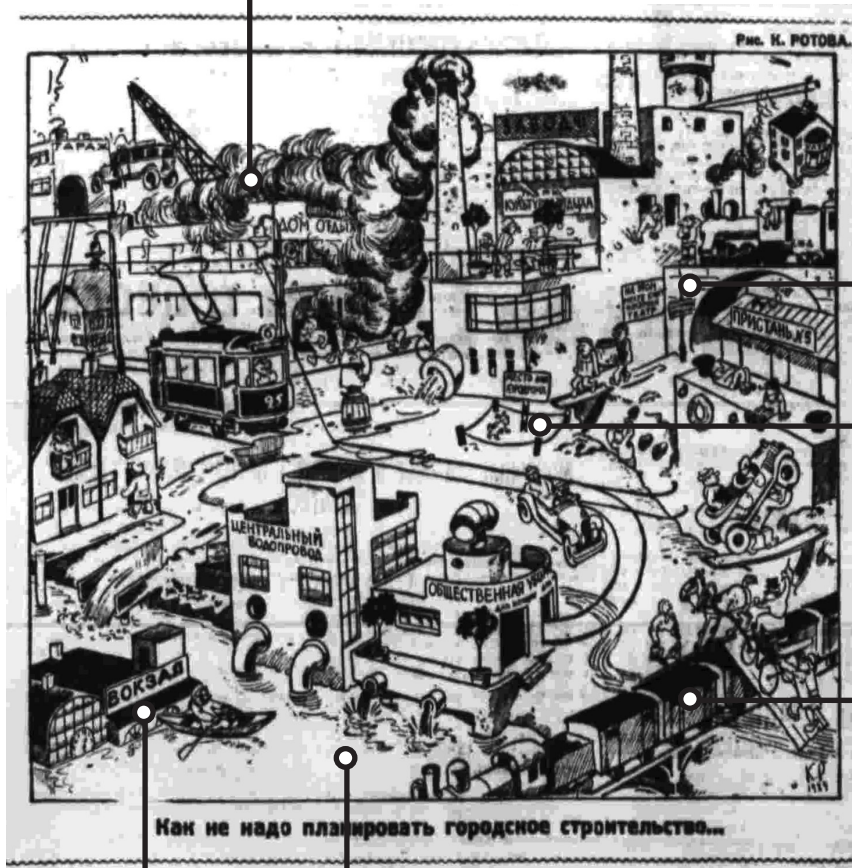


FIGURE 4.7: Hand-drawn diagrams for "Toward the Problem of the City" (*K probleme goroda*), Mikhail Okhitovich *Sovremennaia Arkhitektura*, no. 4, 1929, 130-134.

A workers' settlement in Dzerzhinsk had to be demolished because it was located downwind of airborne discharge from a chemical factory.



A wharf and a silicate plant in Dzerzhinsk are being built on the same small site.

At Briansk, a site 'big enough for a dog' in the town center was allocated for the new airport.

At Novorossiisk, 'the town has been cut into two halves by the new railway line, and they can only communicate by boat, across the harbor.'

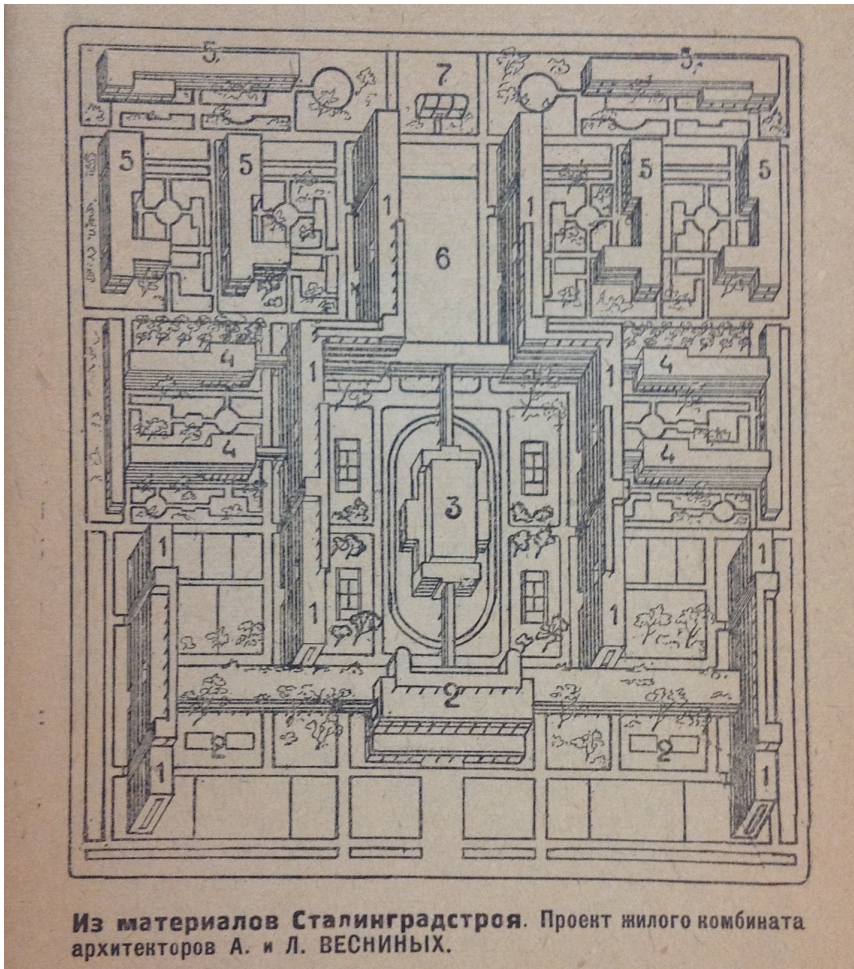
Ivanovo-Vozhnetsk railway station has begun construction on land subject to flooding.

The intake of Dzerzhinsk town water supply is located immediately downriver of a chemical outfall.

FIGURE 4.8: "How not to plan city construction..."

Pravda, November 4, 1929, 5.

Notes taken from Cooke, Catherine Ann Chichester. "The Town of Socialism." University of Cambridge, 1974, 150.



1. Housing wing for adults --- 5 floors; in the center of the wing, on the second floor, are rooms for individual and group activities.
2. Communal services wing (communal dining hall, library, reading room, rooms for group activities, winter garden, etc.).
3. Gymnasium, swimming pool --- located in the central area, whose width is only slightly smaller than the width of the Sverdlovskaja (formerly Teatral'naia) Square in Moscow.
4. Children's home for toddlers --- connected by heated corridors to the adults' residential quarters.
5. Children's home for pre-schoolers
6. Sports complex
7. Orangerie

FIGURE 4.9: Stalingradstroi Housing Combine competition entry, Architects A. and L. VESNIN

Sabsovich, L. M. *Sotsialisticheskie Goroda*. Moskva: Gosizdat RSFSR "Moskovskii rabochii", 1930.



FIGURE 4.10: Western European projects for planning the city of the future (Le Corbusier)

Ginzburg, M. Ia. "Sotsialisticheskoe Rasselenie: Detsentralizatsiia Krupneishikh Gorodov (Socialist Settlement: Decentralization of Large Cities)." *Ekonomicheskaja zhizn'*, December 7 1929, 3.

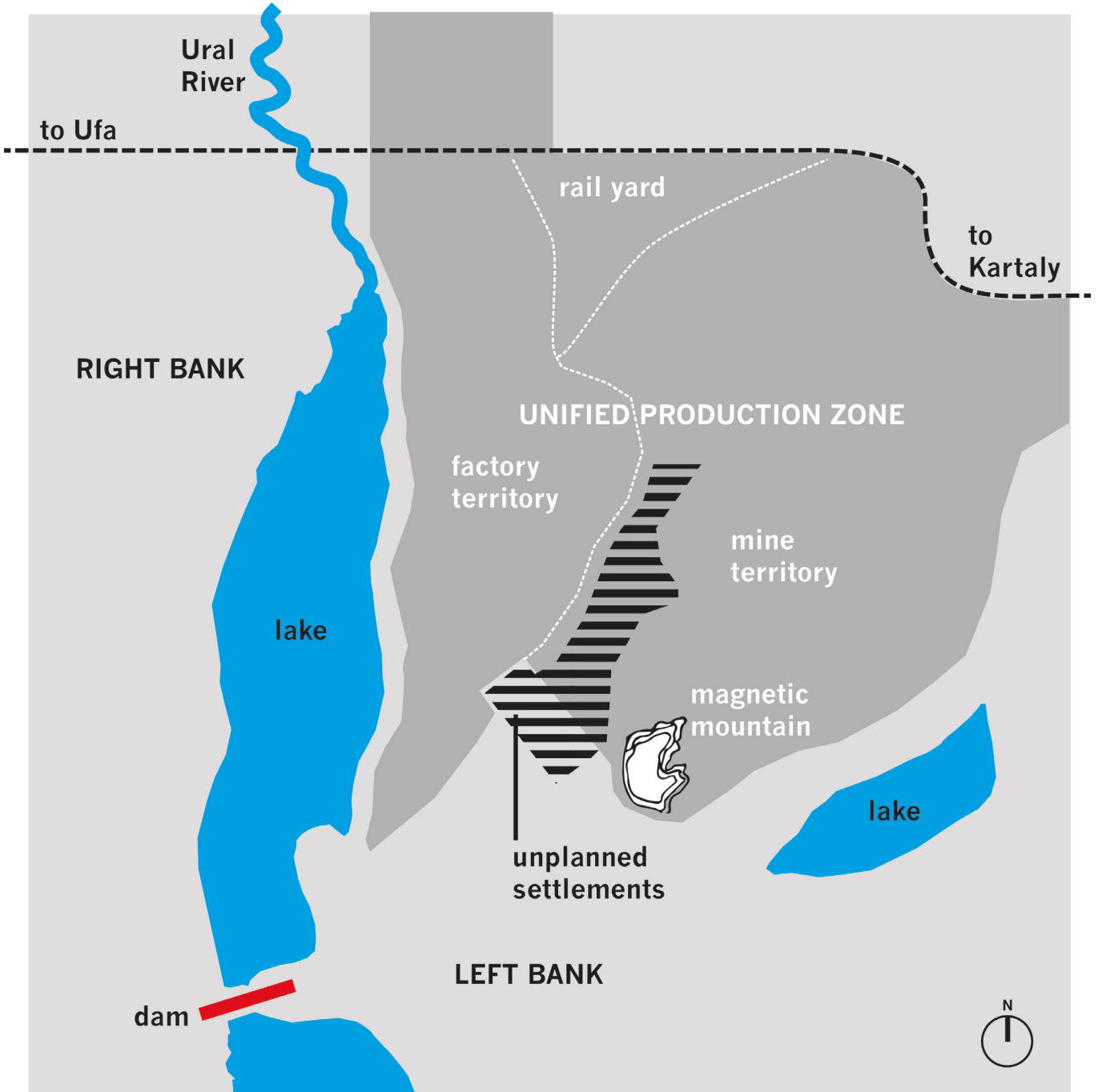


FIGURE 5.1: Magnitogorsk, 1930
 Map by author, adapted from *Sovetskaia Arkhitektura*,
 No. 3, 1933.



Первые жилища на Магнитке.



FIGURE 5.2: “The first housing in Magnitogorsk,” 1929. Family dugouts.
Magnitogorskii Kraevedcheskii Muzei



FIGURE 5.3: "The first housing in Magnitogorsk," 1929. Yurts and tents.
Magnitogorskii Kraevedcheskii Muzei

УПРАВЛЕНИЕ МАГНИТОСТРОЯ

**ВСЕСОЮЗНЫЙ
ОТКРЫТЫЙ КОНКУРС
НА СОСТАВЛЕНИЕ ЭСКИЗНЫХ ПРОЕКТОВ:**

А) планировки и застройки социалистического города Магнитогорска на Урале при горно-заводском комбинате;

Б) типовой жилищной коммуны

(При свободном участии в соревновании всех желающих)

ИЗДАТЕЛЬСТВО
НАРОДНОГО КОМИССАРИАТА ВНУТРЕННИХ ДЕЛ
МУСКВА — 1929

FIGURE 5.4: All-Union Open Design Competition for Magnitogorsk, December 1929

Tsentral'nyi derzhavnyi arkhiv-muzei literatury i mystetsva ukraïny [Central State Archive-Museum of Literature and Art of Ukraine, TsDAMLM], f. 8, o.1, d.431, ll. 1-3.

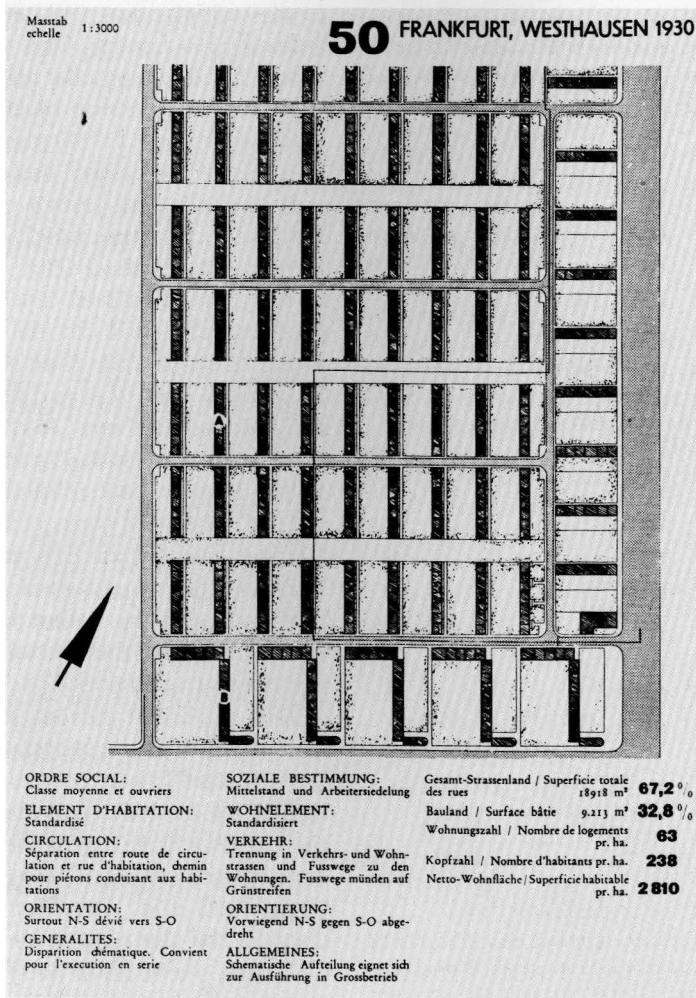


FIGURE 5.5: Frankfurt-Westhausen site plan, Frankfurt, Ernst May et al., 1929 Swenarton, Mark. "Rationality and Rationalism: The Theory and Practice of Site Planning in Modern Architecture 1905-1930." AA Files, no. 4 (July 1983): 50.

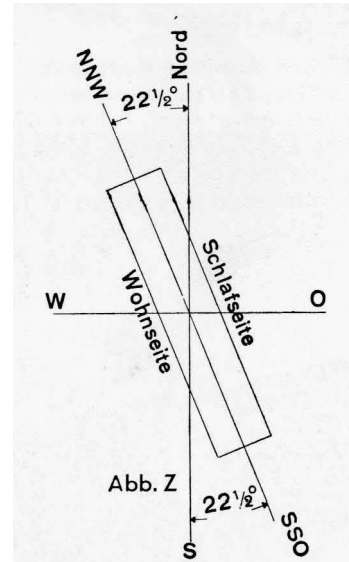


FIGURE 5.6: Comparative investigation of the solar orientation of dwellings, Walter Schwagenscheidt, 1928-29 Swenarton, Mark. "Rationality and Rationalism: The Theory and Practice of Site Planning in Modern Architecture 1905-1930." AA Files, no. 4 (July 1983): 56.

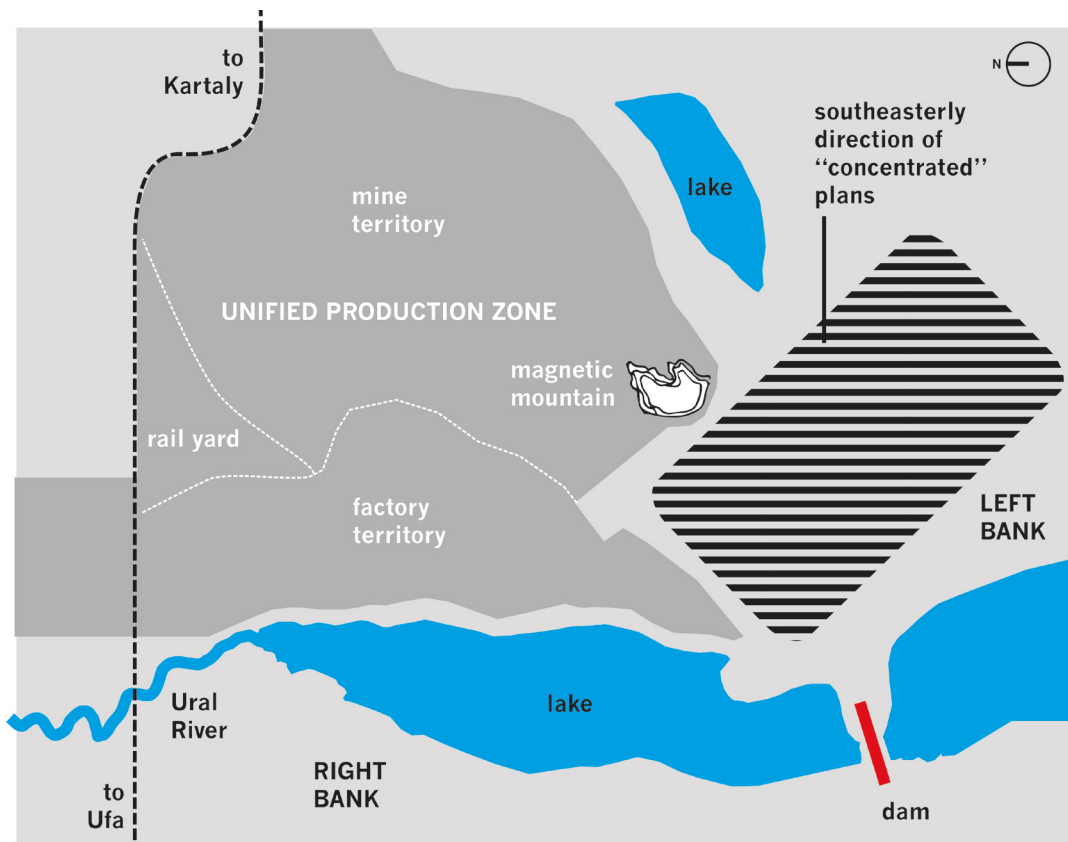


FIGURE 5.7: Siting key to Magnitogorsk competition entries Map by author, adapted from *Sovetskaia arkhitektura*, No. 3, 1933.

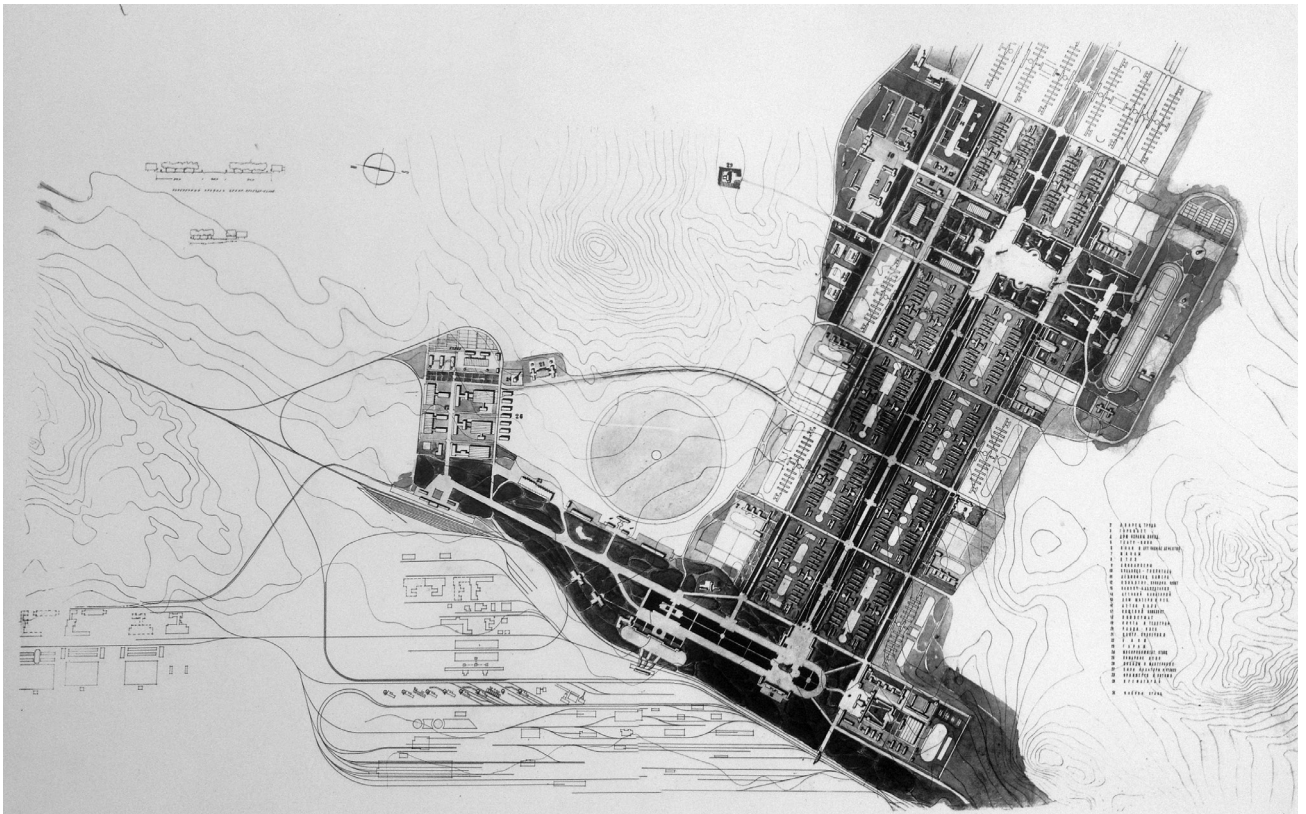


FIGURE 5.8: General plan, Magnitogorsk Competition, 2nd Prize (tie), “Black Square” Team: Engineers F.B. Bialostotskaia and Z. Rozenfel’d with B. Rozenfel’d (student)

TsDAMLM, f.8, o.1, d.431

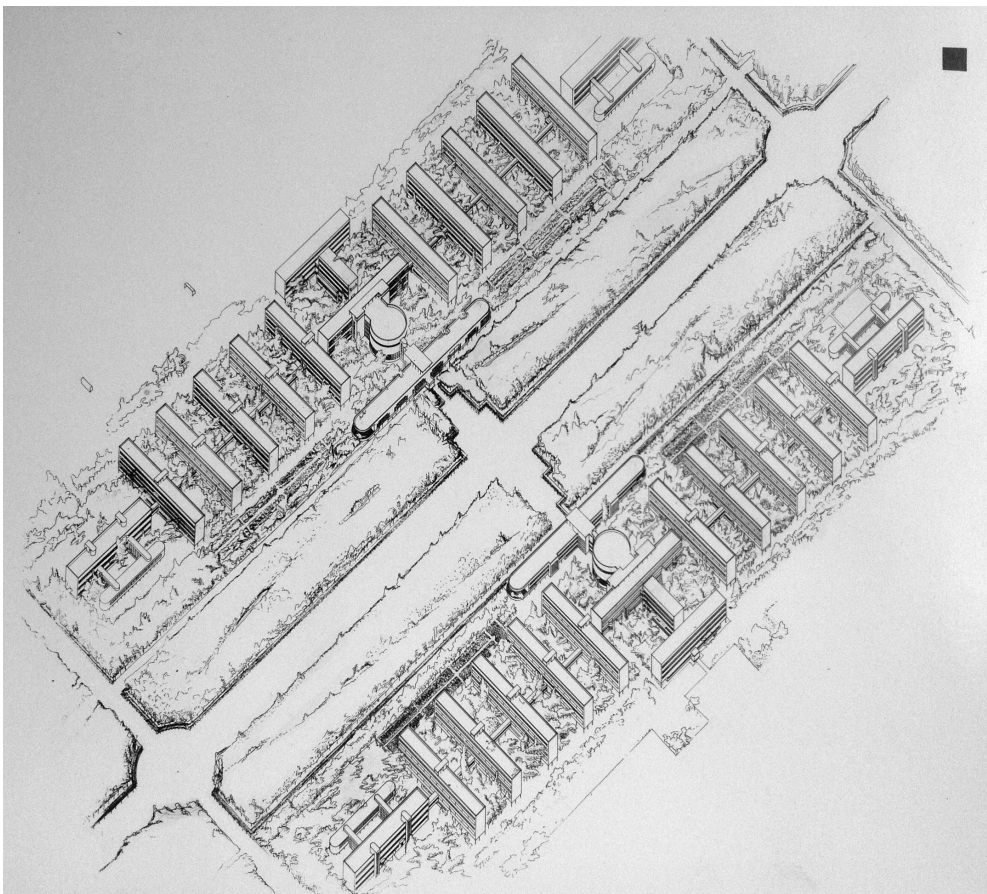


FIGURE 5.9: General plan, Magnitogorsk Competition, 2nd Prize (tie), “Black Square” Team

TsDAMLM, f.8, o.1, d.431

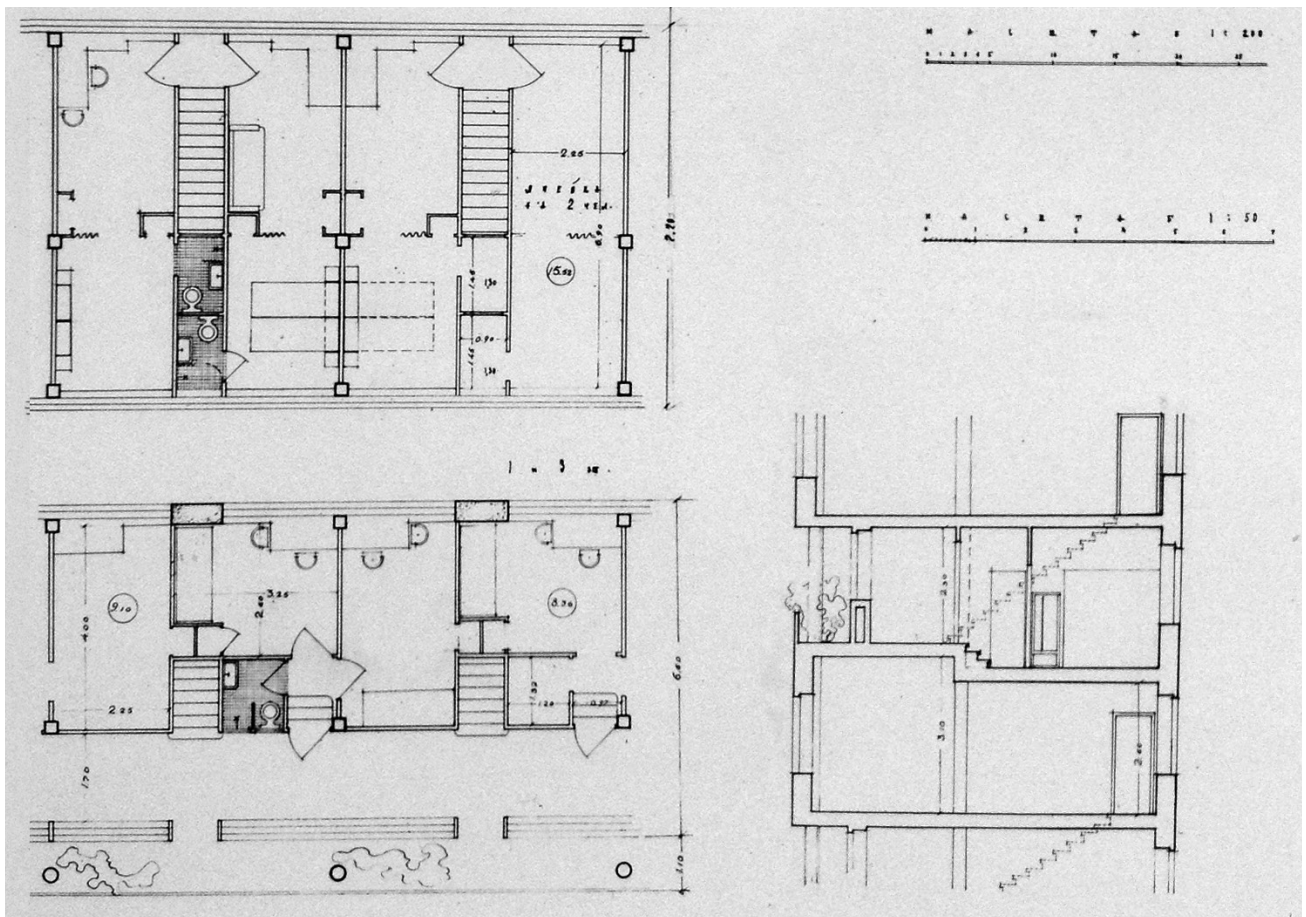
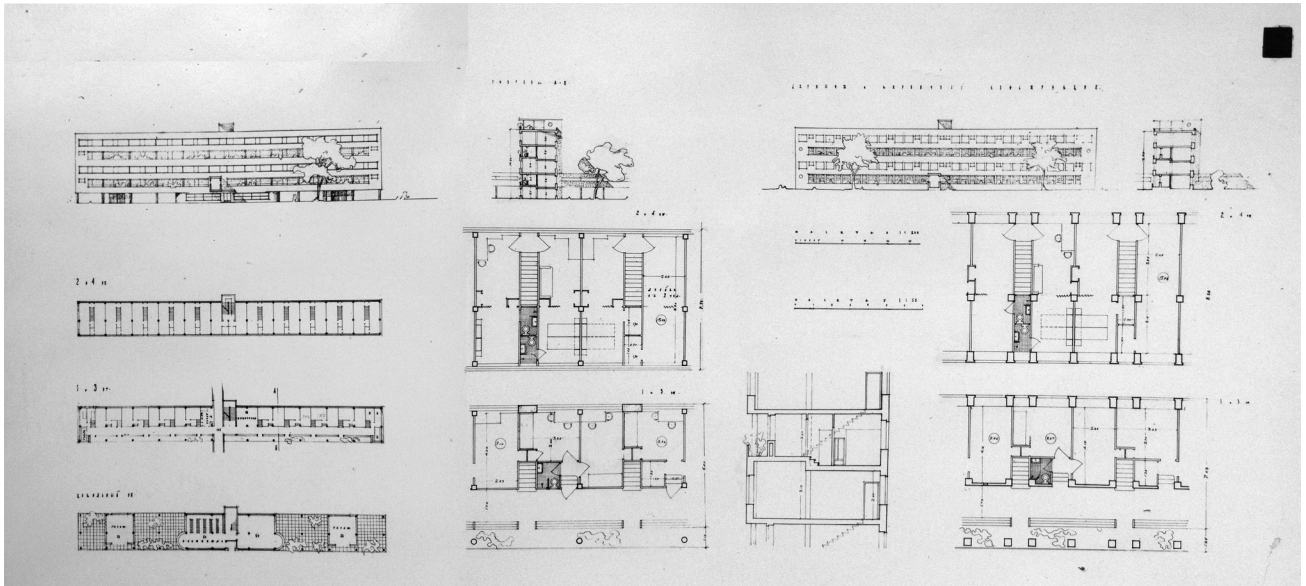
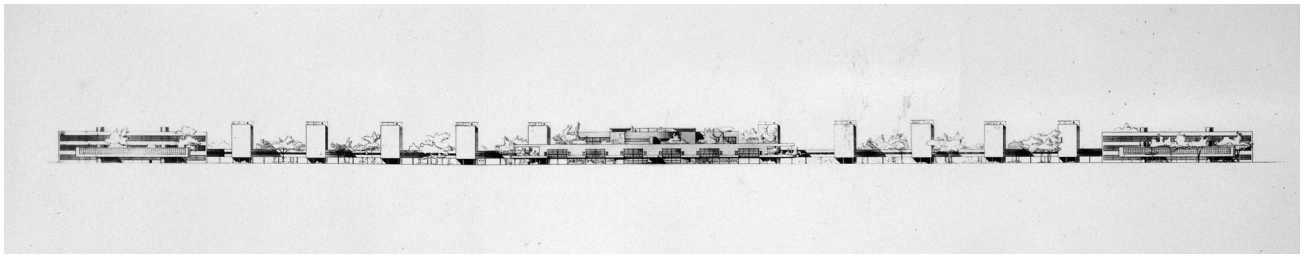


FIGURE 5.10: Elevation (top), residential building plans and sections (middle), detail showing paired skip-stop floors (bottom), Magnitogorsk Competition, 2nd Prize (tie), “Black Square” Team

TsDAMLM, f.8, o.1, d.431

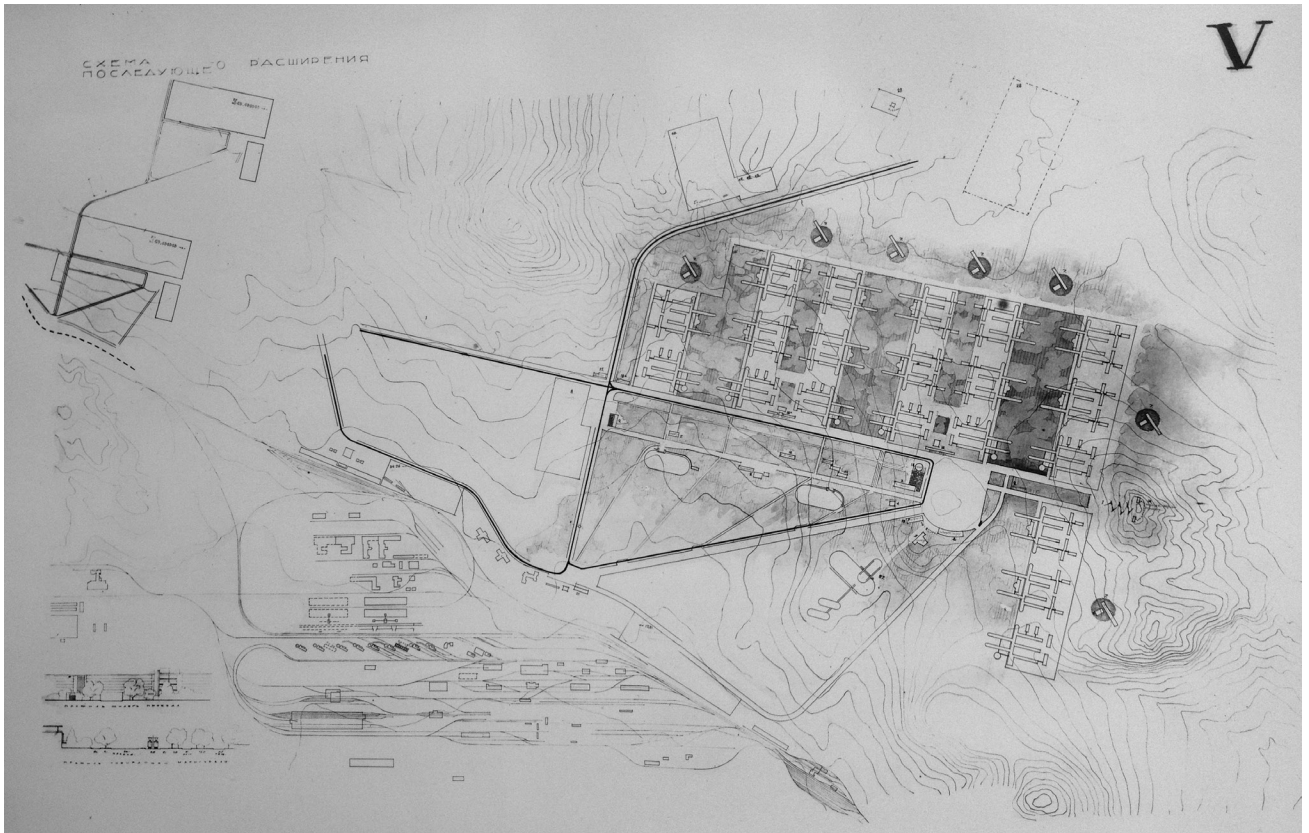


FIGURE 5.11: General plan, Magnitogorsk Competition, 2nd Prize (tie), “Roman Numeral Five” Team: Engineer R. Brillung with students of VKhTI: N. Gaicharov, M. Semenov, V. Armand, and Architect V. Semenova
TsDAMLM, f.8, o.1, d.431

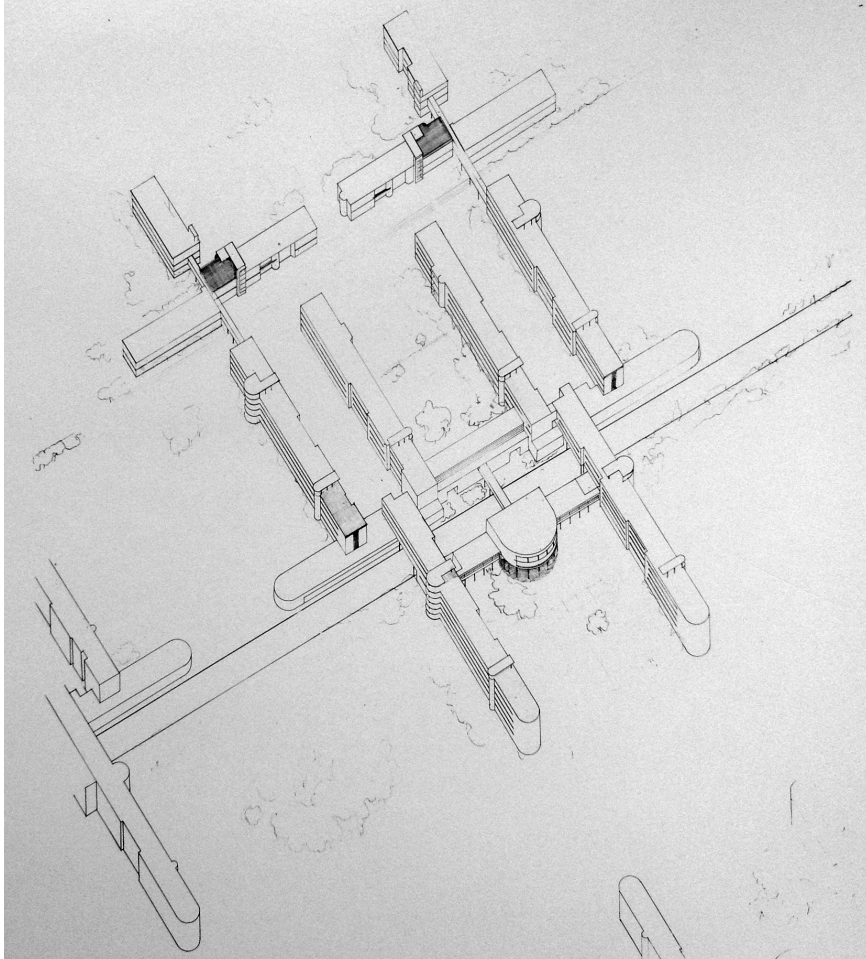


FIGURE 5.12: Residential commune, Magnitogorsk Competition, 2nd Prize (tie), “Roman Numeral Five” Team
TsDAMLM, f.8, o.1, d.431

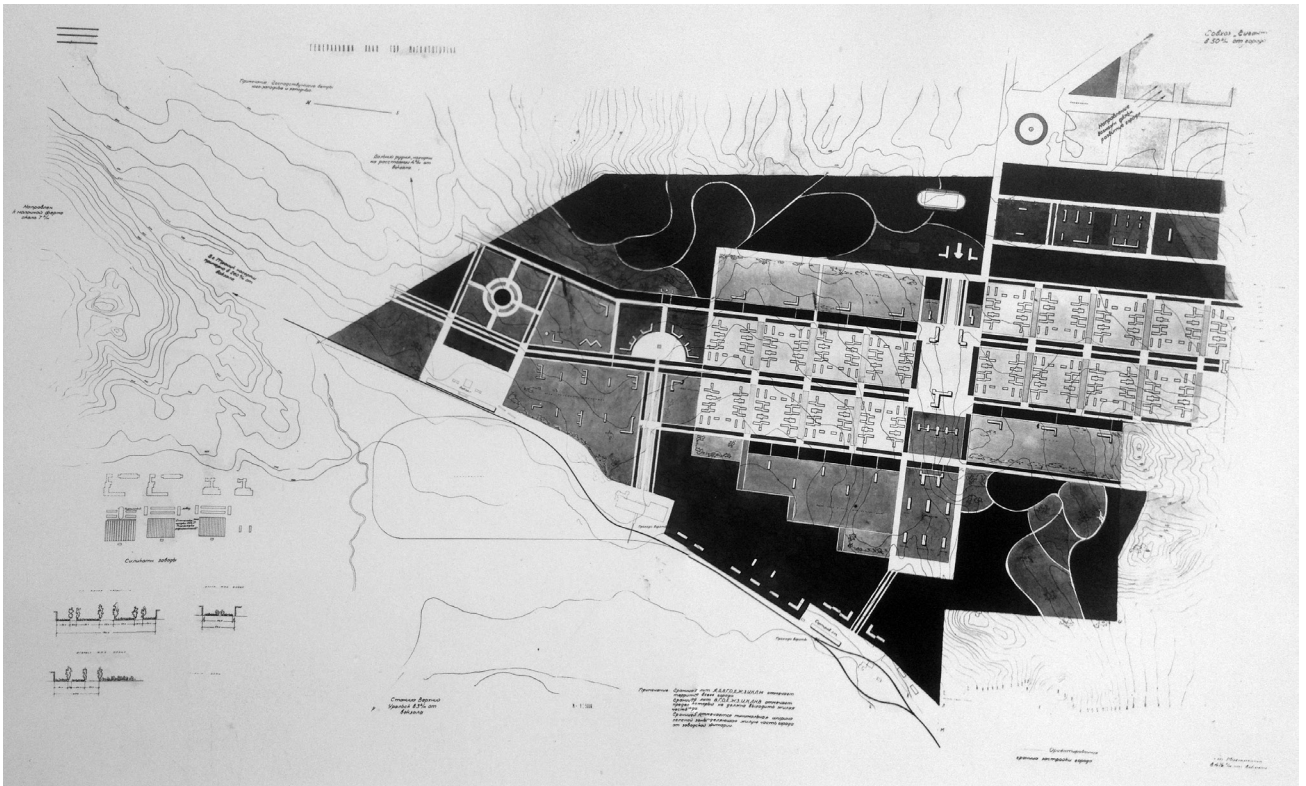


FIGURE 5.13: General plan, Magnitogorsk Competition, 3rd Prize, "Three Lines" Team: Engineers R. Val'denberg, S. Leontovich and D. Meerson
TsDAMLM, f.8, o.1, d.431

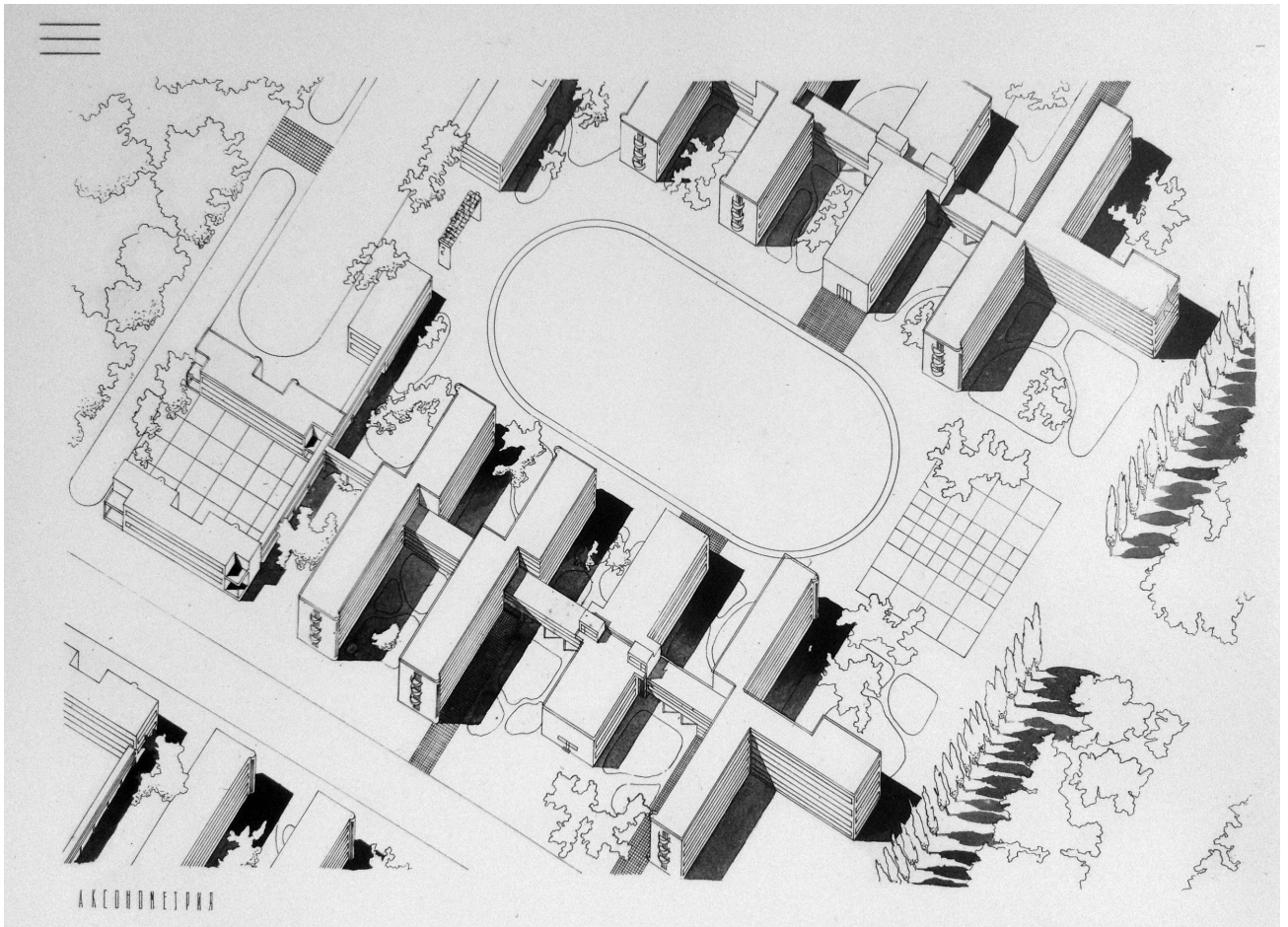


FIGURE 5.14: General plan, Magnitogorsk Competition, 3rd Prize, "Three Lines" Team
TsDAMLM, f.8, o.1, d.431



FIGURE 5.15: General plan, Magnitogorsk Competition, 4th Prize (tie), “Two Lines” Team: Engineers D. Tarasov and O. Chekryzheva
TsDAMLM, f.8, o.1, d.431

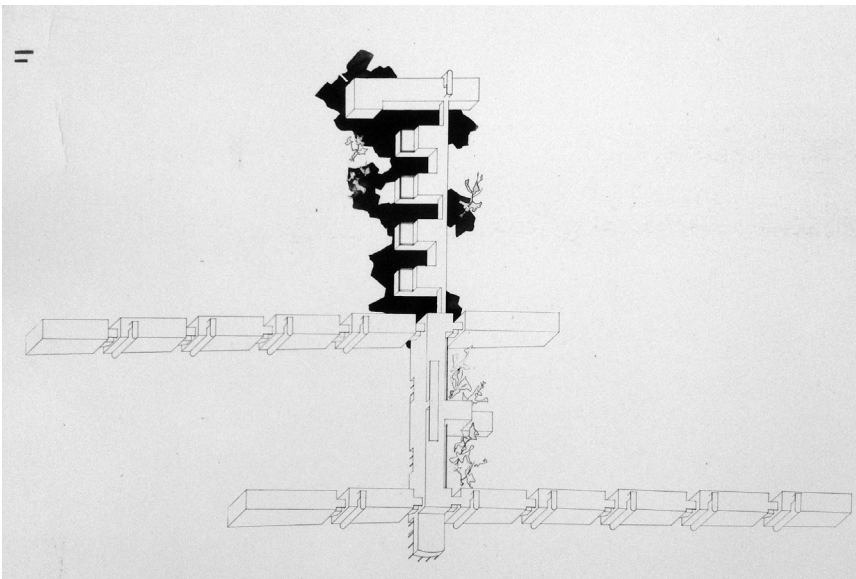


FIGURE 5.16: Residential commune, Magnitogorsk Competition, 4th Prize (tie), “Two Lines” Team
TsDAMLM, f.8, o.1, d.431

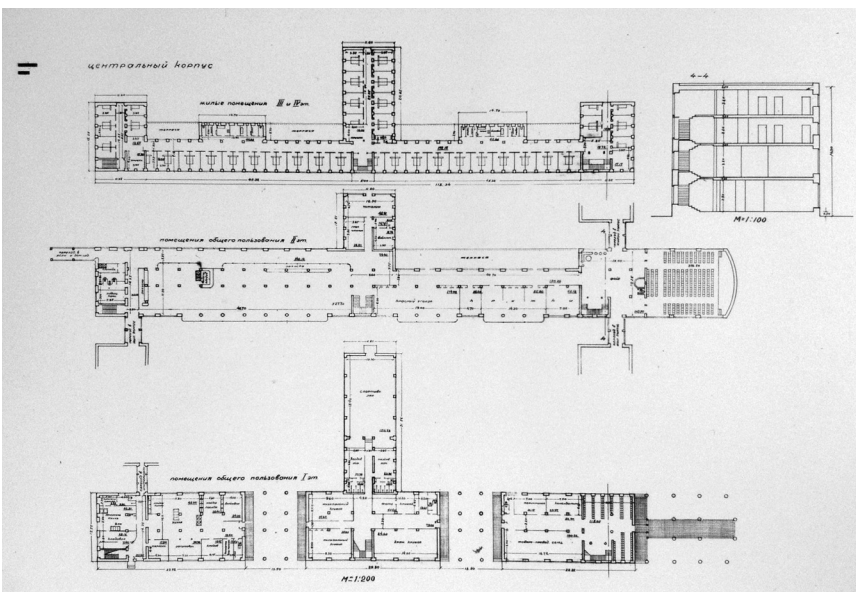


FIGURE 5.17: Detailed plan of residential commune, Magnitogorsk Competition, 4th Prize (tie), “Two Lines” Team
TsDAMLM, f.8, o.1, d.431

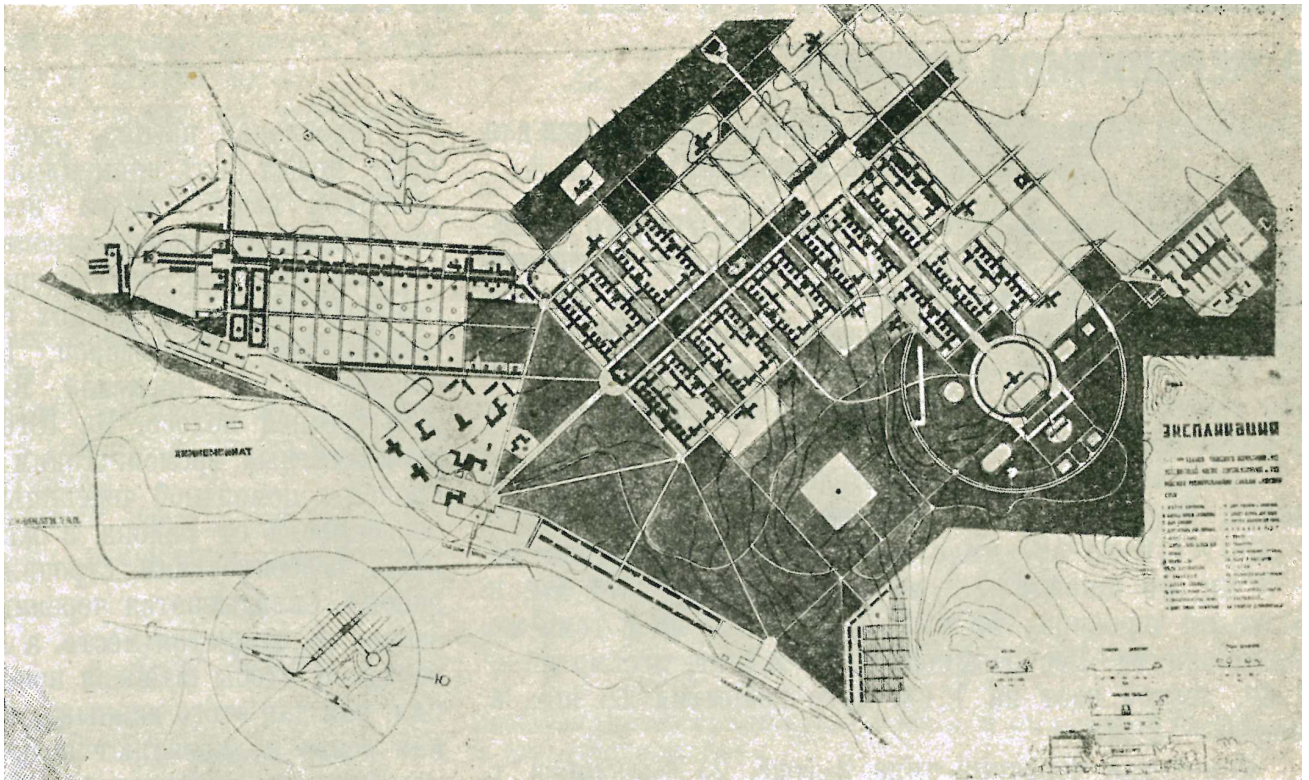


FIGURE 5.18: General plan, Magnitogorsk Competition, 4th Prize (tie), Architects N. Nikolaev, A. Pleshkovich and V. Andreev (Khar'kov)

"Sotsialisticheskii Gorod Magnitogorsk." *Stroitel'naia promyshlennost'*, no. 3 (1930): 199.

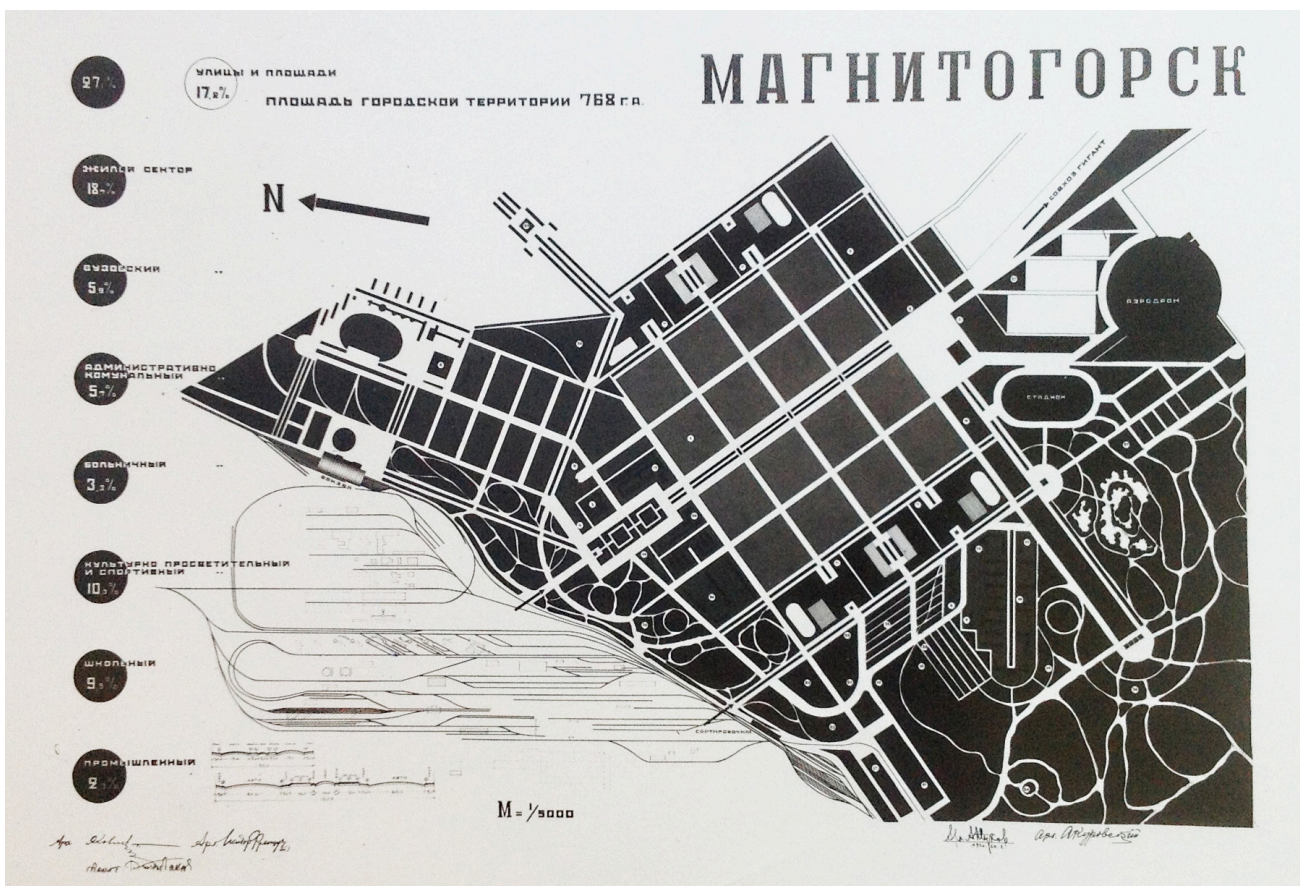


FIGURE 5.19: General plan, Magnitogorsk Competition, MAO team

TsDAMLM, f.8, o.1, d.431, l.40

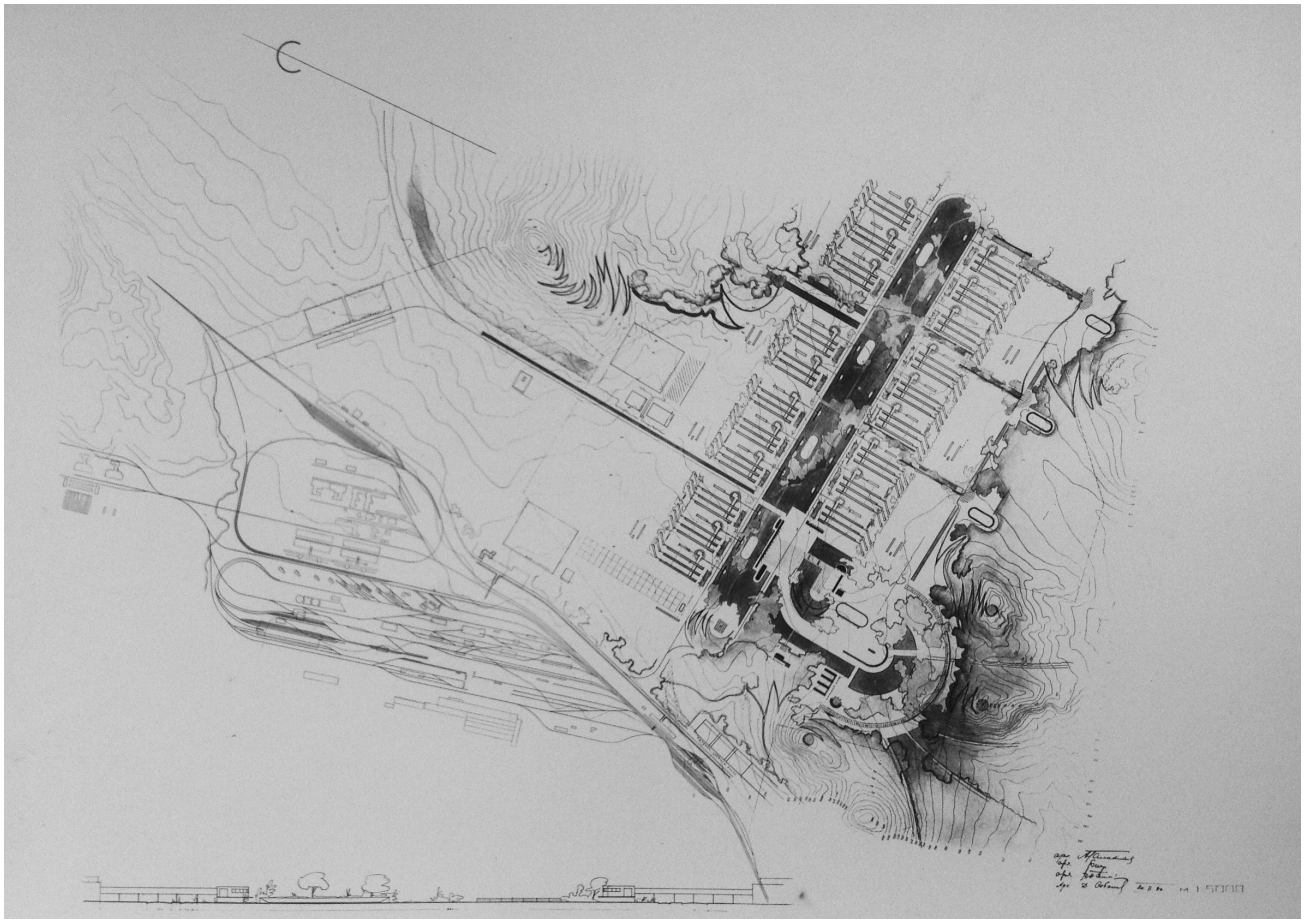


FIGURE 5.20: General plan, Magnitogorsk Competition, NKVD Kartoizadtel'stvo
TsDAMLM, f.8, o.1, d.431

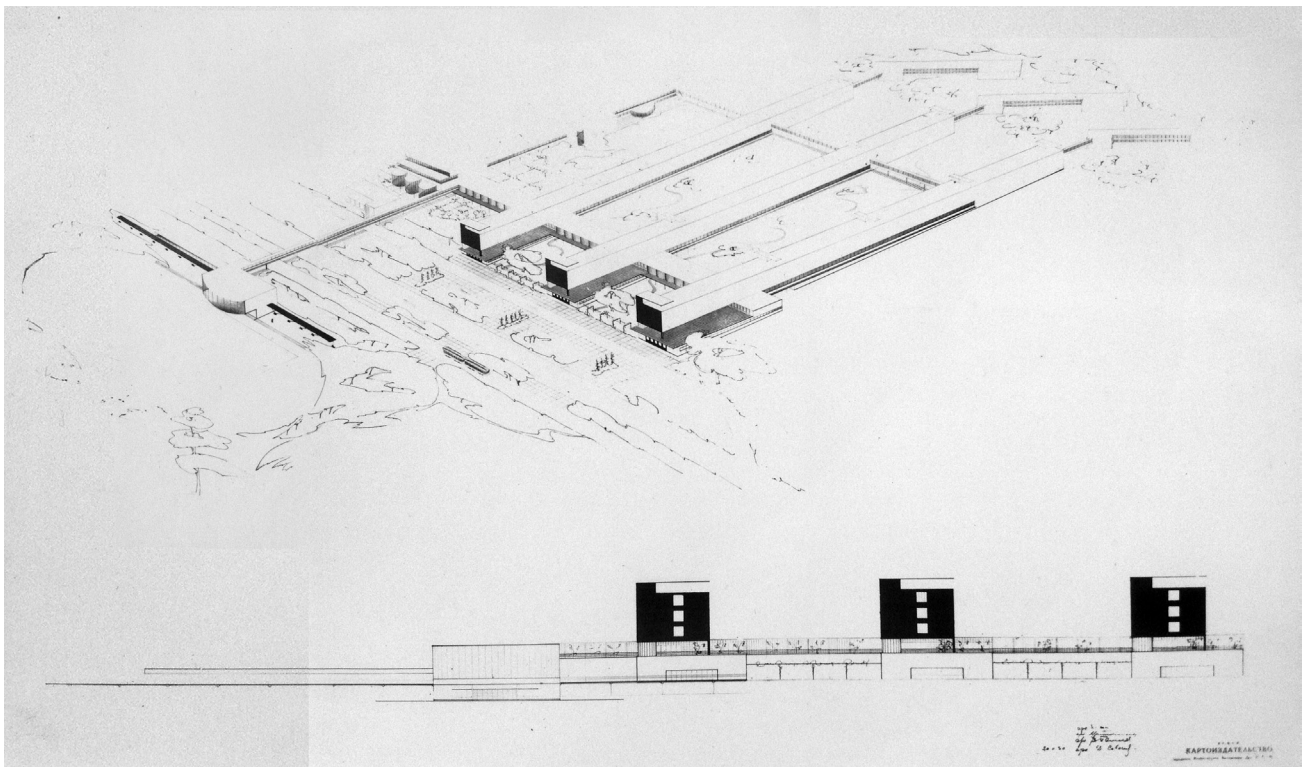


FIGURE 5.21: Residential commune, Magnitogorsk Competition, NKVD Kartoizadtel'stvo
TsDAMLM, f.8, o.1, d.431



FIGURE 5.22: General plan, Magnitogorsk Competition, Chernyshev team
TsDAMLM, f.8, o.1, d.431

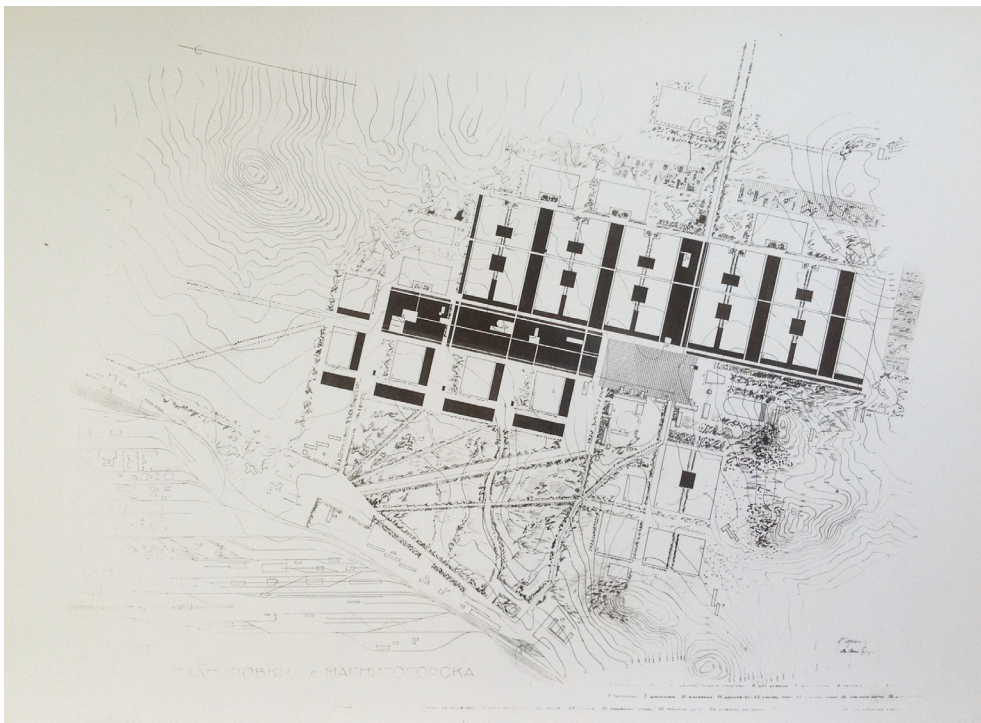


FIGURE 5.23: Residential commune, Magnitogorsk Competition, Chernyshev team
TsDAMLM, f.8, o.1, d.431

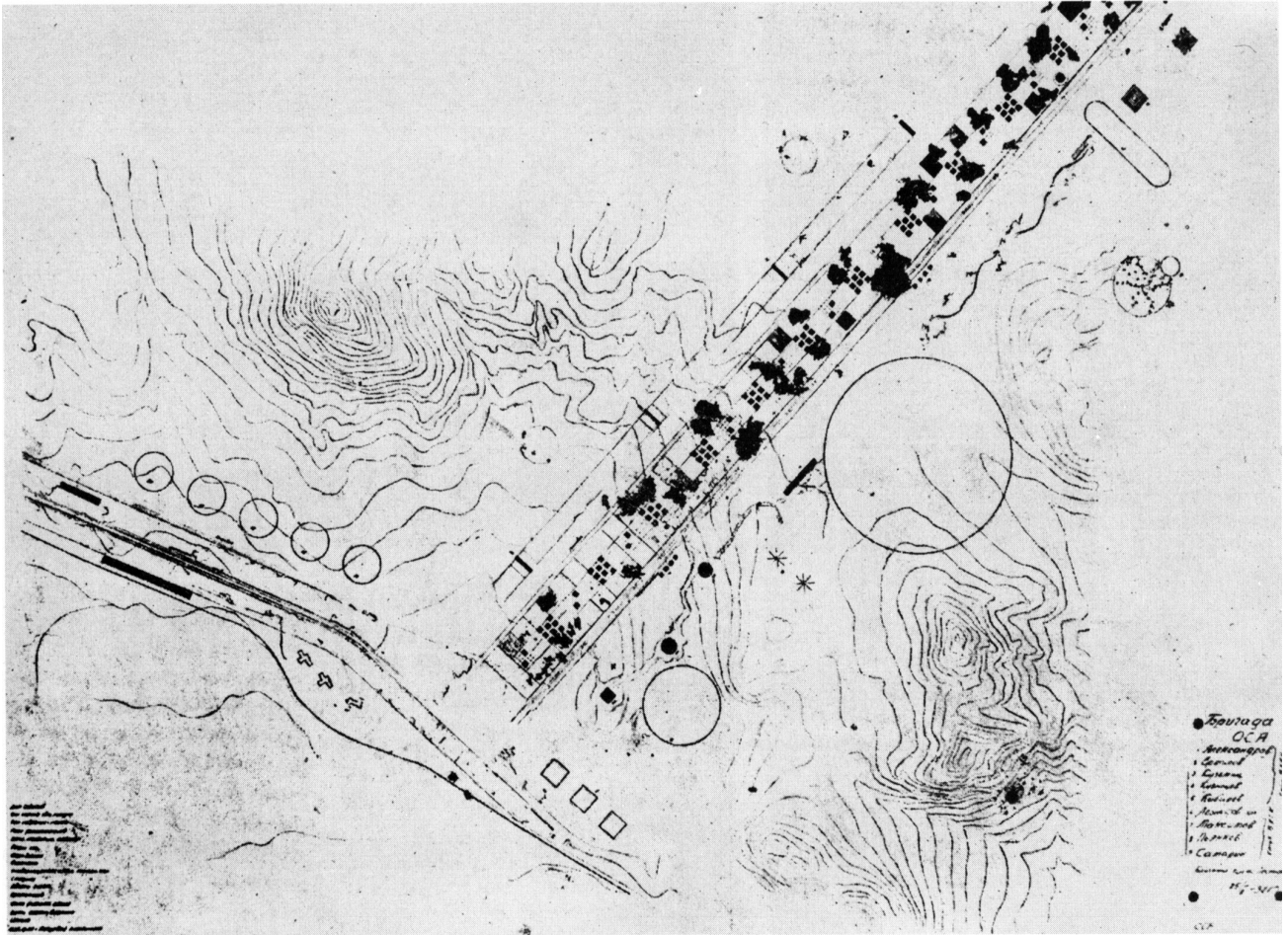


FIGURE 5.24: General plan, Magnitogorsk Competition, OSA Brigade (Team: Aleksandrov, Ermilov, Kuz'min, Kuznetsov, Kibirev, Leonidov, Maksimov, P'iankov, Samarín), 1930

Sovremennaia Arkhitektura, No. 3, 1930, 1.

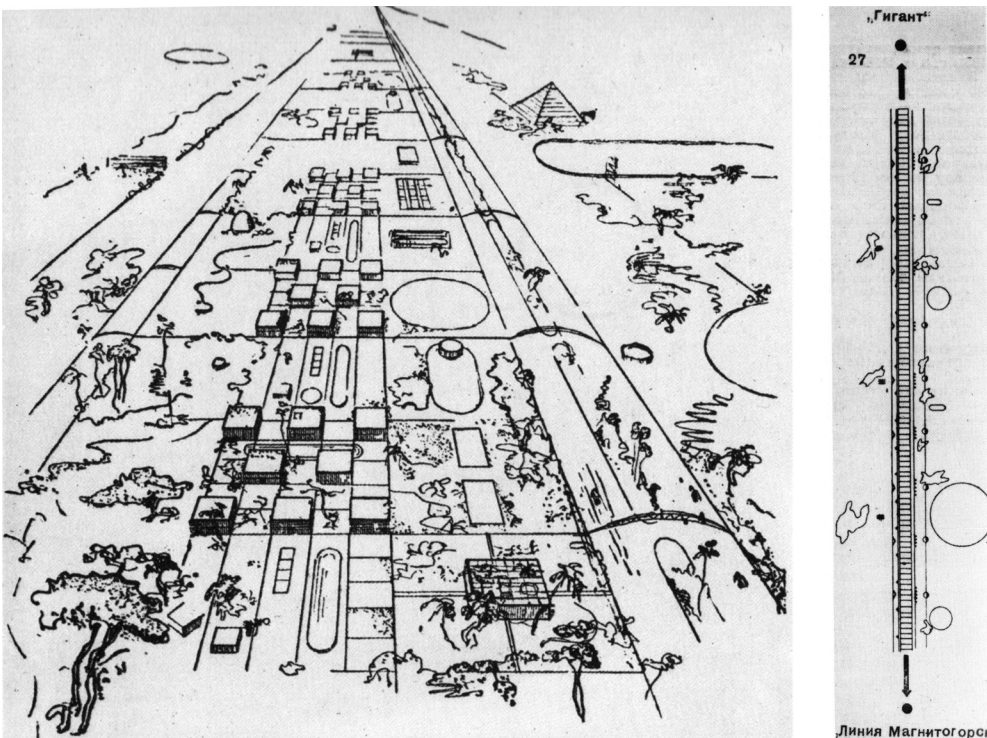


FIGURE 5.25: Perspective and diagram of the Line of Settlement, Magnitogorsk Competition, OSA Brigade, 1930

Sovremennaia Arkhitektura, No. 3, 1930, 3.

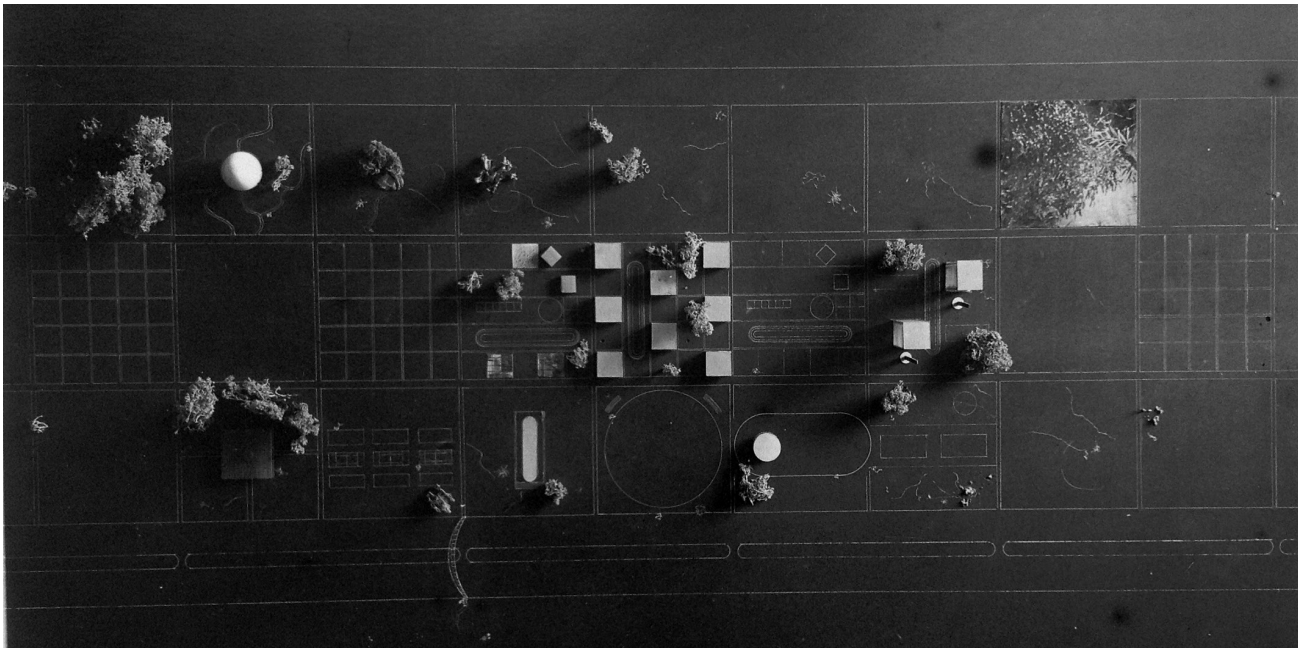
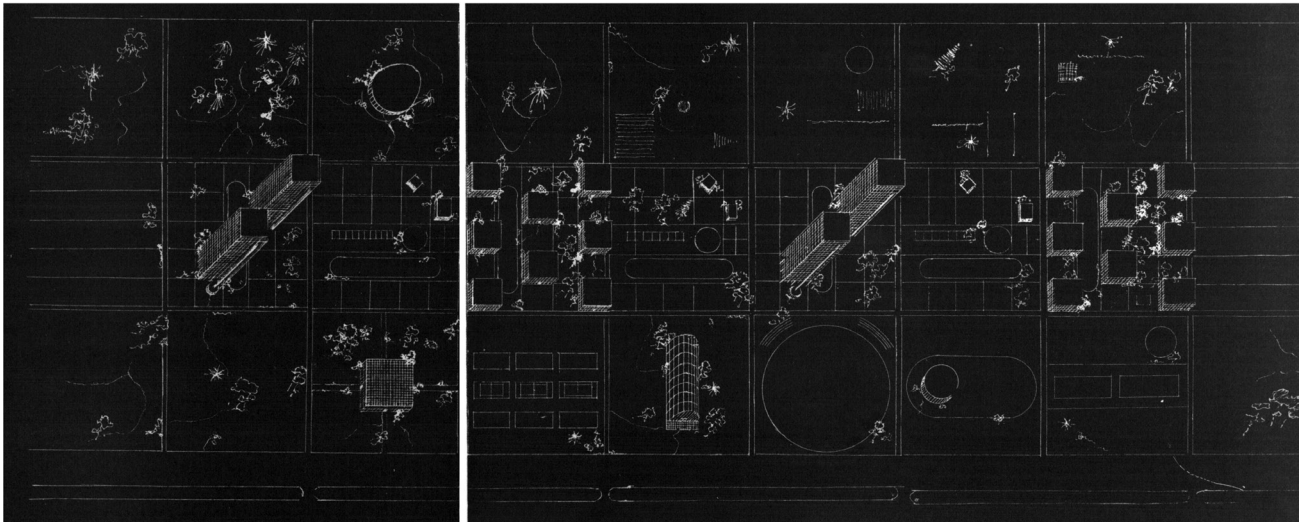


FIGURE 5.26: Typical housing plan, Magnitogorsk Competition, OSA Brigade, 1930

TsDAMLM, f.8, o.1, d.431



ТИПОВОЙ ПЛАН ЖИЛИЩА

FIGURE 5.27: Typical housing plan, Magnitogorsk Competition, OSA Brigade, 1930

TsDAMLM, f.8, o.1, d.431 *Sovremennaiia Arkhitektura*, No. 3, 1930, 2.

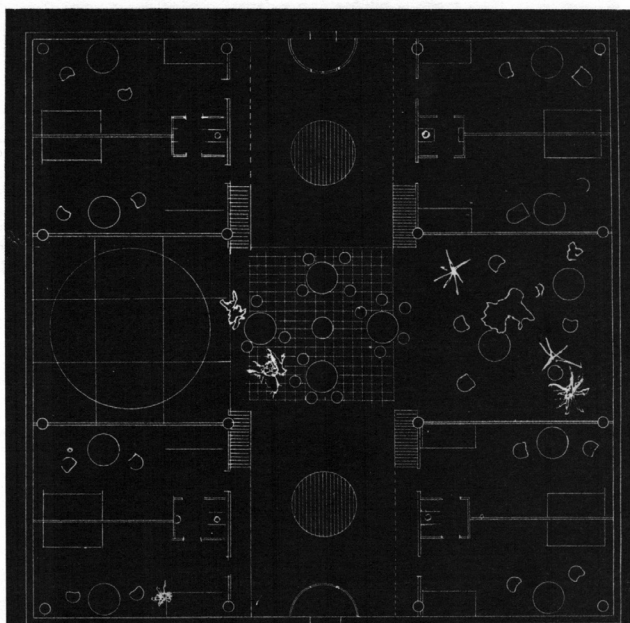
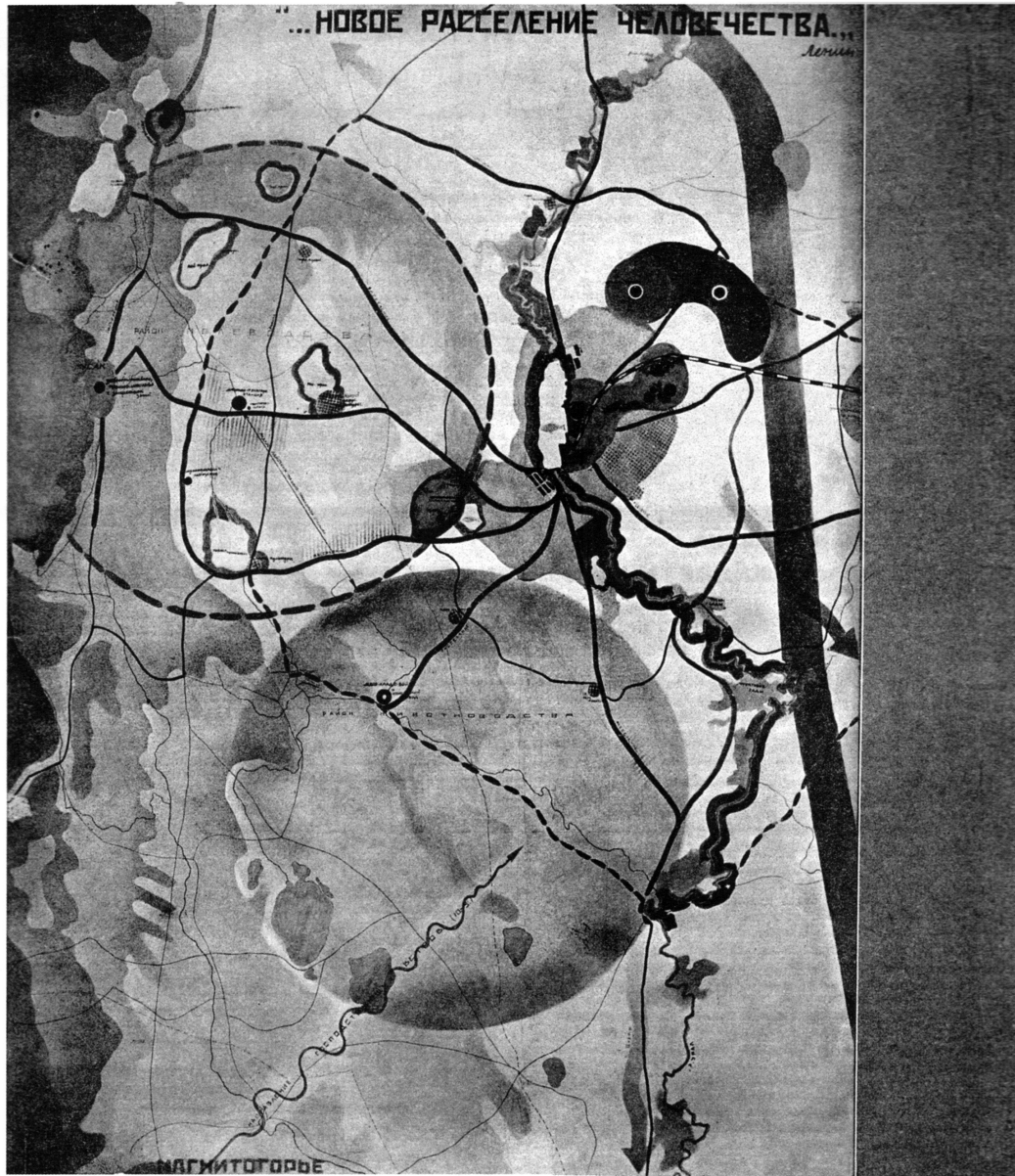


FIGURE 5.28: Detailed typical housing plan, Magnitogorsk Competition, OSA Brigade, 1930

Sovremennaiia Arkhitektura, No. 3, 1930, 2.



МАГНИТОГОРЬЕ

ГЕНЕРАЛЬНЫЙ ПЛАН

FIGURE 5.29: General plan, Magnitogorsk Competition, Stroikom RSFSR (Team: M. Barshch, V. Vladimirov, M. Okhitovich, N. Sokolov) 1930

Sovremenniaia Arkhitektura, No. 1-2, 1930, 39.

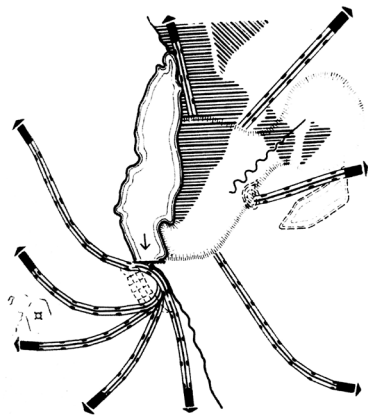


FIGURE 5.30: General plan diagram, Magnitogorsk Competition, Stroikom RSFSR, 1930

Khan-Magomedov, S. O. *Mikhail Okhitovich. Tvortsy Avangarda*. Moskva: Russkii avangard, 2009, 107.

End of the separation of city and countryside
—Marx-Engels



End of the distinction between city and countryside
—Marx-Engels

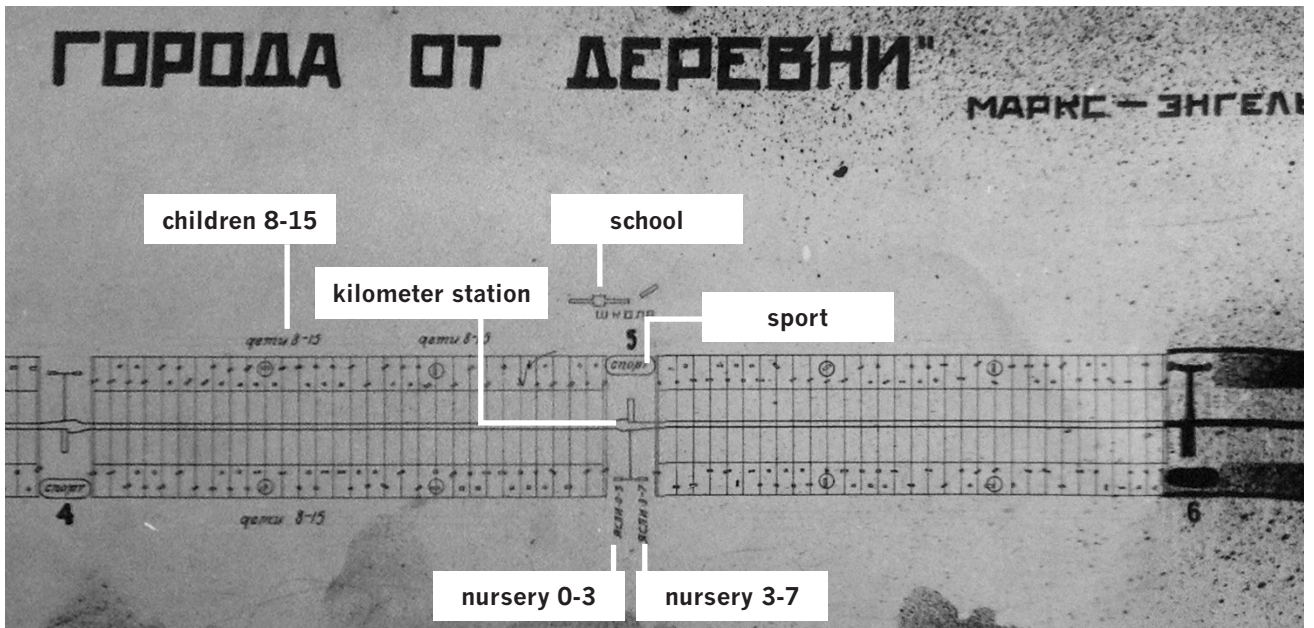


FIGURE 5.31: Typical resettlement ribbon plan + detail, Magnitogorsk Competition, Stroikom RSFSR, 1930
TsDAMLM, f.8, o.1, d.431

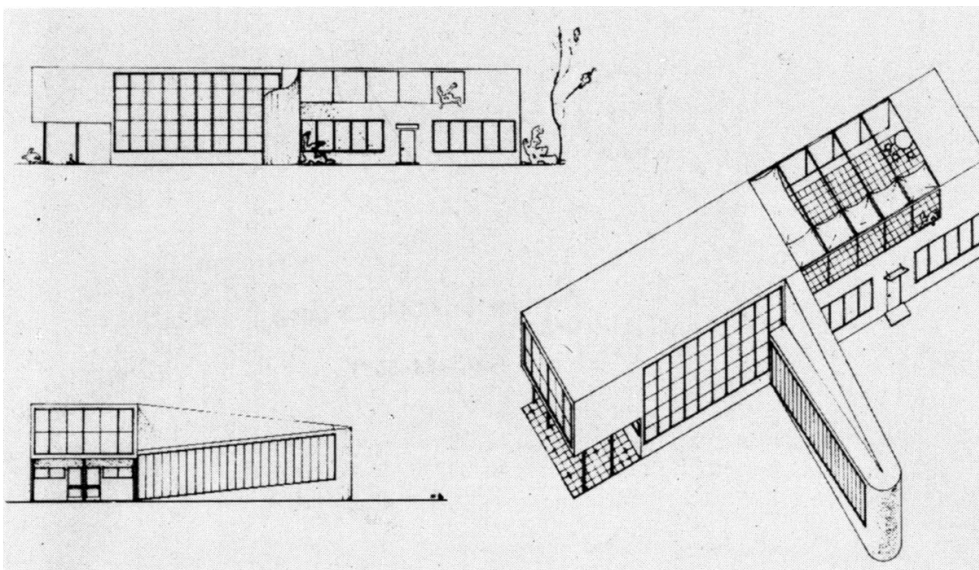


FIGURE 5.32: Kilometer station, Magnitogorsk Competition, Stroikom RSFSR, 1930
Sovremennaiia Arkhitektura, No. 1-2, 1930, 47.

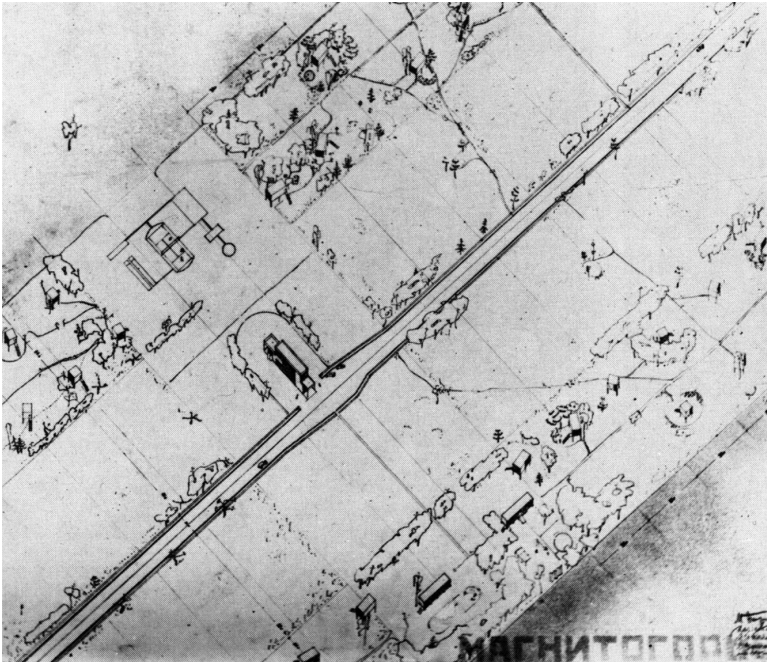


FIGURE 5.33: Axonometric of urban scheme, Magnitogorsk Competition, Stroikom RSFSR, 1930

Sovremennaia Arkhitektura, No. 1-2, 1930, 44.

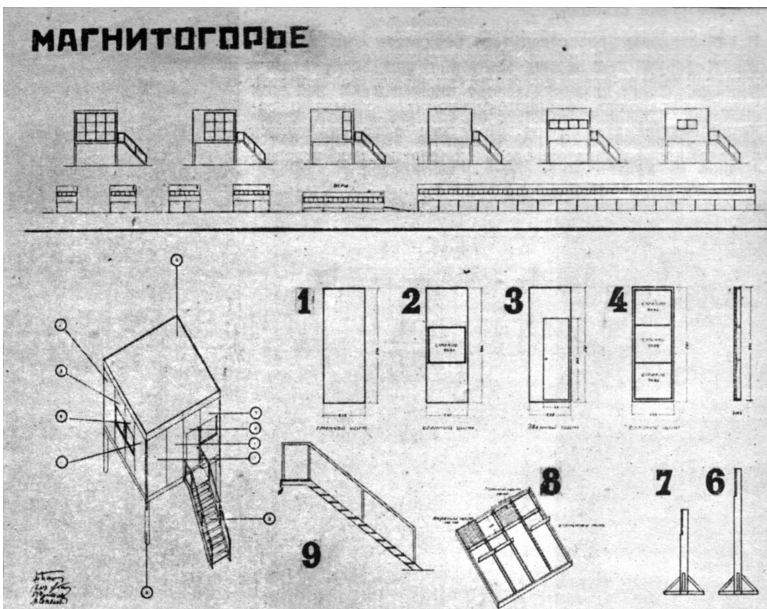


FIGURE 5.34: Standard elements of the individual living cell, Magnitogorsk Competition, Stroikom RSFSR, 1930

Sovremennaia Arkhitektura, No. 1-2, 1930, 48.

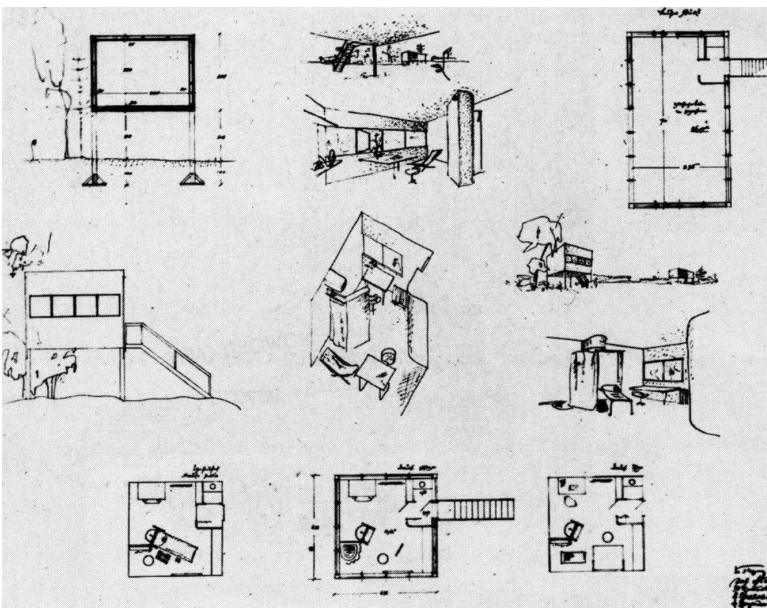


FIGURE 5.35: “Living cell” (*zhilaia iacheika*), Magnitogorsk Competition, Stroikom RSFSR, 1930

Sovremennaia Arkhitektura, No. 1-2, 1930, 50.

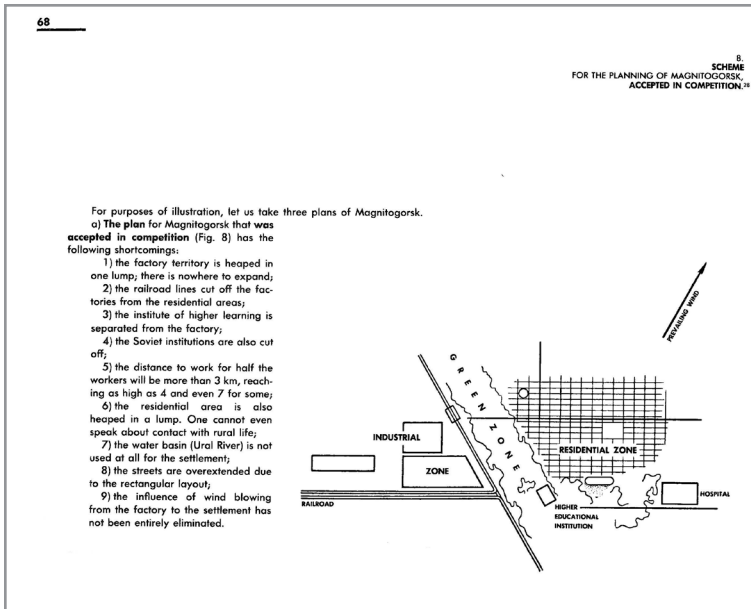


FIGURE 5.36: Site plan diagram, Magnitogorsk Competition, Black Square team, 1930

Miliutin, N. A. *Sotsgorod; the Problem of Building Socialist Cities* [1930]. Cambridge, Mass.: M.I.T. Press, 1974, 68.

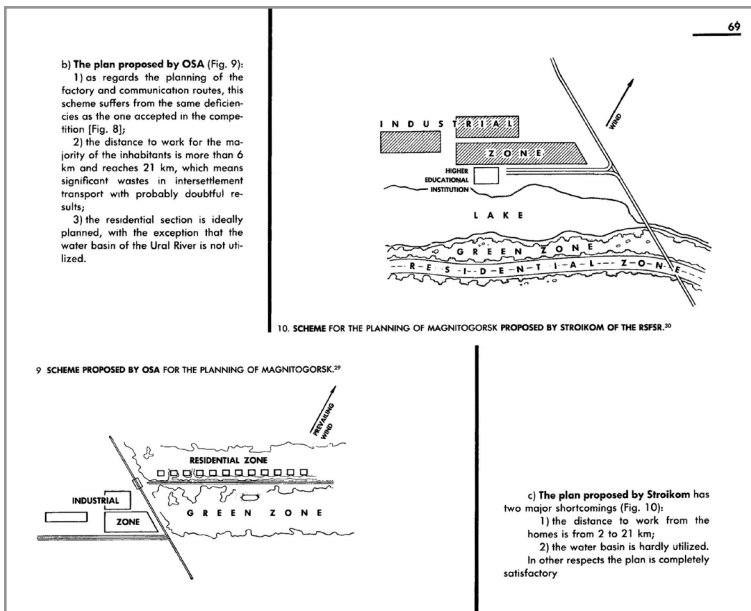


FIGURE 5.37: Site plan diagrams, Magnitogorsk Competition, OSA (bottom) and Stroikom (top), 1930

Miliutin, N. A. *Sotsgorod; the Problem of Building Socialist Cities* [1930]. Cambridge, Mass.: M.I.T. Press, 1974, 69.

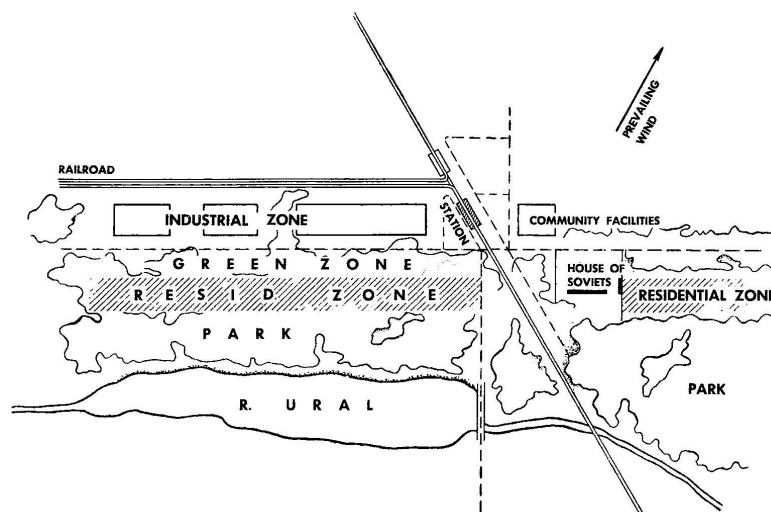


FIGURE 5.38: Site plan diagram, Nikolai Milutin, 1930

Miliutin, N. A. *Sotsgorod; the Problem of Building Socialist Cities* [1930]. Cambridge, Mass.: M.I.T. Press, 1974, 70.



FIGURE 5.39: Laying the first housing foundation, Pionerskaia Street, summer 1930
Magnitogorskii Kraevedcheskii Muzei



FIGURE 5.40: Aerial view of Magnitogorsk factory construction with rows of wooden barracks in the distance, c. 1930
Magnitogorskii Kraevedcheskii Muzei



FIGURE 5.41: Magnitogorsk Canteen No. 17, May 1929
Magnitogorskii Kraevedcheskii Muzei



FIGURE 5.42: Magnitogorsk wooden barracks, c. 1930
Magnitogorskii Kraevedcheskii Muzei



FIGURE 5.43: Magnitogorsk family barracks, c. 1931
Magnitogorskii Kraevedcheskii Muzei



FIGURE 5.44:
Magnitogorsk Left Bank
socialist settlement
scheme, Tsekombank /
Ernst May Brigade, 1930
MUAR, Negative VII-569



FIGURE 5.45:
Magnitogorsk Left Bank
socialist settlement model,
Tsekombank / Ernst May
Brigade, 1930
MUAR, Negative VII-572

Kirov District—the only portion of the May Brigade socialist city to be built.

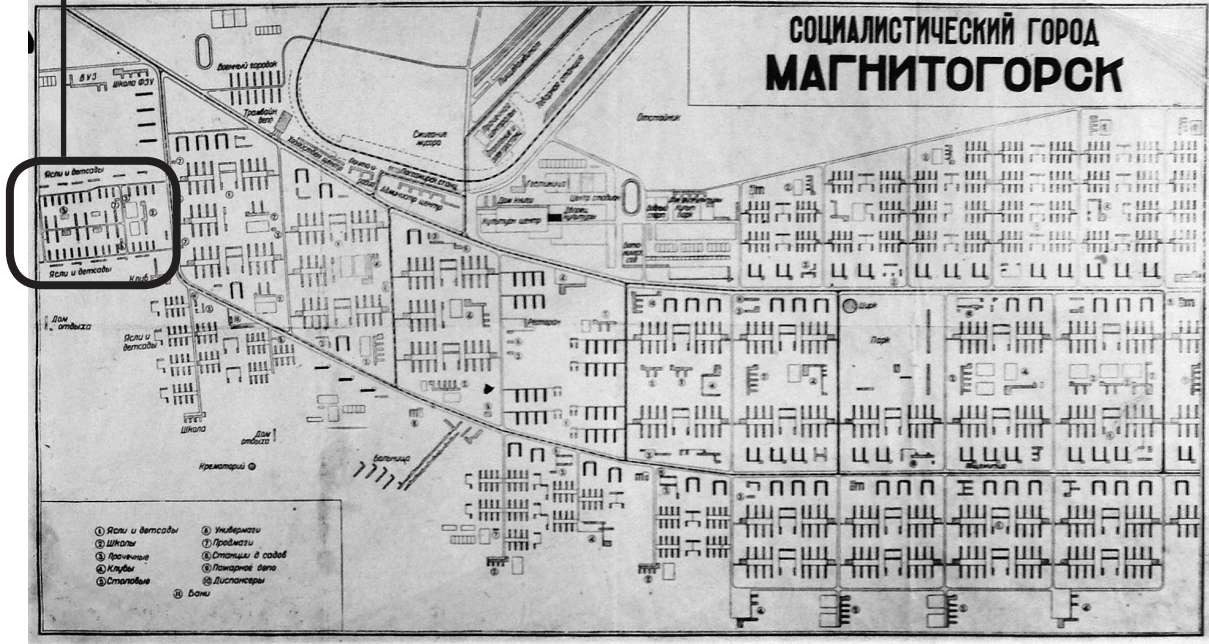
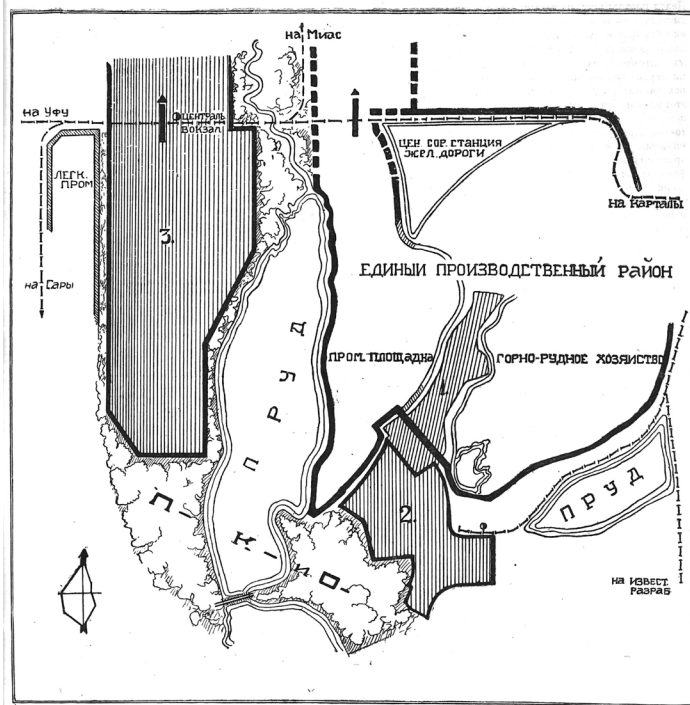


FIGURE 5.46: Socialist City Magnitogorsk, Tsekombank / Ernst May Brigade, 1930
Magnitogorskii Kraevedcheskii Muzei

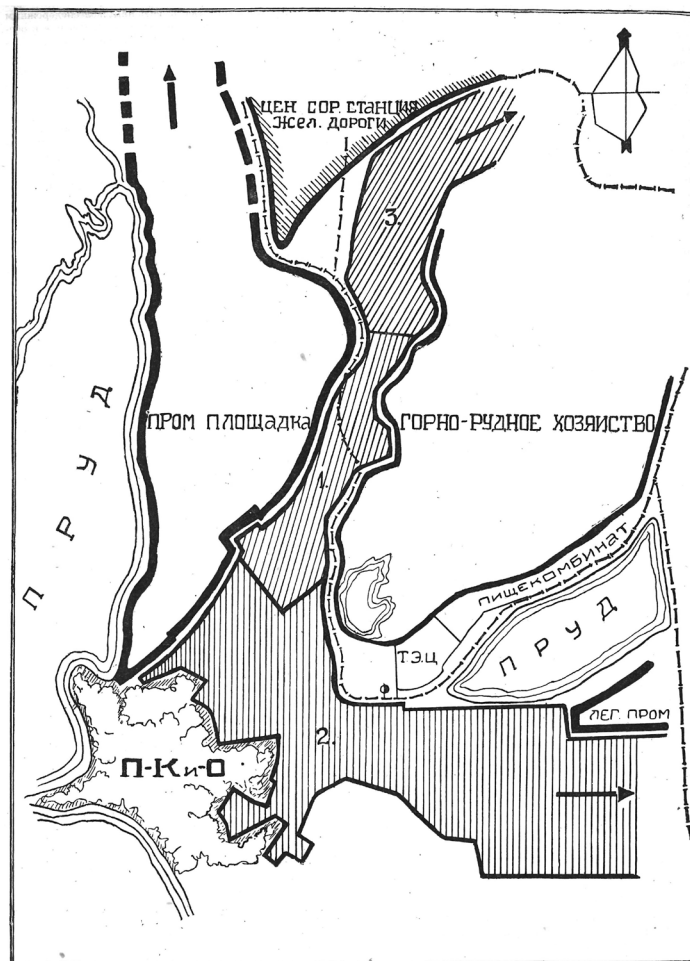


FIGURE 5.47: Magnitogorsk Left Bank socialist settlement “Bird’s Eye View,” Tsekombank / Ernst May Brigade, 1930
MUAR, Negative VII-576



Right Bank Variant

1. Temporary existing settlement
2. Region for the first phase of development and construction.
3. Primary region for development and construction.



Left Bank Variant

1. Temporary existing settlement
2. South city
3. North city. Arrows indicate the direction of growth of the future city.

FIGURE 5.48: Left Bank (top) and Right Bank (bottom) variants for Magnitogorsk's socialist settlement, Ernst May Brigade
Sovetskaia arkhitektura, No. 3, 1933.

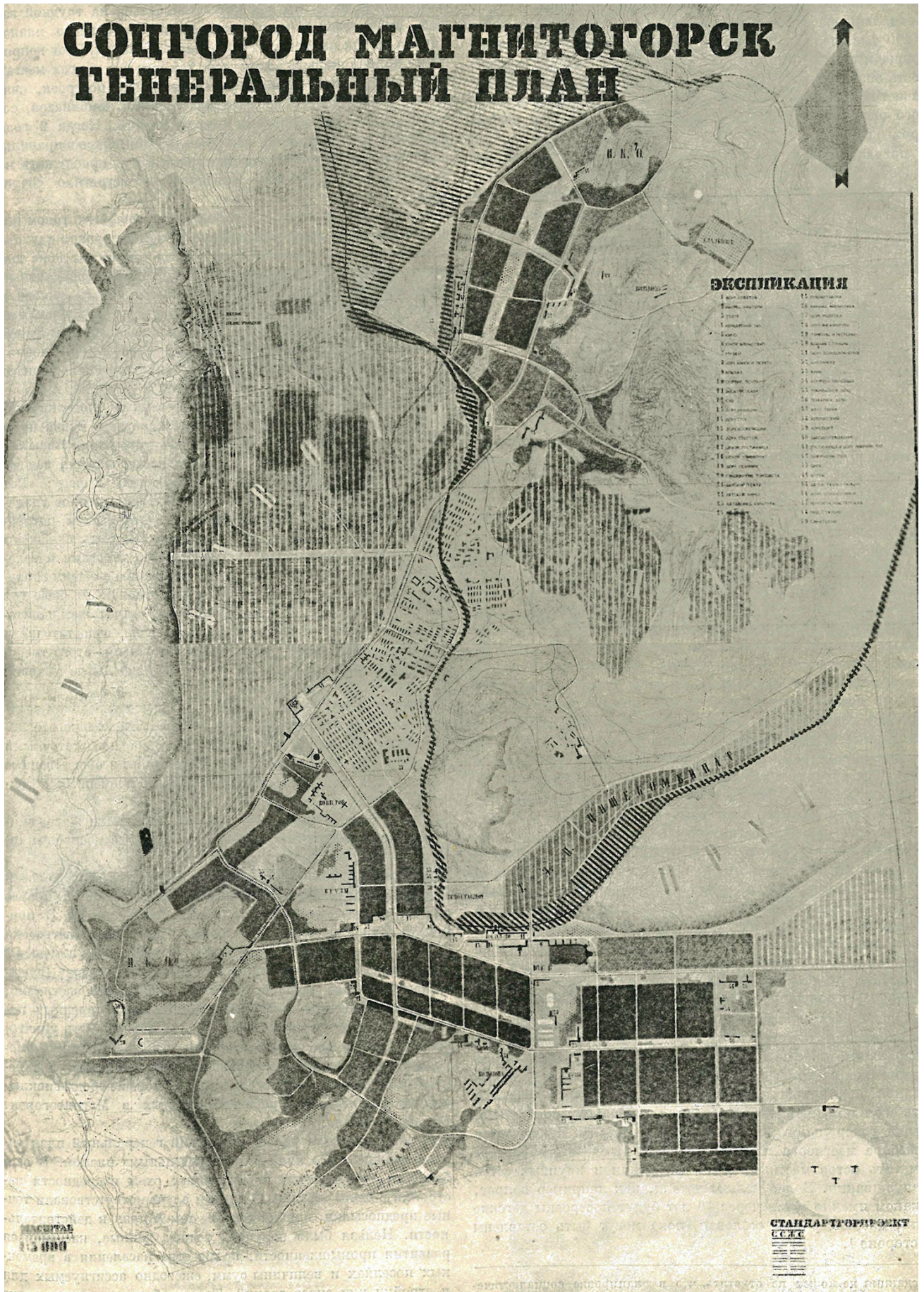


FIGURE 5.49: Sotsgorod Magnitogorsk General Plan, Standartgorproekt / Ernst May Brigade, 1933
May, Ernst. "K Proekty General'nogo Plana Magnitogoska." *Sovetskaia Arkhitektura*, no. May-June (1933): 19.



FIGURE 5.50: Site of Kirov District, Magnitogorsk, Standartgorproekt / Ernst May Brigade, c. 2016
 Google Maps



FIGURE 5.51: First buildings of Kirov District under construction with Magnitogorsk factory in background, Gosproekt, 1931-32
 Magnitogorskii Kraevedcheskii Muzei



FIGURE 5.52: Kirov District just after construction, Standartgorproekt / Ernst May Brigade, 1931-34
Magnitogorskii Kraevedcheskii Muzei

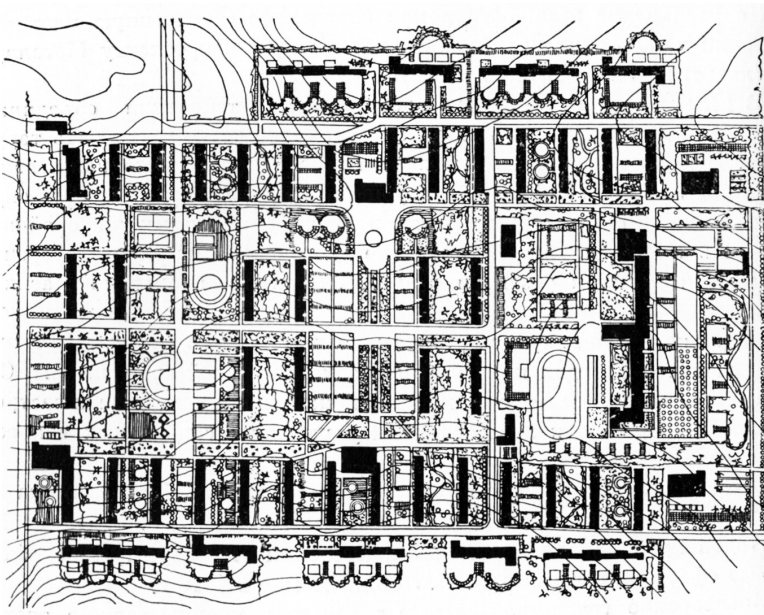


FIGURE 5.53: Kirov District site plan, Standartgorproekt / Ernst May Brigade, 1931-34
Kazarinova, V. I. *Magnitogorsk. Opyt Sovetskoi Arkhitektury*. Moskva: Gos. izd. lit. po stroitel'stvu, arkhitekture i stroit. materialam, 1961, 82.



FIGURE 5.54: Kirov District housing (INKO-A type), Standartgorproekt / Ernst May Brigade, 1931-34

Photos by author 2013

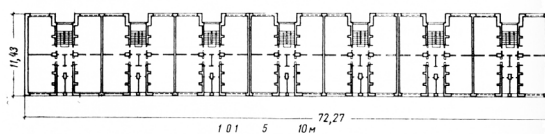
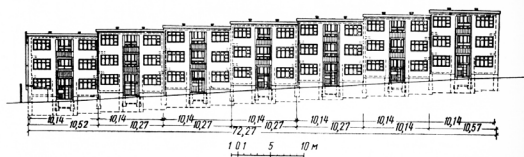


FIGURE 5.55: Kirov District housing facade and plan (INKO-A type), Standartgorproekt / Ernst May Brigade, 1931-34

Kazarinova, V. I. *Magnitogorsk. Opyt Sovetskoj Arkhitektury*. Moskva: Gos. izd. lit. po stroitel'stvu, arkhitekture i stroit. materialam, 1961, 152.



FIGURE 5.56: Berezki district housing, 1930's
Magnitogorskii Kraevedcheskii Muzei



FIGURE 6.1: American architect, Albert Kahn (seated left), signs technical consulting agreement with Saul Bron of Soviet Trade Organization, Amtorg (seated right), 1930

Bentley Historical Library, University of Michigan



FIGURE 6.2: Newspaper clippings about the Soviet consultancy of Albert Kahn, Inc., 1930

Bentley Historical Library, University of Michigan

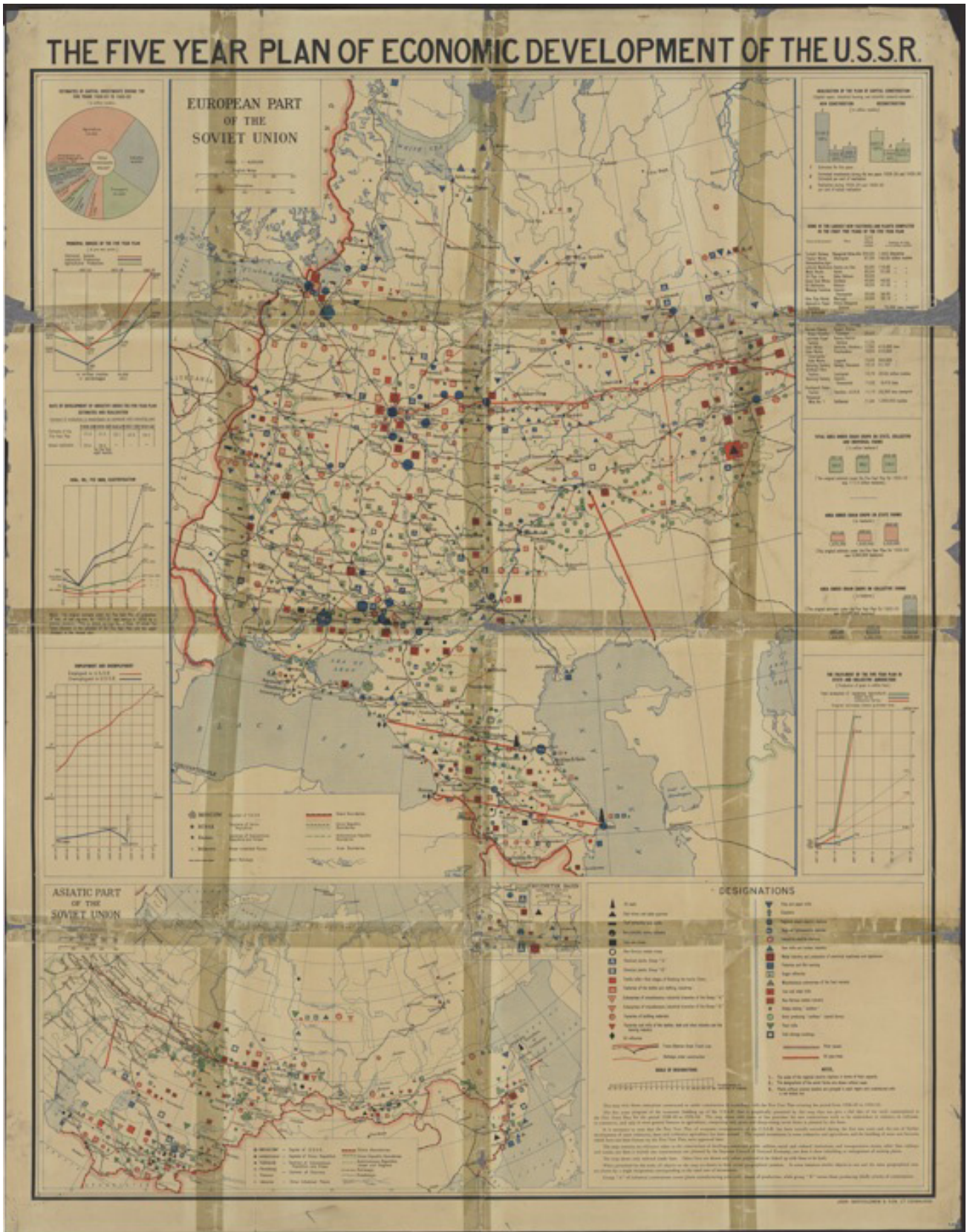


FIGURE 6.3: Map of the first Five-Year Plan from the office of Albert Kahn, Inc., 1930
 Bentley Historical Library, University of Michigan

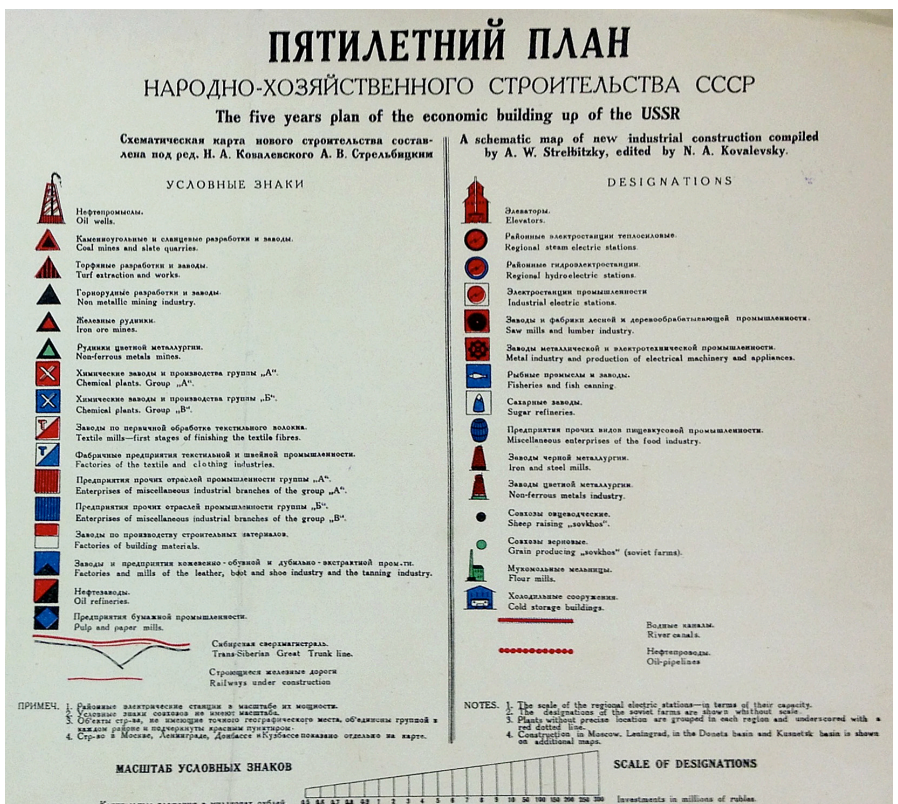
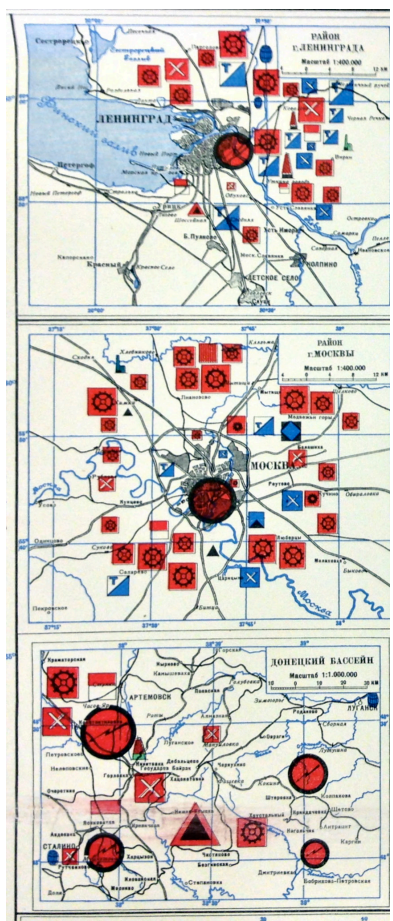
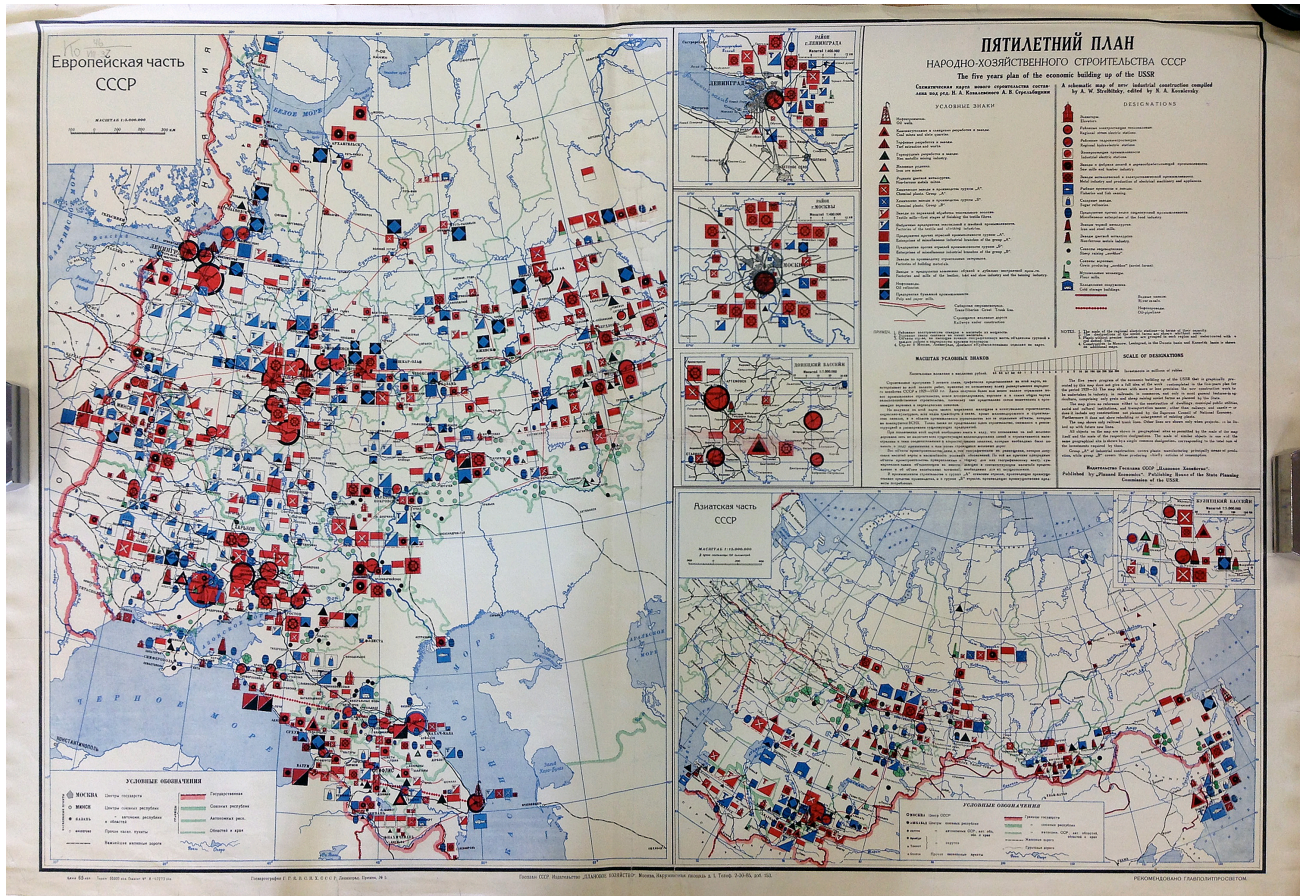


FIGURE 6.4: The Five Year Plan of Economic Development of the USSR, 1930
Российская Государственная библиотека (РГБ)



FIGURE 6.5: Marfa secures a tractor
The General Line, director: Sergei Eisenstein, 1929



FIGURE 6.6: Marfa, tractor driver
The General Line, director: Sergei Eisenstein, 1929



FIGURE 6.7: Waving grain
Earth, director: Aleksandr Dovzhenko, 1930



FIGURE 6.8: Tractor enters the village
Earth, director: Aleksandr Dovzhenko, 1930



FIGURE 6.9: Tractor dance
The General Line, director: Sergei Eisenstein, 1930

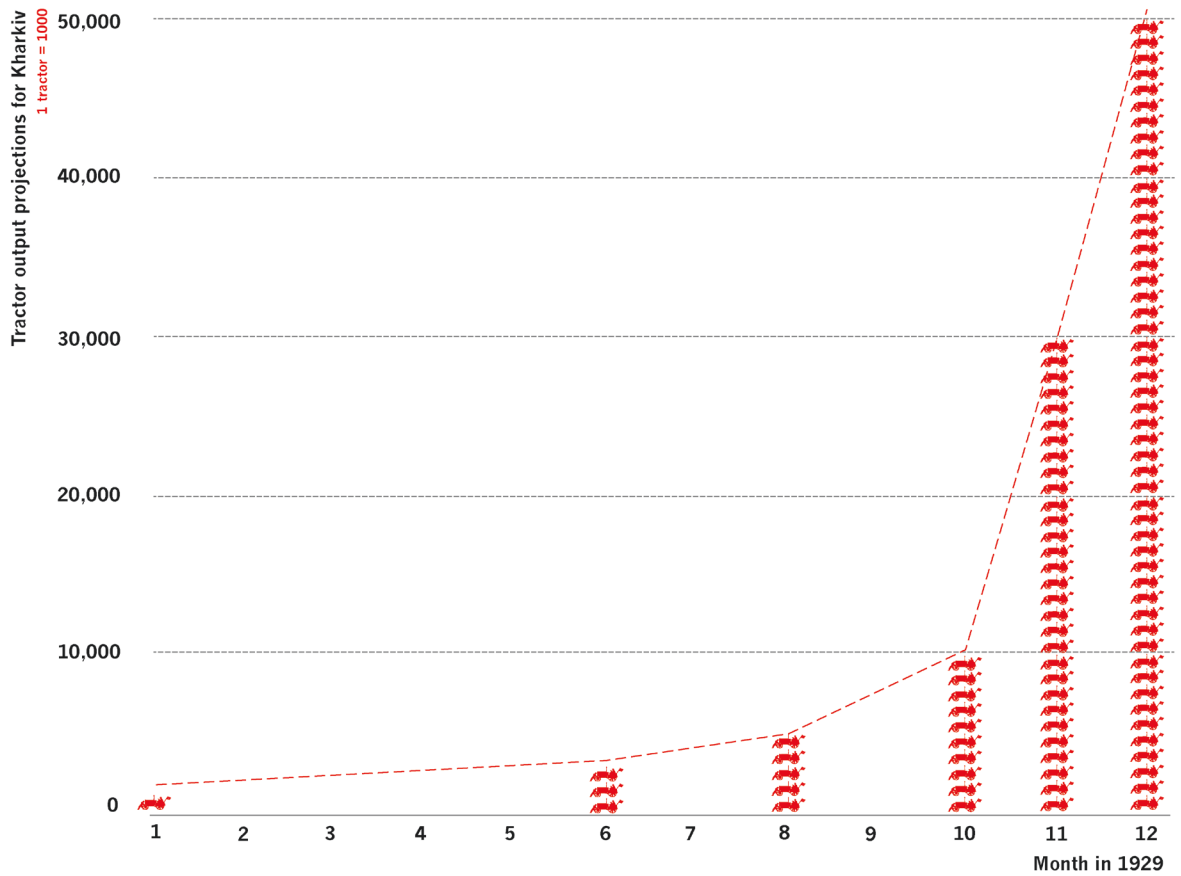


FIGURE 6.10: Tractor output projections for Kharkiv, 1929
 Diagram by author

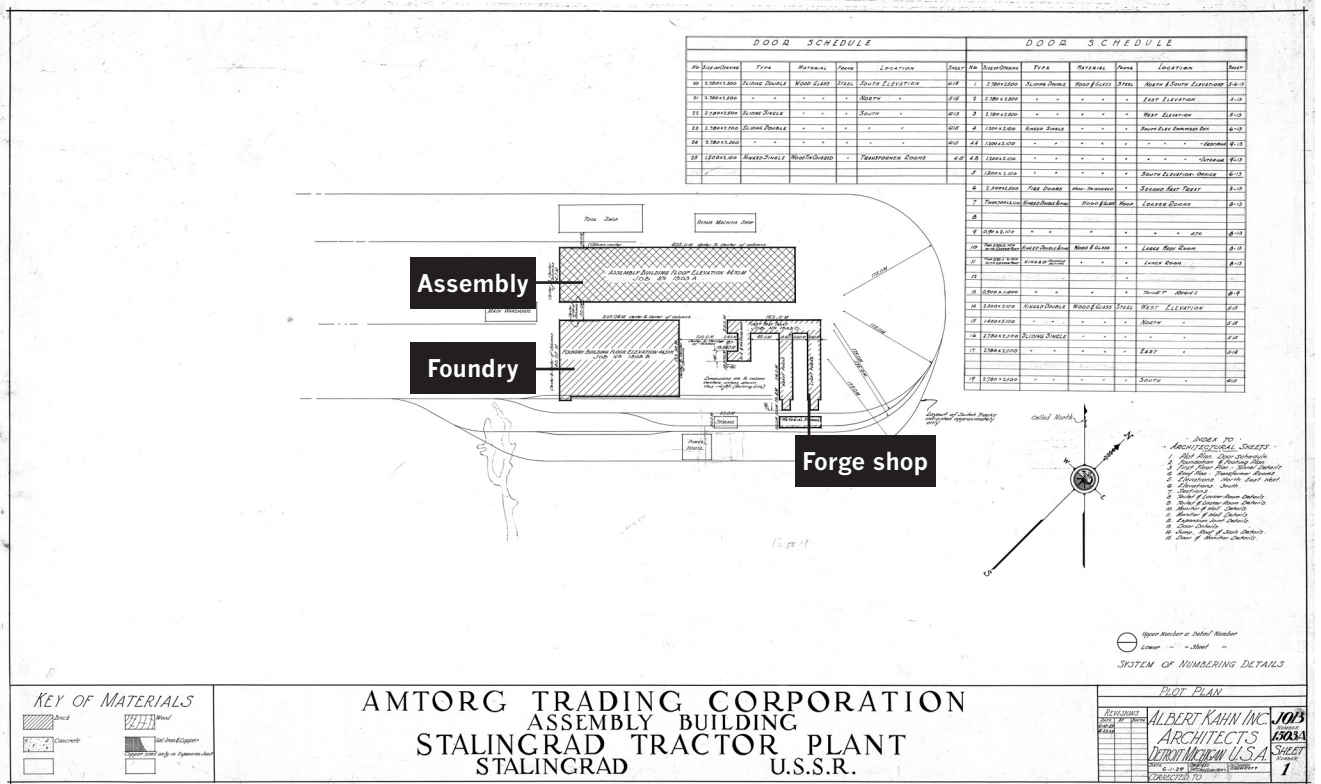


FIGURE 6.13: Title sheet, Stalingrad Tractor Plant, Albert Kahn, Inc., 1929
Bentley Historical Library, University of Michigan

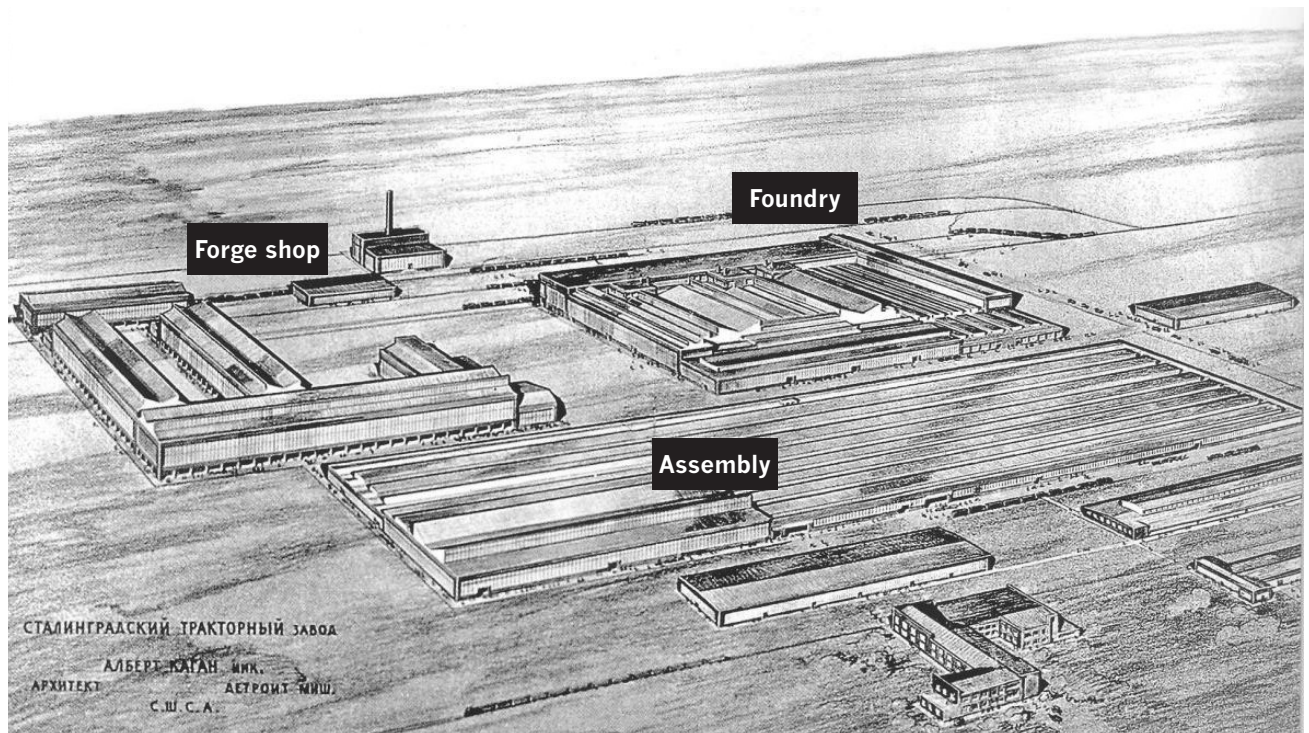


FIGURE 6.14: Aerial perspective, Stalingrad Tractor Plant, Albert Kahn, Inc., 1929
Bentley Historical Library, University of Michigan

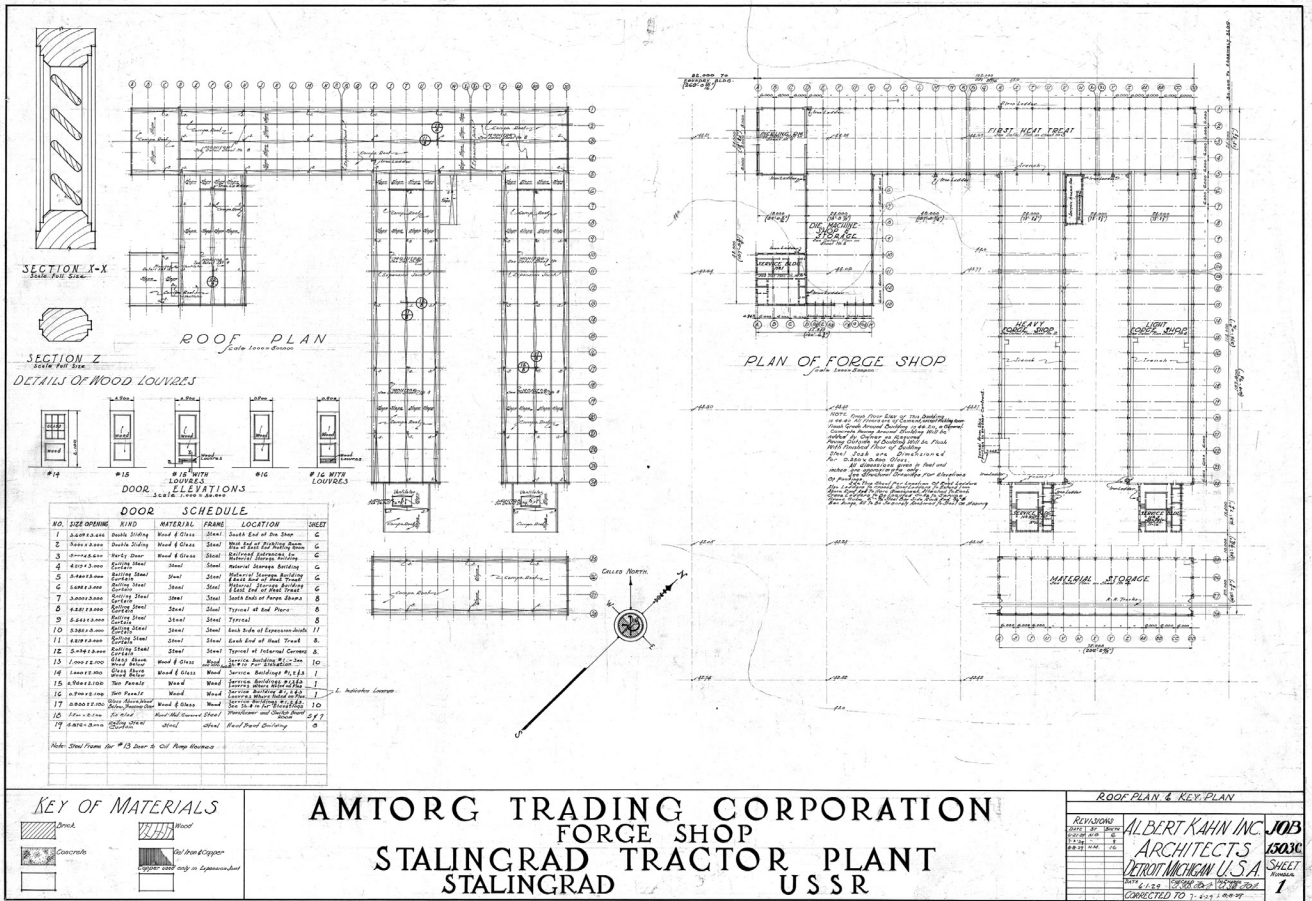


FIGURE 6.15: Forge shop plans, Stalingrad Tractor Plant, Albert Kahn, Inc., 1929

Bentley Historical Library, University of Michigan

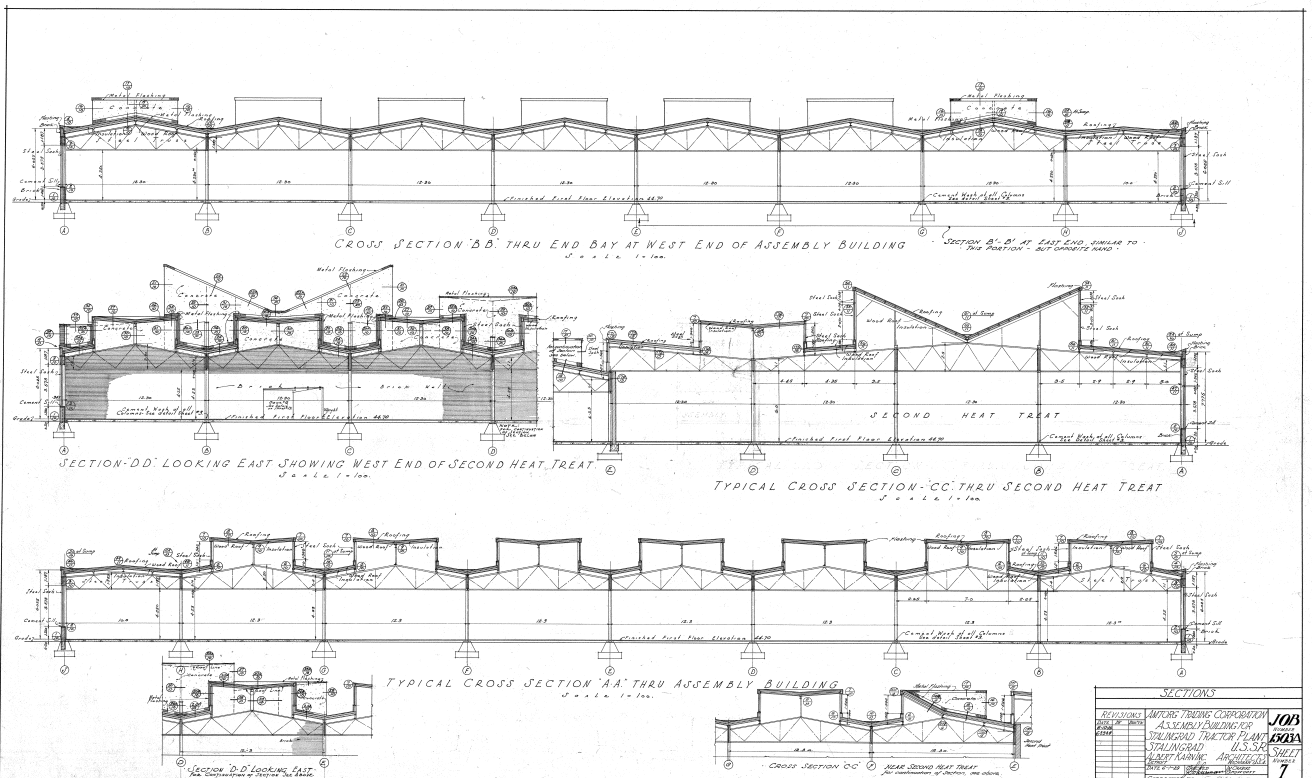


FIGURE 6.16: Forge shop sections, Stalingrad Tractor Plant, Albert Kahn, Inc., 1929

Bentley Historical Library, University of Michigan

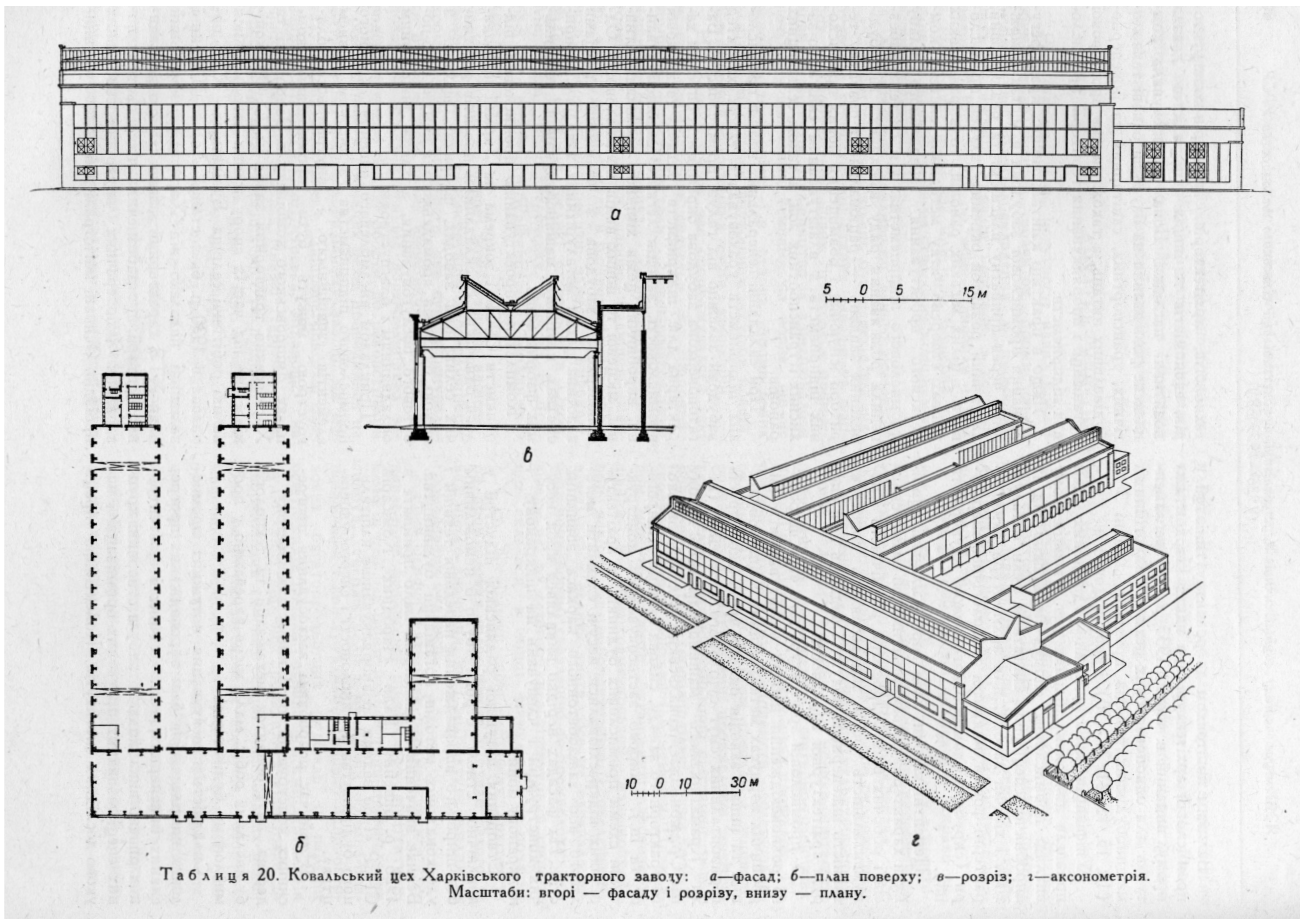


FIGURE 6.17: Kharkiv Tractor Factory, no architects cited, 1929

Golovko, G.V., ed. *Narysy Istorii Arkhitektury Ukrainy Rsr (Radiants'kyi Period)*. Vol. 2. Kyiv: Derzhavne vydavnytstvo literatury z budivnytstva i arkhitektury URSR, 1962, 70.

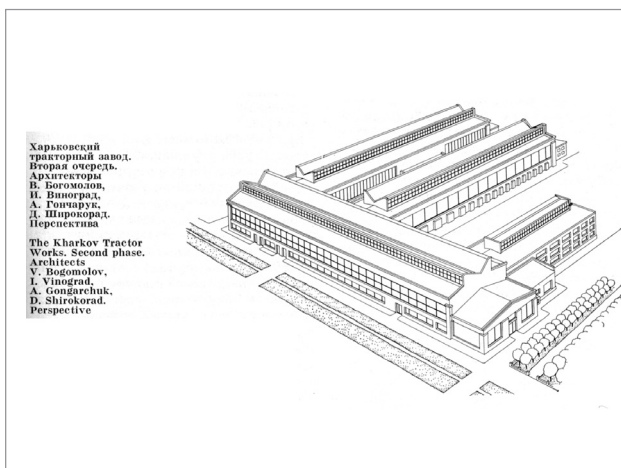


FIGURE 6.18: Kharkiv Tractor Factory, architects V. Bogomolov, I. Vinograd, A. Goncharuk and D. Shirokograd, 1929

Sedak, I. N. *Arkhitektura Sovetskoï Ukrainy = Architecture of the Soviet Ukraine*. Nauch. izd. ed. Moskva: Stroizdat, 1987, 101.



FIGURE 6.19: Kharkiv Tractor Factory, 1930's

Akademiia budivnytstva i arkhitektury, URSR. *Ukraina: Arkhitektura Mist i Sil*. Edited by A. V. Dobrovol's'kyi Kyiv: Derzh. vyd-vo lit-ry z budivnytstva i arkhitektury URSR, 1959.

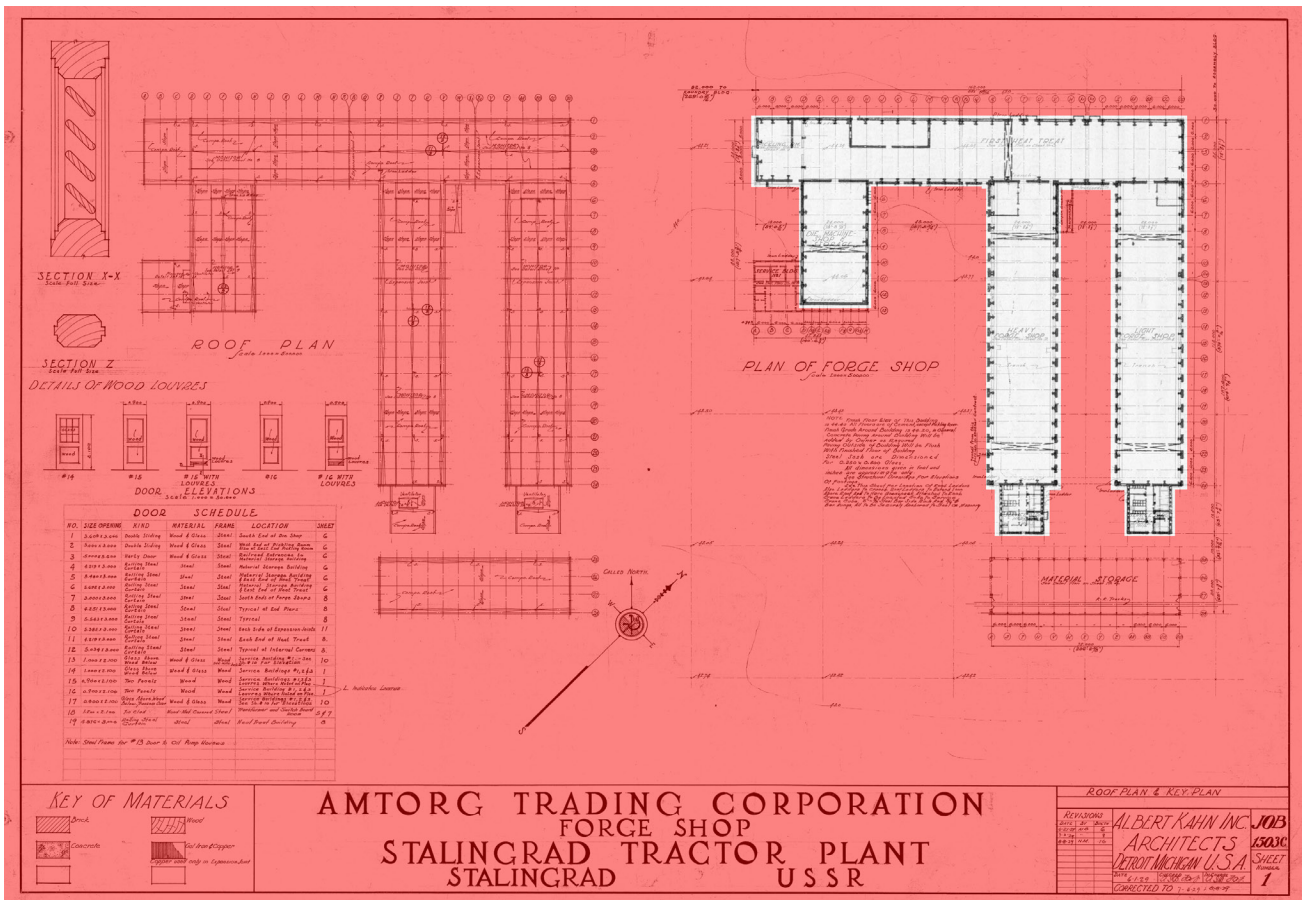


FIGURE 6.20: Plan comparison: Stanlingrad Tractor Factory (red) and Kharkiv Tractor Factory (white)
Bentley Historical Library, University of Michigan and Golovko, G.V., ed. *Narysy Istorii Arkhitektury Ukrainskoi Rsr (Radiats'kyi Period)*. Vol. 2. Kyiv: Derzhavne vydavnytstvo literatury z budivnitstva i arkhitektury URSS, 1962, 70.

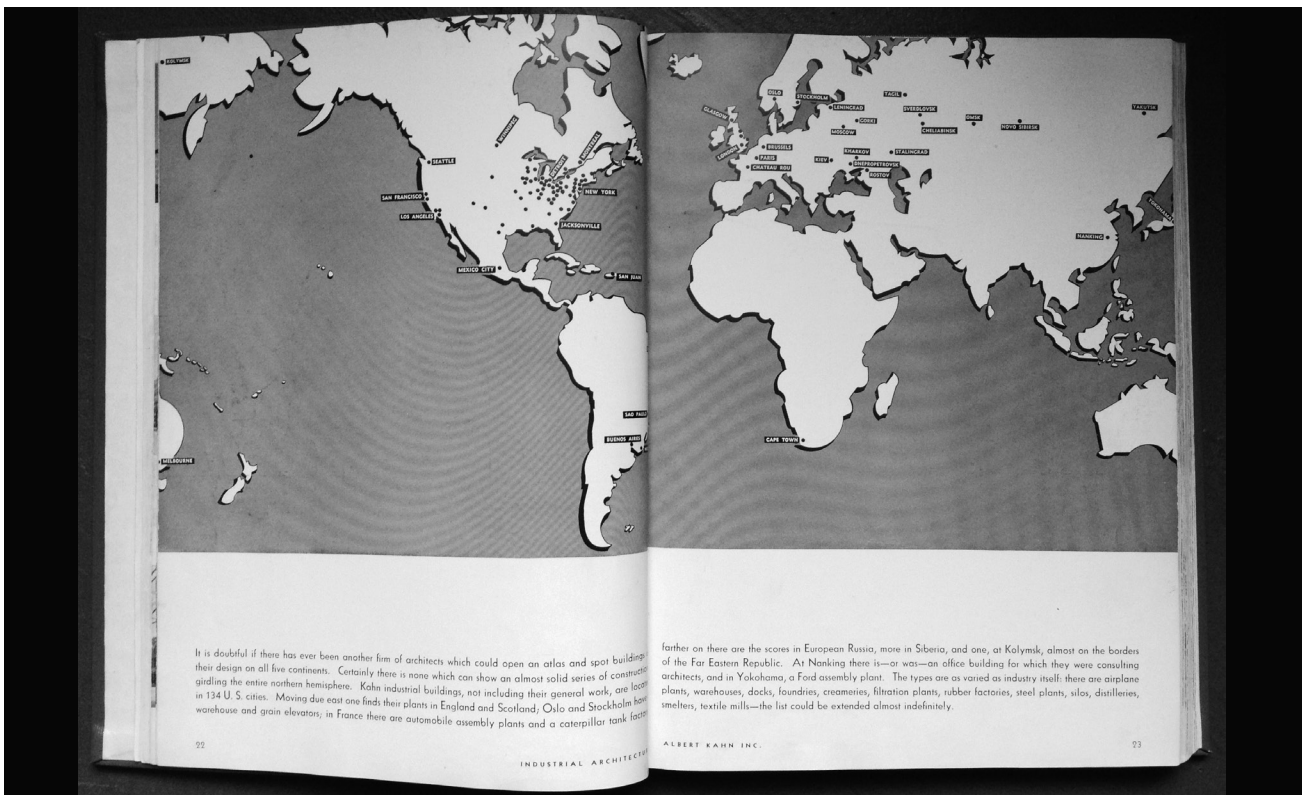
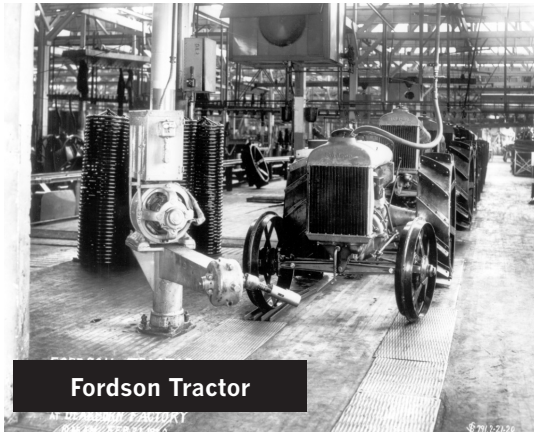
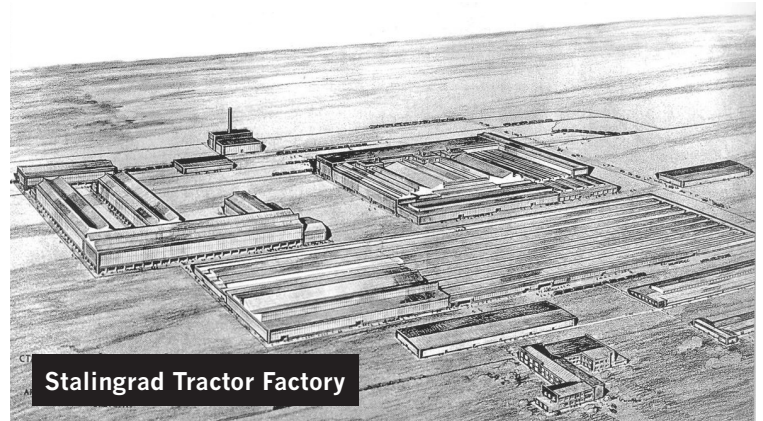


FIGURE 6.21: Albert Kahn, Inc. "World Domination Map"
Nelson, George. *Industrial Architecture of Albert Kahn, Inc.* New York: Architectural Book Publishing Company, Inc., 1939.



Fordson Tractor



Stalingrad Tractor Factory



Fordson-Putilovets Tractor



Kharkiv Tractor Factory

FIGURE 6.26: Standardization: from tractors to territory

Fordson Tractor (Henry Ford Foundation); Fordson-Putilovets Tractor (www.novate.ru); Stalingrad Tractor Plan (Bentley Historical Library, University of Michigan); Kharkov Tractor Factory (Akademiia budivnytstva i arkhitektury, URSR. *Ukraina: Arkhitektura Mist i Sil*. Edited by A. V. Dobrovol's'kyi Kyiv: Derzh. vyd-vo lit-ry z budivnytstva i arkhitektury URSR, 1959.)



FIGURE 7.1: Map of Kharkiv, 1924
 US Library of Congress Map Collection

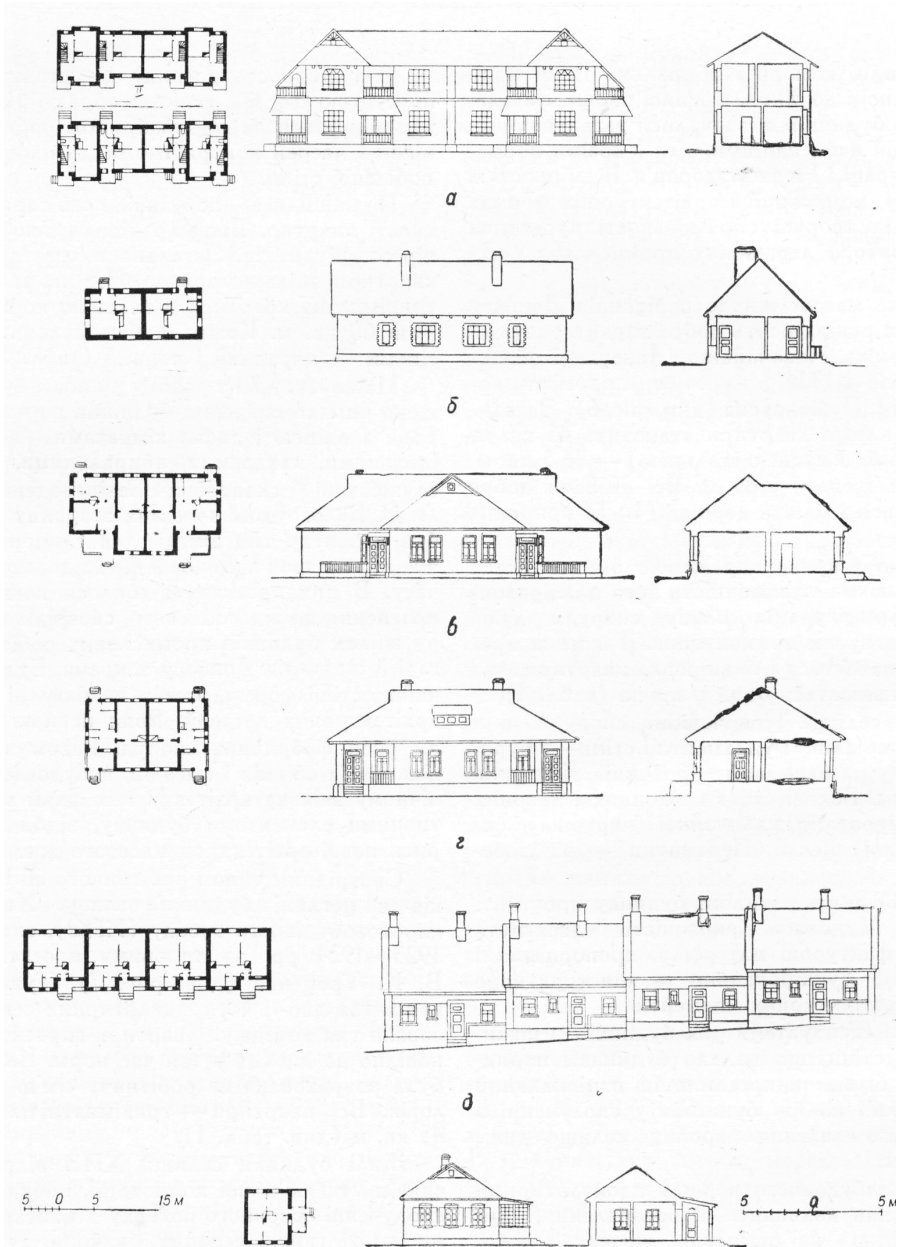


FIGURE 7.2: Worker Housing, Kharkiv Steam Locomotive Plant, Architect Viktor Trotsenko, 1924
 URSS Instytut teorii ta istorii arkhitektury i budivelnoi tekhniki Akademiia budivnytstva i arkhitektury, *Narysy istorii arkhitektury Ukrainskoi RSR*, ed. V. H. Zabolotnyi, vol. 2 (Kyiv: Derzhbudvydav URSS, 1962). 16.

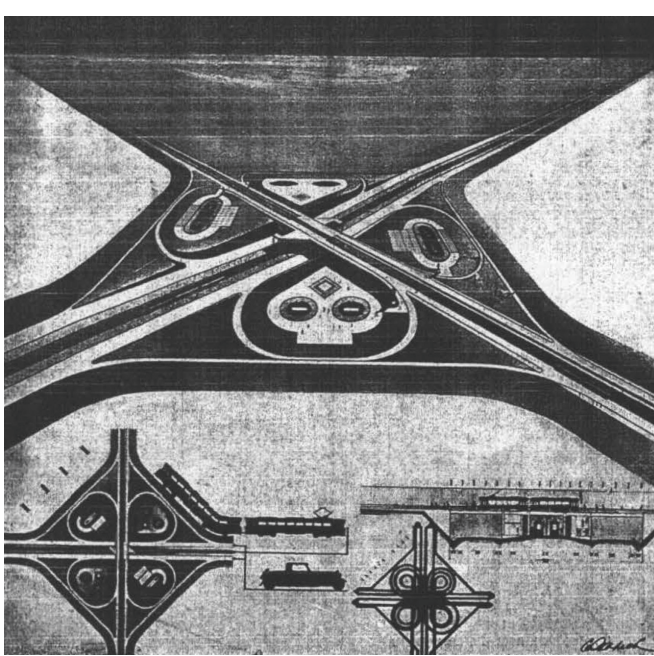


FIGURE 7.3: Plan and perspective views of intersection between vehicular magistral and electric train line, 1933
 A.L. Eingorn, "Skhema Pereplanirovki Khar'kova," *Arkhitectura SSSR*, no. 6 (1933).



FIGURE 7.6: Socialist Settlement Section of Gosplan RSFSR (Ginzburg in glasses), 1930 Kazus', I.A. *Sovetskaia Arkhitektura 1920-X Godov: Organizatsiia Proektirovaniia*. Moskva: Progress-Traditsiia, 2009.

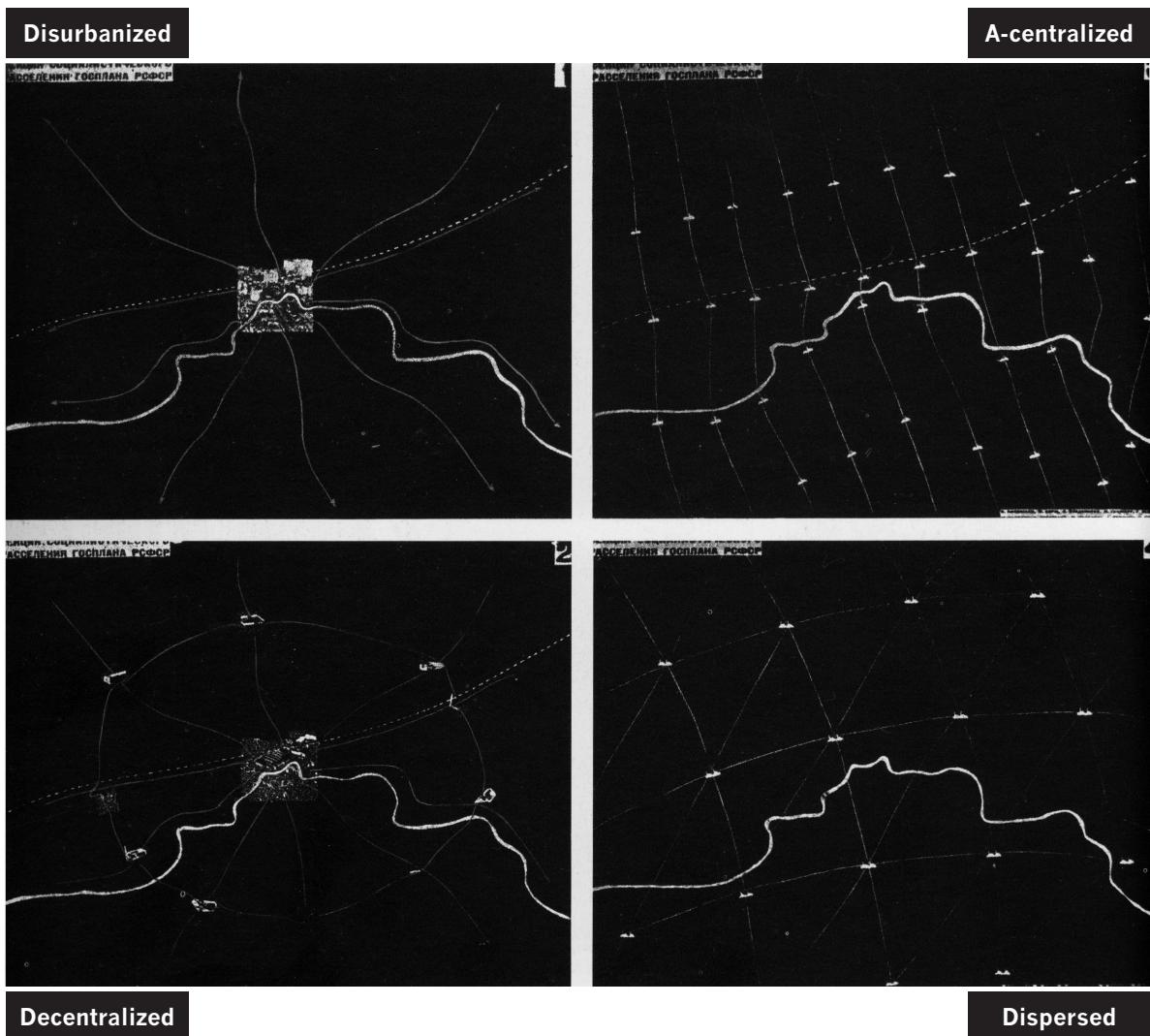


FIGURE 7.7: Socialist settlement schemes, Socialist Settlement Section of Gosplan RSFSR, 1930 Khan-Magomedov, S., and Catherine Cooke. *Pioneers of Soviet Architecture : The Search for New Solutions in the 1920s and 1930s*. New York: Rizzoli, 1987, 318.

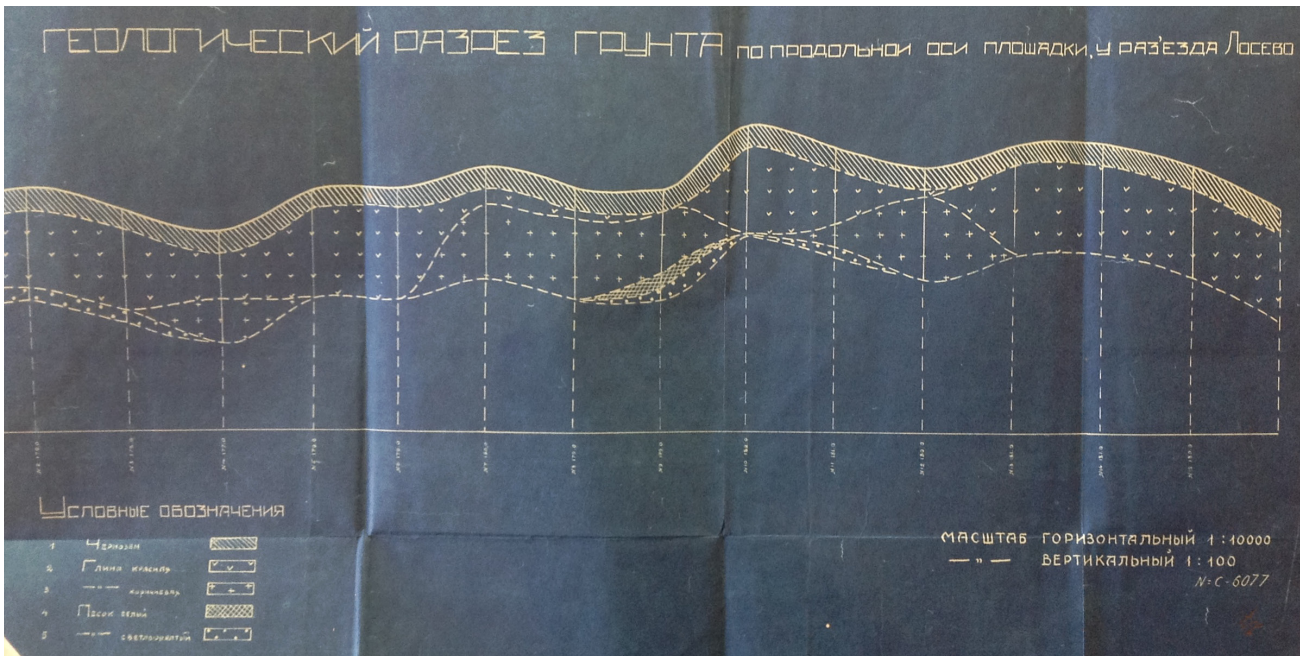


FIGURE 7.10: Losevo site geological section, Gipromez, 1929
TsDAMLM, f.8, o.1, d.259

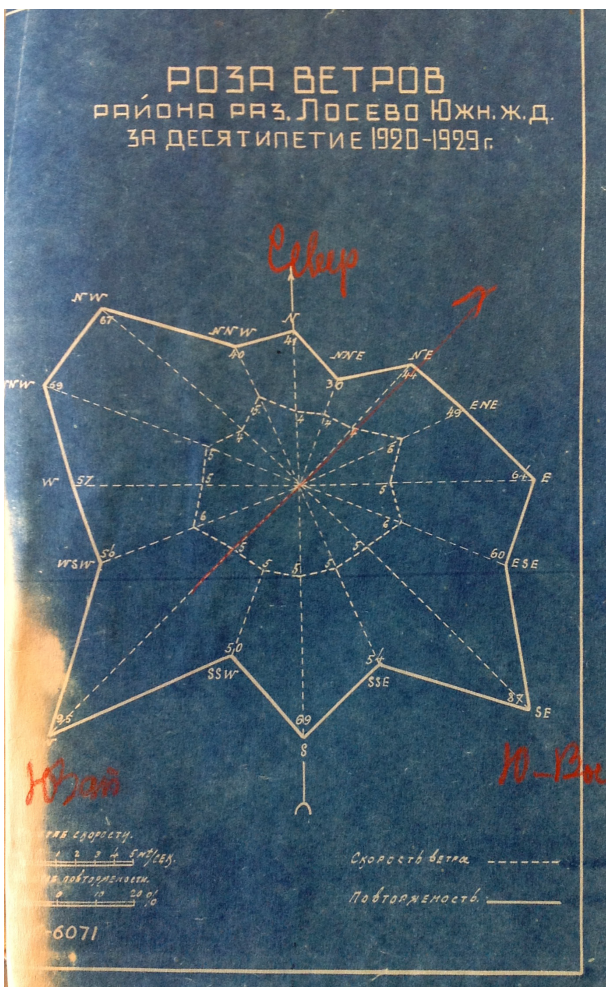


FIGURE 7.11: Losevo site wind rose, Gipromez, 1929
TsDAMLM, f.8, o.1, d.259

Геологический разрез грунта
у раз'езда Лосево Южн. ж. д. С-6048
Упомянутым Буренко, ж.д.

Словные обозначения	Метры	Наименование	Примечание
0.80	0.80	Чернозем	
3.50	3.50	Глина крепкая желтая	
3.75	3.75	Песок сухой желтый	
3.00	3.00	Глина светло желтая мякая	
14.20	14.20	Глина коричневая очень крепкая	
1.94	1.94	Сухой желтый песок с глиной	крепкий
0.96	0.96	Сухой желтый пес. с прим. глины	
6.00	6.00	Глина с песком желтым сухим	Глина с глиняным прослоем крепкий
3.25	3.25	Песок глинистый белый	
2.16	2.16	Песок желтый сухой	
0.83	0.83	Глина черн. коричневая	Песок сухой желтый Глина серая.
3.70	3.70	Песок сухой желтый	
1.00	1.00	Песок водяной мелк. белый	
2.75	2.75	Песок водяной крупный	
1.25	1.25	Песок водяной оранжев.	
1.00	1.00	Глина зеленая мякая.	0.05-Глина мякая 0.50-Песок (водяной, светло-желтый)
Общ. глуб. разреза		31.20	

отметка атлет на 179.74 м. Уровень воды до откачки 43 м. Дебит воды при откачке 40 л/сек. При откачке 130 л/сек.

FIGURE 7.12: Losevo site soil report, Gipromez, 1929
TsDAMLM, f.8, o.1, d.259

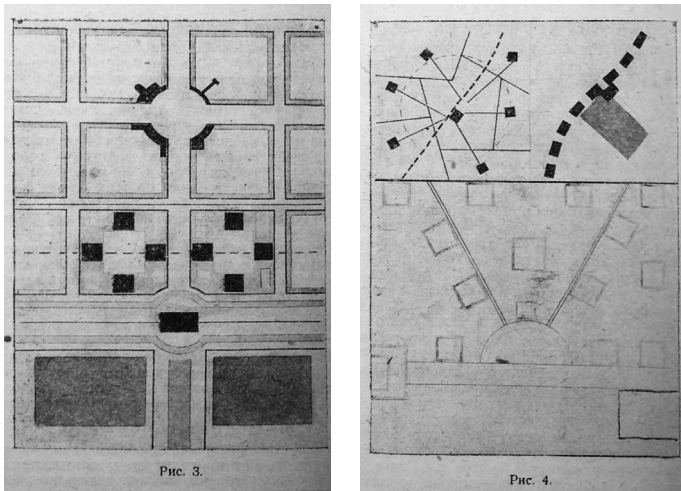
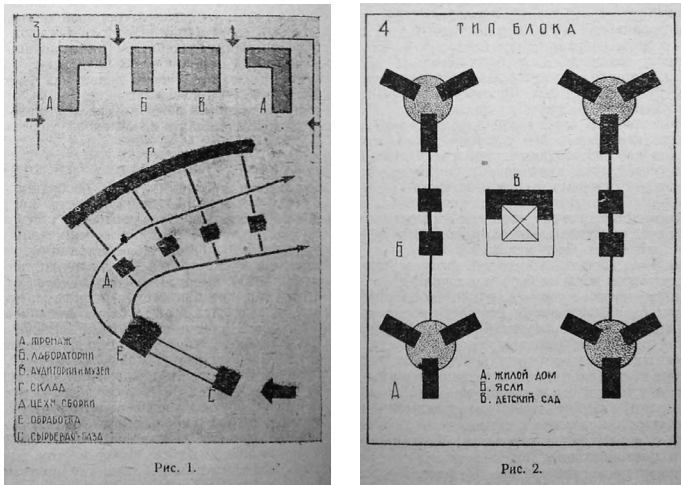


FIGURE 7.13: Construction of Socialist City diagrams
 A.U. Zelenko, "Stroitel'stvo Sotsialisticheskikh Gorodov," in *K Probleme Stroitel'stva Sotsialisticheskogo Goroda*, ed. Gosplan SSSR (Moskva: Izdatel'stvo "Planovoe Khoziastvo", 1930).

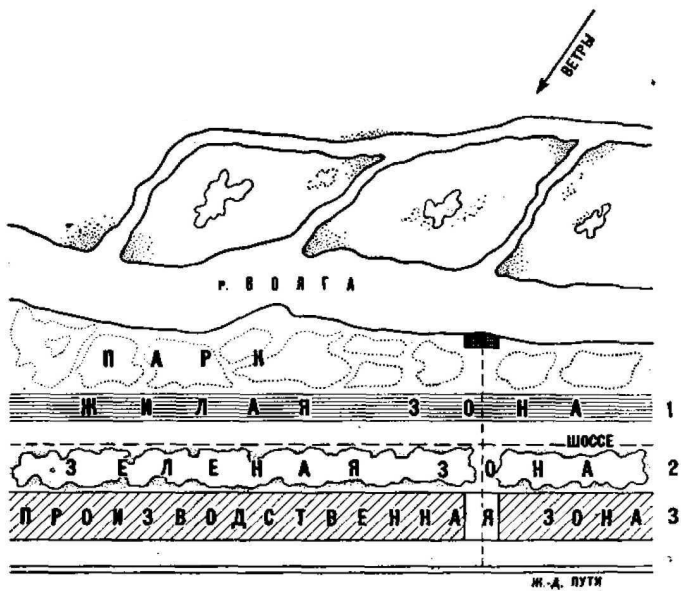


FIGURE 7.14: Linear city scheme for Stalingrad, Miliutin, 1930
 Miliutin, N.A. *Sotstgorod. Problema Stroitel'stva Sotsialisticheskikh Gorodov*. Moskva: Gosudarstvennaia izdatel'stvo, 1930, 29.

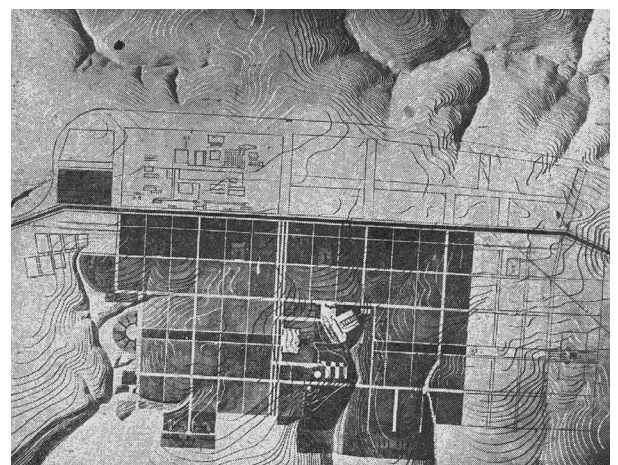


FIGURE 7.15: Linear city scheme for KhtZ, 1930
 NB: the program layers at KhtZ are 180° from diagram
 Baltuzevich, I. N. *Opyt I Uroki Stroitel'stva Khtz*. Moskva-Leningrad: Gosstroizdat, 1932.



FIGURE 7.16: Kharkiv linear cities schematic plan, 1929

TsDAMLM, f.8, o.1, d.264



FIGURE 7.17: Contemporary aerial of KhTZ, 2016
Google earth

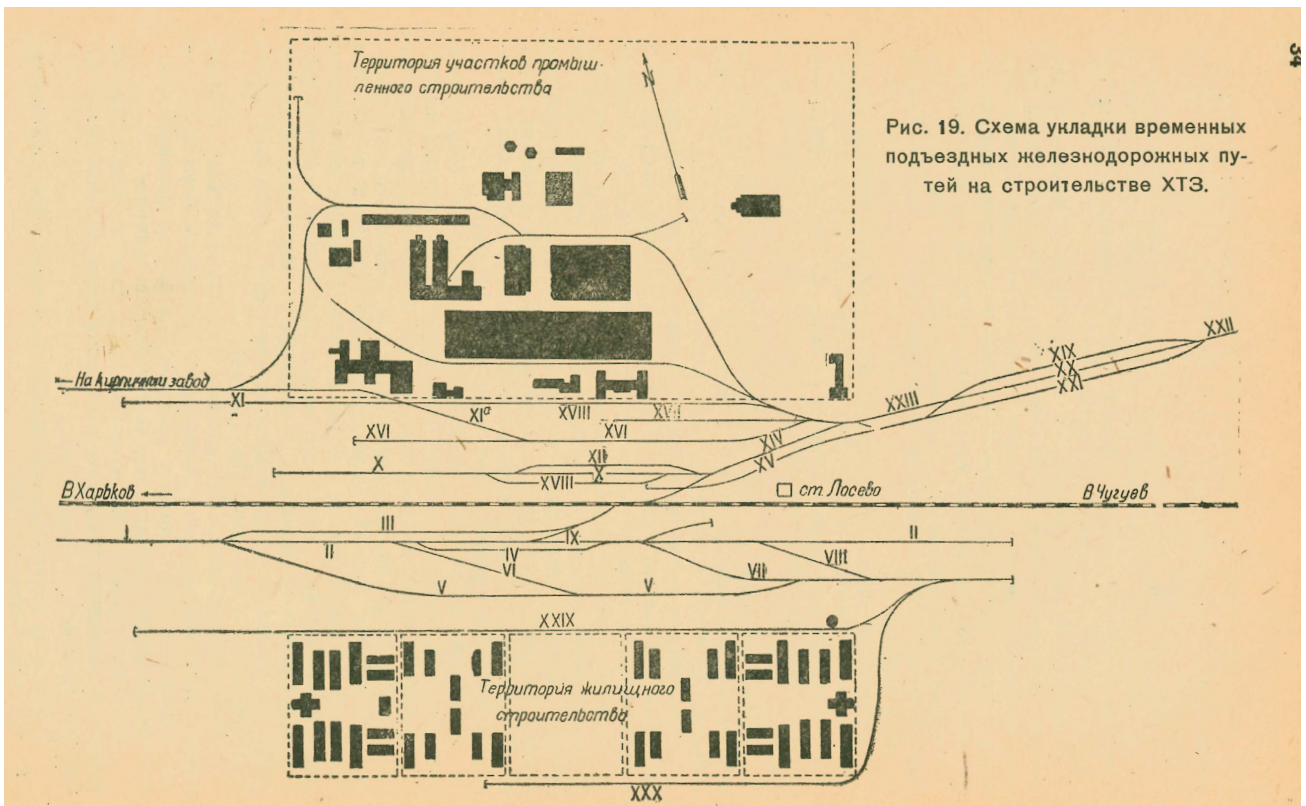


FIGURE 7.18: Plan of the temporary rail sidings during the construction of KhTZ, 1930
Baltuzevich, I. N. *Opyt I Uroki Stroitel'stva Khtz*. Moskva-Leningrad: Gosstroizdat, 1932, 19.

кругло 36.300 человек, а именно:

1. Рабочих на Х.Т.З.	16.000	44,1%
2. Служащих на Х.Т.З.	3.600	8,3%
3. Трудящихся в Комбинате	6.000	16,5%
4. Трудящихся в С.Х.	750	2,1%
5. Местн. и куст. промышл.	500	1,4%
6. Торгов. и Распред. сеть.	1.000	2,7%
7. Н а р п и т	1.500	4,1%
8. Транспорт	350	1,0%
9. Строительн. рабоч.	1.200	3,3%
10. Служащих административных органов.	1.814	5,0%
11. Служащие и рабочие Коммунального Хозяйства	1.633	4,5%
12. Пенсионеры.	1.814	5,0%
13. Безработные	726	2,0%
ВСЕГО самодеят.	36.287	100%

Approximately 36,287 people, namely:

1. Workers of KhTZ
2. Employees of KhTZ
3. Laborers at the factory
4. Laborers in agriculture
5. Local and handicraft industries
6. Commercial and
7. "Narpit" - State Catering
8. Transportation
9. Construction Workers
10. Employees of administrative organs
11. Municipal employees and workers
12. Pensioners
13. Non-workers (unemployed)

FIGURE 7.19: Projected population composition for KhTZ sotsgorod, 1929

TsDAML, f.8, o.1, d.260, l.13

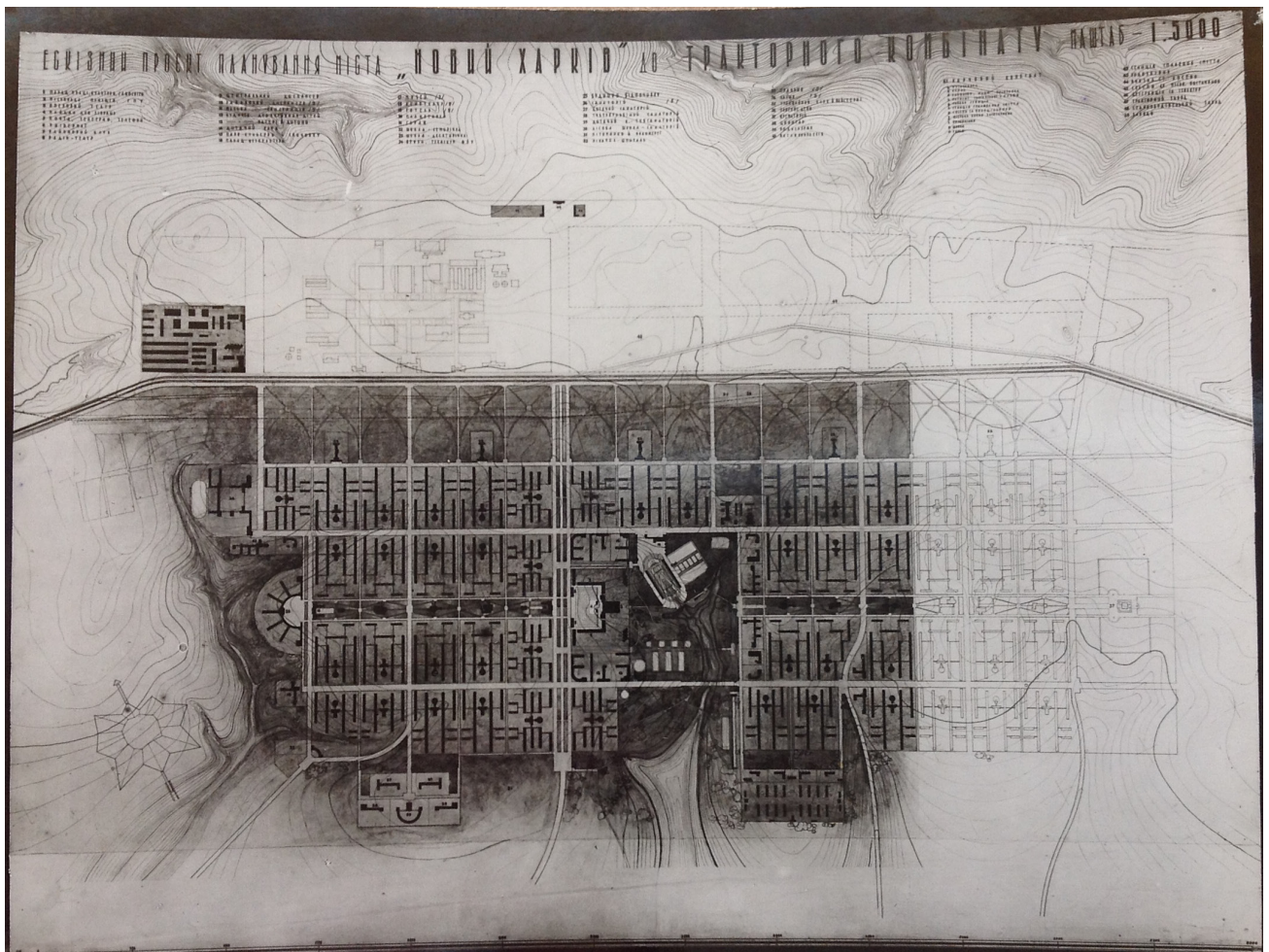


FIGURE 7.20: Early site plan, KhTZ sotsgorod, 1930

TsDAML, f.8, o.1

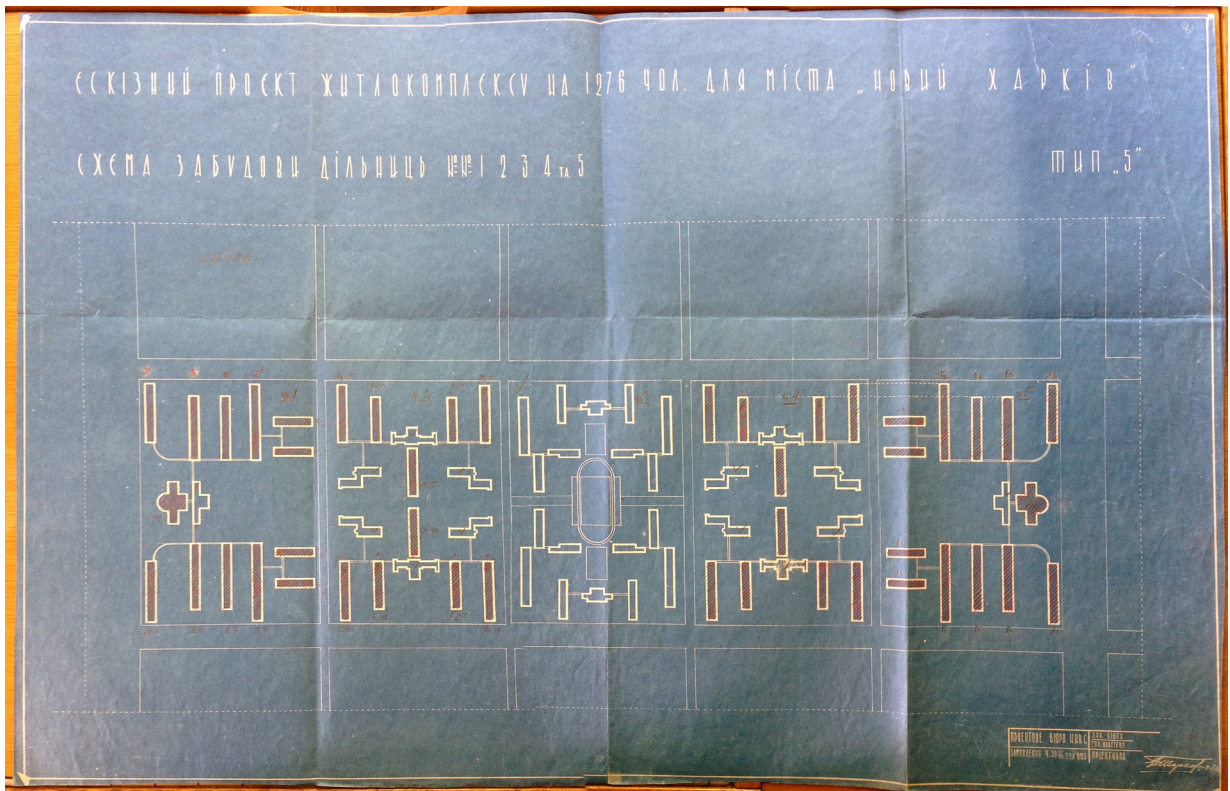


FIGURE 7.21: Revised site plan, KhtZ sotsgorod, 1930
TsDAMLM, f.8, o.1

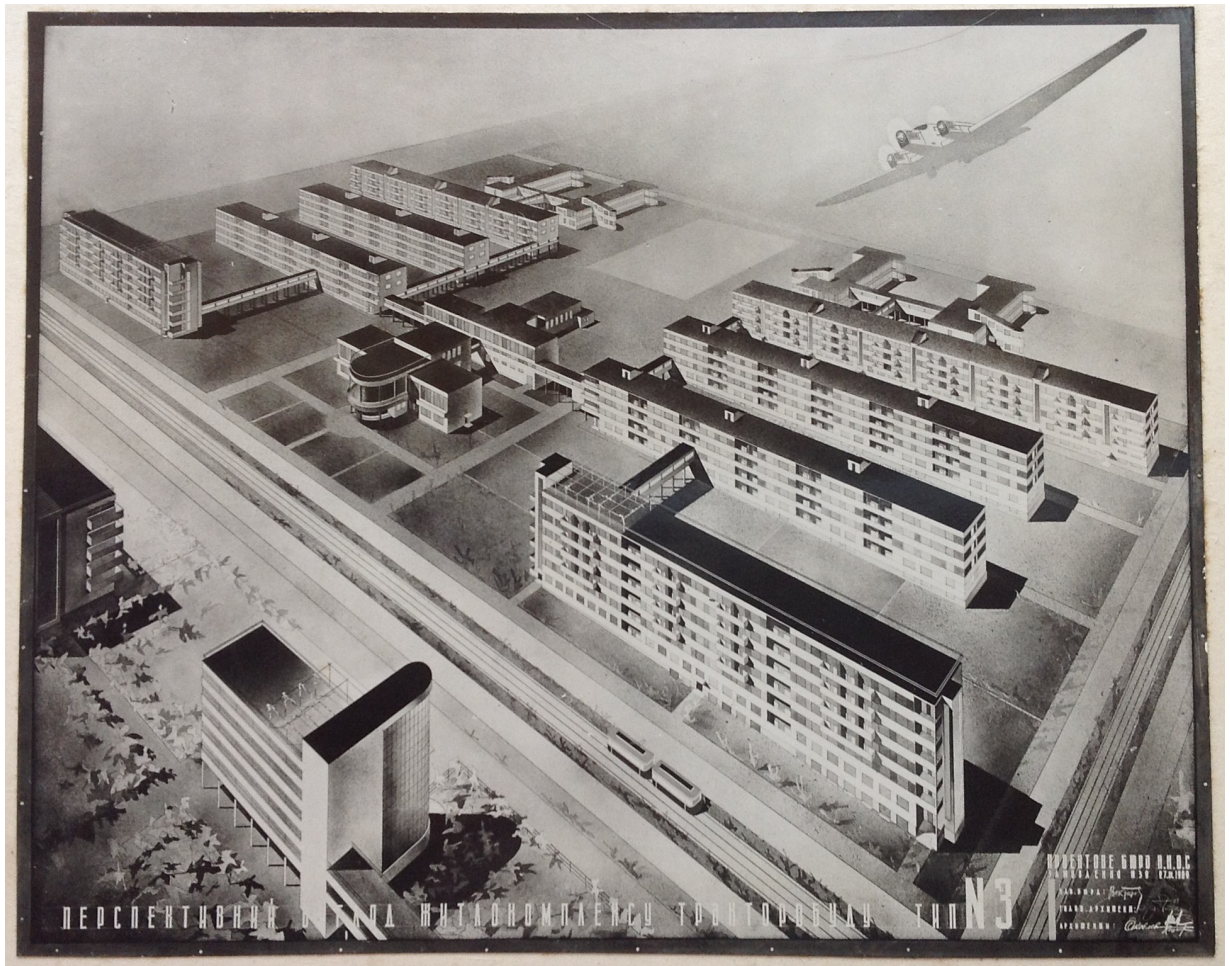


FIGURE 7.22: Perspective view of the zhilkombinat at the Tractor Factory, KhtZ sotsgorod
TsDAMLM, f.8, o.1

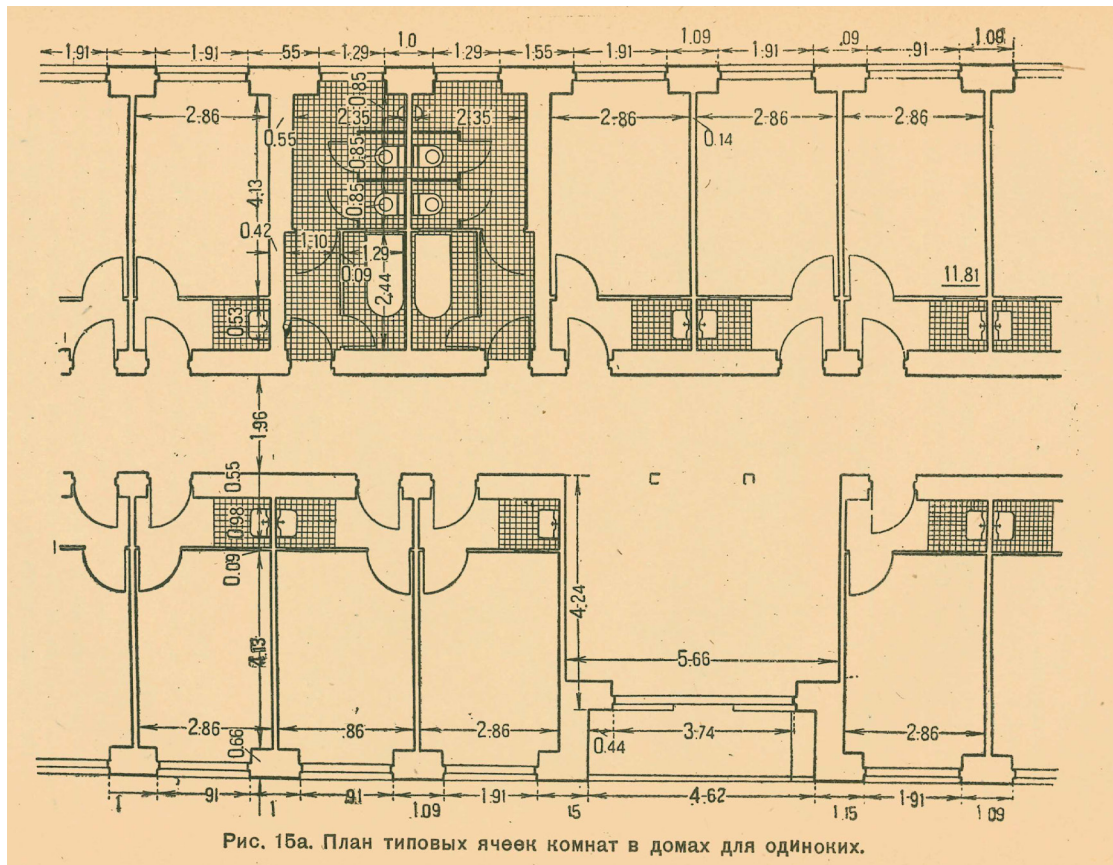


FIGURE 7.23: Plan for typical living cells in a house for singles, KhTZ sotsgorod Baltuzevich, I. N. *Opyt i Uroki Stroitel'stva Khtz*. Moskva-Leningrad: Gosstroizdat, 1932.

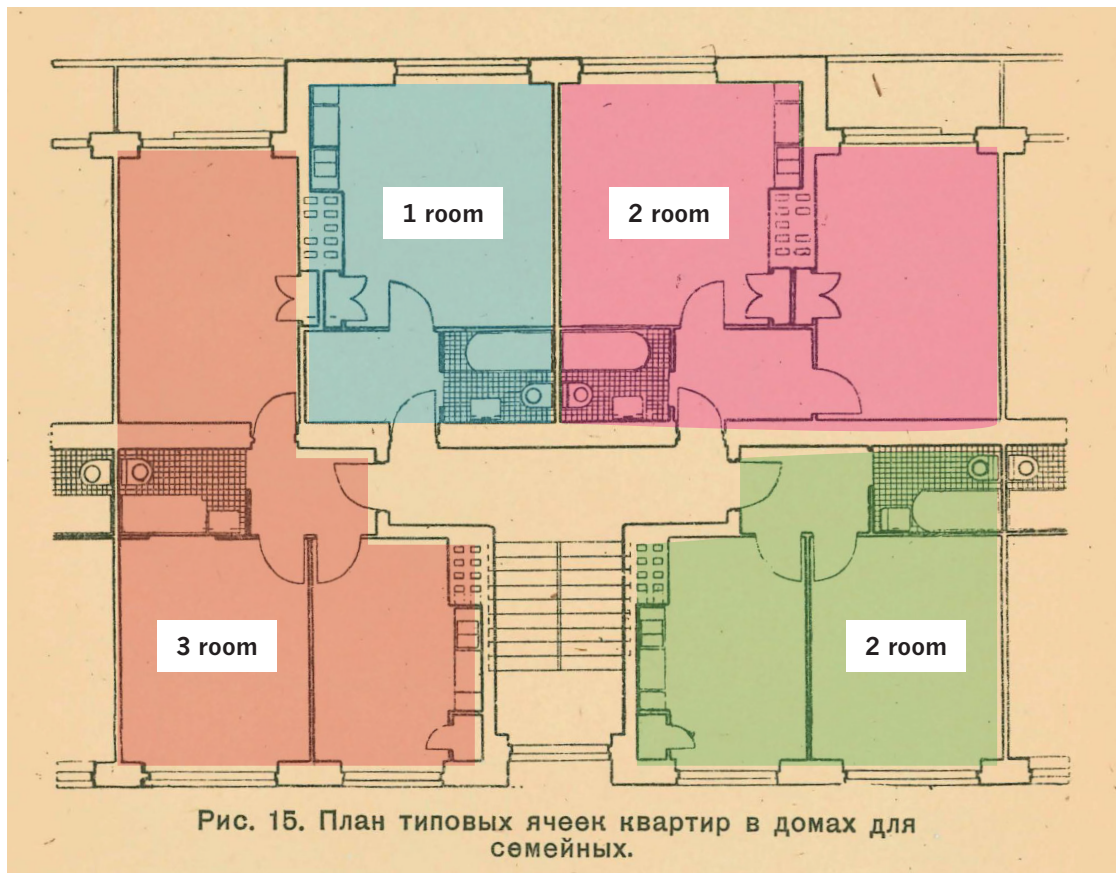


FIGURE 7.24: Plan for typical apartment cells in a house for families, KhTZ sotsgorod Baltuzevich, I. N. *Opyt i Uroki Stroitel'stva Khtz*. Moskva-Leningrad: Gosstroizdat, 1932.



FIGURE 7.25: First sotsgorod block, with house for singles in foreground, KhTZ sotsgorod Architecture Library, Kyiv, Ukraine



FIGURE 7.26: "Trompe l'oeil" ribbon windows, First sotsgorod block house for singles, KhTZ sotsgorod Photos by author, 2014



FIGURE 7.27: First sotsgorod block, with houses for families in foreground, KhTZ sotsgorod RGAKFD,



FIGURE 7.28: First sotsgorod block, with houses for families in foreground, KhTZ sotsgorod MUAR, 11-32168



FIGURE 7.29: First sotsgorod block, with houses for singles in background, KhTZ sotsgorod RGAKFD,



FIGURE 7.30: First sotsgorod block, with houses for singles in background, KhTZ sotsgorod RGAKFD,

FIGURE 7.31: First sotsgorod block, with houses for singles in background, KhTZ sotsgorod RGAKFD,



FIGURE 7.32: Red Army helps in construction, Kharkiv Tractor Factory sotsgorod site, 1930

Beal, Fred E. *Foreign Workers in a Soviet Tractor Plant*. Moscow: Co-operative Publishing Society of Foreign Workers in the U.S.S.R., 1933, 8.



FIGURE 7.33: Worker “volunteers” sling bricks, Kharkiv Tractor Factory sotsgorod site, 1930

Tsentrāl'nyi derzhavnyi kinofotofonoarkhiv Ukrainy im. G.S. Pshenychnogo [Central State Cine-Photo-Phono Archives of Ukraine, named after G.S. Pshenychnyi], TsDKFFA. VUKFU Newsreels, Archive numbers 1429, 1447, 1469, 1483, 1486, 1516, 1517, 1529.



FIGURE 8.1: Armenikend remnants, Baku

Photos by author, 2014



FIGURE 8.2: Kirov District remnants, Magnitogorsk
Photos by author, 2013



FIGURE 8.3: KhTZ sotsgorod remnants, Kharkiv
Photos by author, 2012