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IN THE SOVIET UNION

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To the casual observer from abroad, cities in the Soviet Union exhibit some obvious contrasts to their counterparts in Western Europe and America. Travelling by airport bus to the center of a provincial town, one is struck by the concave form of the city's profile in comparison with the convex character of Western cities where downtown skyscrapers dominate the urban scene. In the Soviet Union the tranquility of the rural countryside is abruptly disturbed by the sudden appearance of 15- and 20-story apartment houses that then give way to 5-floor Khrushchev-era walk-ups and the wooden houses of the prerevolutionary period.

Contrasts in amount of open space is also evident, with housing of extremely high density alternating with very large tracts of empty land. Much of this vacant land is in parks and open space, but much also appears to be extensive areas of little used territory surrounding industrial plants. Factories, moreover, appear to be scattered helter-skelter throughout the city, rather than being lodged in distinctive sections of town or in massive industrial parks.

The centers of cities themselves appear to have far more residents than the centers of Western cities, where pressures from businesses, the professions, and government agencies long ago displaced most of the residential land use. Throughout the city bars and public eating facilities are notable for their scarcity in Soviet cities in contrast to the everpresence of monumental "Palaces of Culture", museums, and other public edifices. The dependence on public transportation is also quite evident, although the automobile revolution is making headway into even the smallest of towns.

The distinctiveness of the layout of Soviet cities has received surprisingly scant attention in the works of Soviet geographers, sociologists, and economists, in contrast to the plethora of studies of American and European city forms and functions appearing in Western literature. There are in the USSR, to be sure, a great many articles and books devoted to urban topics such as migration patterns and systems of cities (see the extensive bibliography in Harris, 1970). Aside from two studies on Moscow and Volgograd, however, there has been virtually nothing published on the actual layout and infrastructure of contemporary Soviet cities (French, 1979, p. 75; Saushkin, 1964; Lipavkin, 1971).

There has not been a paucity of studies on what the ideal city pattern under socialism should be. Architects, planners, and other scholars have been discussing in print the features of the future city since the time of the revolution (for a primary example see Miliutin, 1974). Most such speculations and prescriptions, however, have departed markedly from the reality of city development under Soviet socialism, and even where such ideal concepts as the residential microrayon have been translated into concrete and glass, the results have generally been quite different from what was anticipated.

The absence of analytical and generalizing works about the layout of Soviet cities can be attributed in part to the lack of available data. Not only are land use maps classified and unavailable even to Soviet scholars, but, as the traveller to provincial towns well knows, even plans of city streets are nowhere to be found. Those few city plans for the largest metropolitan centers that are available--for Moscow, Leningrad, and Kiev--are noteworthy for their incompleteness and distortions of size and directional relationships.

In the general absence of Soviet empirical studies it is necessary to search elsewhere for examinations of socialist cities. A recent British book includes an article by a Polish geographer

who has sought to generalize his surveys of several medium-sized towns in Poland into a model comparable to the long-used schemata of Burgess, Hoyt and others (see Harris and Ullman, 1945). Andrzej Werwicki's model identifies five functional zones in contemporary Polish cities: "central", "transitional", "inner industrial and residential", "urban fringe", and beyond the formal city limits, "suburban" (Werwicki, 1979, 339-343).

As in Western cities, one would expect such a concentric pattern as a logical spatial differentiation based on differing trends and needs as cities grow outward, though the attributes of the various rings appear quite different from those observable in the West. According to Werwicki, the central areas in Polish towns occupy less than four percent of the urbanized area, yet usually concentrate half of the city's service establishments and a significant proportion of its population packed in densities of 9000 to 16,000 per km². American city centers also exhibit a concentration of service facilities but their population densities are virtually zero aside from lodgings for transients. Surrounding the Polish town center is a narrow transitional zone of mixed residential, service, and industrial land uses situated in aging, often war-damaged structures that have not been revitalized. Housing predominates, with densities of 5100 to 9700 per km². This comparable to the transition zone adjacent to downtown in American cities, though maximum population densities seldom reach 4000 per km².

The "inner industrial and residential" zone has the greatest proportion of the town's population, with densities up to 3000 per km². From 25 percent to 90 percent of industrial facilities and storage yards are to be found in this zone, which occupies up to 45 percent of the land within the city limits. Up to a third of the town's population resides in this zone, which is roughly comparable to Burgess' zones of "independent workingmen's homes" and "better residences" where densities range from 1000 to 3000 per km².

The "urban fringe" zone consists of open space interspersed with clusters of industry and residences. It is comparable in size to the continuously built-up inner industrial and residential zone, but it contains only two to five percent of the town's population. It does have from one-third to two-thirds of the total industrial and storage areas. Beyond this is a suburban belt of predominantly rural character, but with villages and factory settlements clearly linked to the city.

Although the Polish historical experience of socialist development started on somewhat different foundations three decades later than did the Soviet Union, there is sufficient commonality to take the Polish study as a useful approximation of what has happened in the USSR. In this regard there is the further problem in studying Soviet cities of their locations across a variety of contrasting natural zones amid a patchwork of differing cultural inheritences. Countering these pressures for urban diversity, of course, is the ability of a central authority to impress its decisions from Odessa to Magadan and from Riga to Tashkent.

Although the figure of a thousand new cities in the USSR is often encountered, the fact remains that most "new" towns represent merely a change of status of old workers settlements and villages, and for the most part they lie in the suburban shadow of larger urban centers. With the notable exceptions of a few completely new industrial cities such as Komsomolsk-on-the-Amur, Novokuznetsk, the auto city of Togliatti, and Naberezhnye Chelny, where the new Kama truck works is being constructed, few such new towns have become very large. Of the some 225 cities with populations over 100,000, nearly all have grown from the cores of prerevolutionary administrative and industrial towns.

These cores have changed remarkably little since the revolution. Even where wartime devastation was severe, street patterns and structures were rebuilt in much the same form as they had existed before. The loss of opportunities for modern renewal reminds one of the

similar lack of vision in San Francisco after its famous earthquake when its hills saw the rebuilding of the same inappropriate rectangular grid of streets that had existed before. In undamaged towns central structures often house the same stores and service facilities that existed in 1917, though ownership is now vested in the state bureaucracy. However, one no longer finds whole streets given over to one type of retailing or artisan facilities as existed before the revolution (Gohstand, 1977, p. 179). City centers in the tsarist era were noted for their crowded, unsanitary housing conditions, and this situation worsened during the early decades of industrialization when living space in the Soviet Union fell to an average of only four square meters per person (Bater, 1976). A substantial part of city center housing--perhaps 30 percent for the country as a whole--remains in the form of one-story wooden houses that nearly all lack water supply and sewage connections, though they are served by electricity. Aside from the "new look" of Moscow, the continuing universal housing shortage coupled with the chronic shortage of city funds has meant that dilapidated urban areas have been subject to very little renewal.

The accretions to Soviet cities since 1917 display a mixture of land uses, continuing the prerevolutionary urban characteristics of lack of pronounced functional segregation. One can roughly divide the outer areas into a built-up zone of factories and low-rise apartments and an outer zone of factories and high-rises interspersed with open areas. Beyond this zone industrial suburbs dot the landscape, with factories establishing "company town" communities.

Socialist cities generally lack the types of sectoral partitionings across concentric rings that are a feature of Western cities, where wedges of "better" and "poorer" residences along with ethnic ghettos tend to perpetuate themselves outward from city centers. Industrial areas also tend to form radial sectors along railroad lines and riverfronts. In the matter of sectors, Werwicki notes only a tendency of some towns to have wedges of strictly industrial land use

in their middle rings, though industry is generally to be found mixed with residences in this zone (Werwicki, 1979, p. 340). While there is a decided difference in income levels in Soviet society, residential segregation where it exists is not in the form of upper-class sectors, but in scattered apartment blocks in cities where groups of individuals have been able to pool their resources to build cooperative apartments that offer more room and amenities than standard housing. About 15 percent of the new housing in Soviet cities involves such cooperative apartments.

One noteworthy sectoral pattern in cities occurs in national borderlands where Russians and non-Russians are found in the same city. A rather pronounced segregation between groups tended to exist before the revolution, and this has perpetuated itself in other parts of towns up to the present, though now many Russians also live in these "native quarters". The subject has seldom been touched on in the Soviet literature. However, an ethnographic journal has recently discussed present-day ethnic segregational tendencies in the cities of Kazan and Almaty in the Tatar Autonomous Republic east of Moscow. Sketch maps based on urban wards (rayons) show the persistence of Tatar occupancy in the old native town, although Tatars are to be found mixed with Russians in all parts of the city (Rukavishnikov, 1978, p. 87--see Appendix A).

The same article points out an interesting segregation by status. Using a distinction between "workers", "servers", and "intelligentsia", it notes that while workers and servers are scattered in all areas, the intelligentsia tends to be housed either in the better new apartments on the outer rings of the city, or in the center where the majority of cultural facilities are located (Rukavishnikov, 1978, p. 83--see Appendix B). It has been observed by others that in the borderlands Russians tend to be located more in the peripheral housing projects, since most are relative late-comers brought in by enterprises that have built new housing on the outskirts.

The layout of Soviet cities, while clearly distinct from that of cities in the Western world, is not a product of an area-wide, comprehensive planning process. Although every city has a planning staff attached to the city's executive council (ispolkom), and this staff has been required--at least since 1971--to prepare and monitor an urban plan, the fact is that the expansion of Soviet cities has been at the initiative of other government agencies, and the planners have played only a minor, passive role. Only the showplace cities of Moscow and Leningrad appear to be "masters of their own houses" when it comes to planning, and this control of land use development has been strong only since the Second World War.

The builders of Soviet cities are primarily the central industrial ministries. It is they who decide which factories are to be constructed or expanded and in what communities. They often appear to make their choices for new investment on the flimsiest of information and guidelines about the communities they will affect. They also appear to take little account of the impact that their developments will have on the cities so chosen. They find it necessary to provide housing and certain amenities such as canteens to assure a supply of workers for their new facilities, but they have little interest in carrying out any idealistic schemes of local planners or special planning institutes in Leningrad and Moscow. Often the most a local executive committee can do is assign a patch of land to the new installation in a location they favor for growth. Since cities for the most part lack funds to construct very much new housing and ancillary facilities, they concede this role to the factories. The latter are obliged to follow national norms for accommodations and services, but there is a noticeable tendency to skimp and cut corners, particularly when development costs beyond the factory building itself range from 40 percent of total required investment for the machinery industry to 90 percent for shoe factories (Bodanovich and Sidorov, 1967, p. 149). It should be noted also that design work for such housing and services is a subordinate task of the ministry

and often is performed by individuals who may not have the highest degree of competency.

The results are urban agglomerations far from ideal either to planners or to citizens. The inefficiencies of Soviet cities are detailed frequently in the press. Articles particularly attack problems of urban infrastructure. Although there are minimum requirements for numbers of schools, shopping facilities, restaurants, and cultural facilities measured against numbers of residents of apartment complexes, these are only 50-70 percent fulfilled, a figure more striking when one considers that norms are minimal to begin with (Bater, 1976, p. 192, quoting the Soviet economist A. Kochetkov). Personal services are particular hard to come by. To give but one example, French points out that in Moscow, by all standards the best provided city in the Soviet Union, there is one men's and/or women's hairdressing salon for every 10,400 persons (French, 1979, p. 96). In Portland, Oregon, there is one barbershop or beauty shop for every 1200 persons. Even allowing for a larger scale of operations of salons in the USSR, the disparity is very wide indeed.

Difficulties are particularly great for residents of new microrayons on the edges of towns. Such a complex generally contains apartments for 8000 to 12,000 inhabitants. Although theoretically shops, restaurants, and cultural facilities for the self-contained residential unit are to be built simultaneously with the housing itself, there is characteristically a lag of four to five years before these elements are provided, if at all. All agencies are beset by the fact that they do not have enough funds to do everything they would like, and consumer services too often appear the most expendable. The delays in providing services strain the existing facilities. New consumers stretch the waiting lines in stores, cinemas, and bus stops, overloading an already overloaded system.

Since they have found they cannot depend on municipal authorities or other bodies to provide such facilities for badly needed workers, industrial ministries quite often undertake the tasks themselves. Commonly they construct stores, laundries, and nursery schools, as

well as water supply systems and sewage treatment plans. A "company town" mentality is also prevalent, with factory managers seeking to have under their control as many elements relating to their successful operation as possible (Izvestia, April 6, 1975, p. 3). This leads them to hold on to and manage facilities after building them. Thus, despite a 1964 decree which specified that all factory housing be transferred to municipal authorities, Soviet sources estimate that up to 60 percent of urban housing in the socialist sector remains under the control of industrial ministries (Radio Liberty Research Bulletin, December 29, 1978)

Part of the reason for this continuing ministerial management of housing and service establishments is a reluctance by cities themselves to accept residential complexes from factory authorities. Because of the expediency with which so many have been built, a large share have severe problems of maintenance, and, once transferred to the cities, the industrial ministries shed any further responsibility (Izvestia, November 26, 1976, p2; Pravda, November 20, 1977, p. 3). It has also been noted that while one-industry towns fare fairly well by the paternalistic concerns of their industrial managers for the needs of workers in housing and services, their sense of responsibility erodes rapidly when other ministries decide to locate in the same city (Pravda, May 29, 1978, p. 3). Some industrial ministries appear to select larger towns where they can draw workers from established industries without having to make contributions to communal needs. This is particularly true of the textile and garment industries which hire predominantly female workers and rely on the factories hiring their spouses to provide housing and infrastructure. This reminds one of the textile plants that developed in the Pennsylvania coal-mining regions.

Many elements of the city infrastructure are also outside the control of local governments because their provision is the responsibility of special country-wide or republic authorities. Bookstores, for instance, are established and maintained by the State Committee of the Press,

and pharmacies are run by the Ministry of Health (Cattell, 1968, p. 103).

The siting of such facilities is mostly by intuitive judgment based on what vacant space is available and on minimizing costs to the ministries through proximity to transportation and warehousing facilities (Reiner and Wilson, 1979, p. 55). There is virtually no concern for the consumer per se, since the provision of goods and services in the USSR is very much a seller's market. Downtown sites are seldom available for new facilities, and there is rarely an incentive to locate adjacent to complementary establishments. The result is a dispersion of stores and shops throughout cities, requiring extensive trips by consumers to meet their range of needs. Complaints of this nature also occur within those mikrorayons where basic consumer services have been provided. Stores, laundries, and other services are frequently not concentrated in a central shopping center, but are scattered in different buildings, adding just that much more time to meet needs (French, 1979, p. 95). A recent Soviet study has estimated that the average urban family spends 72 minutes in shopping for food every single day plus an additional 40 minutes for other purchases (Vaskin, 1978, p. 91).

The exceptional time spent on shopping can be attributed also to problems of the public transportation system. It is the prime mover of people in Soviet cities, although the private car is making inroads into even the smallest of towns. Like other aspects of the urban infrastructure, the transportation systems are not comprehensively planned, are inadequately expanded to meet new needs, and suffer from chronic overutilization.

A common sight on the edges of cities are streams of people walking to and from new mikrorayons which lie two or three kilometers beyond the terminus of a streetcar or trolleybus line. Transportation planners are unable to inaugurate services immediately for several reasons. For one, there is a general shortage of investment funds, since if these are not provided immediately by the ministry building the housing (and they seldom are), there is little that can be squeezed from meager resources after the continuous costs of replacing rolling stock.

Public transportation like all other urban services is subject to requirements of economic accountability. Despite an inflation of rising salaries for drivers and of other expenses, fares have not increased for a quarter of a century. Hard pressed bus services in fact attempt to meet the demands placed on them by strategems such as expanding suburban lines for the 12 percent or so of workers who commute from villages in the suburban ring rather than trying to meet inner-city needs more adequately, since they can collect higher fares from the longer journeys (Pravda, June 11, 1979, p. 3).

To reduce "travel fatigue" for their workers, many factories operate their own bus lines. Managers of the municipal transit systems complain because the ministries draw off their best drivers with higher wages and fewer working hours, since the busses generally sit idle between rush hours. They also note that cities cannot get sufficient new vehicles even when they have funds available because industrial enterprises tie up such a large part of total bus production (Sovetskaya Rossiya, October 8, 1978, p. 2). The lack of integration between municipal and enterprise transportation systems is compounded by the division of the former into quite separate managements and planners for each transportation mode--streetcar, bus, trolleybus, and, in those eligible cities with more than one million population, subway.

Urban transit rolling stock is subject to frequent breakdowns by the strains placed upon it. Crowded busses frequently have loads of six to eight persons per square meter (ibid.). Less than half the streets in provincial towns yet have hard surfaces, further increasing wear and tear. Siberian planners have complained about the inappropriateness of the standard bus and trolleybus designs for the rigors of eastern winters (Pravda, May 24, 1979, p.2).

When the post-Stalin housing boom began, the massive apartment complexes were intended to relieve the urban transportation problems by integrating housing with workplace. Unfortunately

these outlying apartments have compounded the problem. Although access to such housing was open primarily or exclusively to employees of the nearby enterprise that constructed it, the prevailing high labor turnover rates in the USSR have seen a high percentage of people finding better work in other sections of town (French and Hamilton, 1979, p. 11). Seldom are they fortunate enough to be able to trade their apartments for ones nearer their new workplaces, and they must subject themselves to long cross-town commuting.

A recent complaint from Latvia noted that the reluctance or inability of some organizations to provide housing for their employees led individuals to seek work in enterprises able to construct new apartments, and once having secured housing, they have returned to their old jobs (Pravda, October 23, 1977, p. 3). Quite often factories have been forced to build new housing on available land that is remote from their operations. A survey of the ten largest iron and steel centers has indicated that the average journey to work in one direction for their employees is now 90 minutes (Berzon, 1978, p. 181). A special problem for workers has also arisen when the regime has required the removal of polluting factories from the centers of cities and inevitably also from the locations of workers housing.

The automobile era has created its own set of infrastructural problems. The growing number of cars requires improved signalling equipment and other expensive installations that cities are hard-pressed to finance. Garages were not in past plans and designs for housing, and there is a problem in many neighborhoods to find space to accommodate cars. Construction of parking garages appears prohibitively expensive for municipal authorities and the new automobile-owner cooperatives. There is one report of a construction enterprise estimate that called for as much to furnish a place for a car as to build an apartment (Pravda, September 24, 1977, p. 2). There are also complaints of filling up the green areas between buildings with cars and even encroachment into the playgrounds.

The fact that development of Soviet cities has proceeded on the basis of ministerial initiative rather than by planning blueprints should not in itself militate against an efficient urban form for its citizens. Planning is just as passive in the United States, for instance, yet the satisfaction of citizen needs appears very much higher. American cities are in fact quite fortunate that plans formulated in the horse-and-buggy or streetcar eras were not binding, or they would be far more out of step with the opportunities and requirements brought about by technological progress, especially in transportation. Thus, suburban shopping centers and industrial parks have emerged as new nuclei of spatial interaction as the automobile and truck have given much wider personal mobility while congestion has made downtown retailing, wholesaling, and manufacturing areas no longer in a place of maximum accessibility.

The changing structure of Western cities is the product of a multitude of decisions of individuals and corporations based on maximizing the utility of their investments. These decisions take into account differing costs of land based upon competitive bidding, as well as on external economies to be derived from scale of operations and/or benefits of agglomeration with similar or complementary enterprises. Such differential land rents can be visualized as a three-dimensional statistical surface with a towering pinnacle in the central business district and lesser nodes at important intersections.

Land use decisions in Soviet cities have few constraints or opportunities to guide them into solutions optimum for the community as a whole. Land in particular is treated as a free commodity with no inherently different values in the center of a city or on its periphery. Thus one finds obsolescent factories with extensive storage yards near the centers of most towns, occupying land that would be far more useful for housing or service functions. Between thirty and forty percent of the inner areas of cities are in fact given over to industrial land uses--a very high proportion in comparison with the eight to eleven percent characteristic of

American cities (Pravda, November 13, 1976, p. 3). Since the ministry operating a factory pays no taxes based on the utility value of the land, nor would it receive anything more for giving it up than an equivalent area of land on the outskirts, there is no incentive for it to give away its central location to more intensive and rational land use. So it stays, holding on to its large tract in anticipation of facilities expansion at some unspecified time in the future. This contributes to a fossilization of city land use patterns--once a structure and a function is established, it perpetuates itself until a specific administrative decision forces a change. The amount of land wastefully tied up is very great. A Soviet geographer and economist have pointed out that the amount of land used for industry in large cities is 30 meters² per inhabitant, while in American cities it is more than 19 meters²--a fact compounded by the greater compactness of Soviet housing (Lybavny and Savelyev, 1977).

Even where cities have stepped in to improve their layouts, the inertia of the past can be a stubborn force. Thus, Riga has launched an ambitious scheme to restore its medieval center. However, despite requirements that a host of offices and manufacturing enterprises move out of the center into modern facilities on the outskirts, there has been a ministerial stonewalling to resist giving up space, even after new facilities have been constructed (Pravda, March 28, 1979, p. 3). Local governments have few real levers of power to force ministries to comply with their orders and plans. Conflict between local and central authorities is an arena of interesting politics in the USSR. In a number of cases it appears that the local communist party secretaries are playing a useful role towards rational solution of such conflicts (Bater, 1976, p. 200).

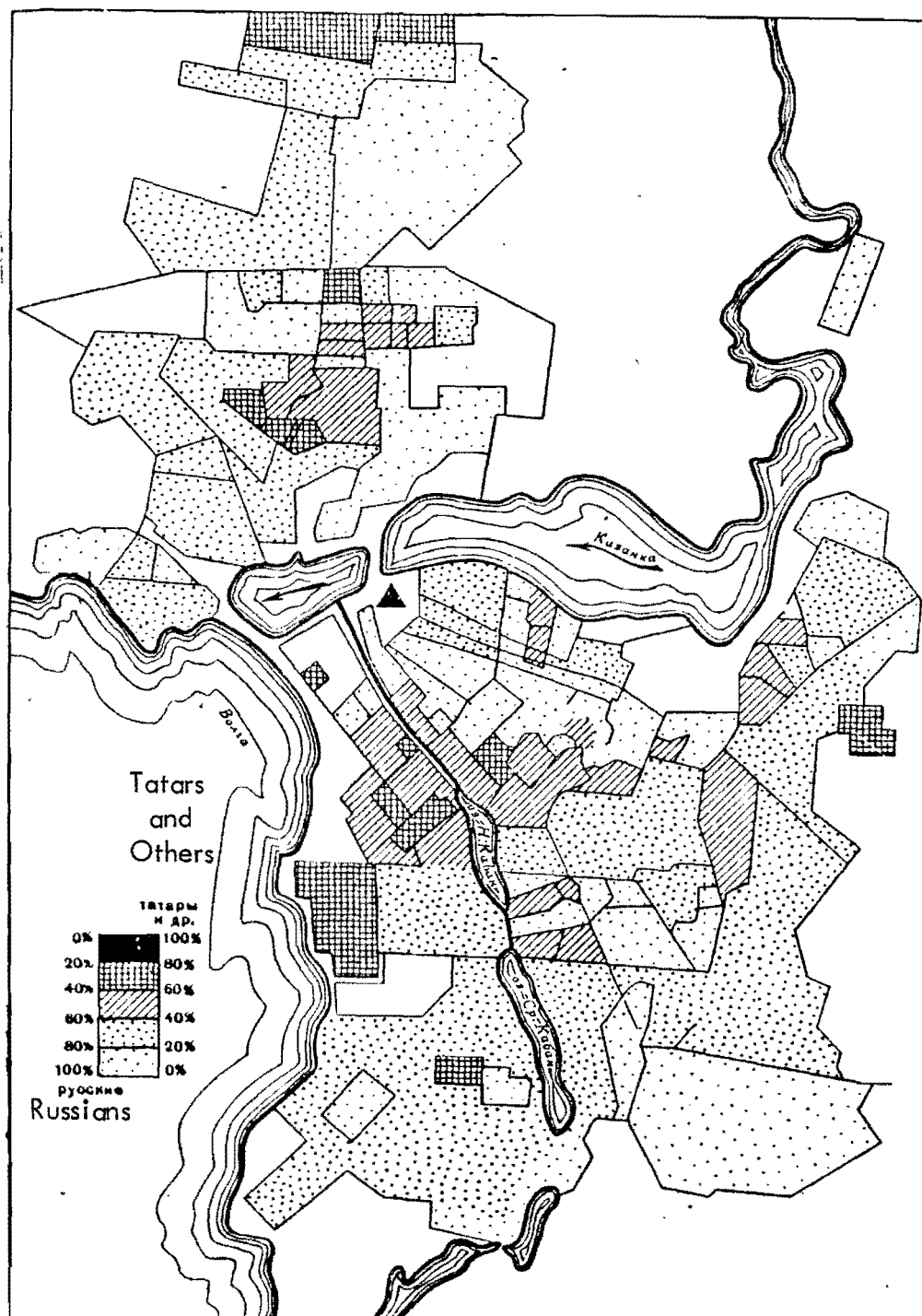
There is another unusual inertial aspect to Soviet cities. Because of the continual shortage of housing, once an apartment is obtained it is very likely to be a permanent home for the rest of one's life. When a factory builds a mikrorayon, it is filled with employees who mostly are in the younger age group. Their life cycles also tend to be the same. Their families appear

at the same time, creating a sudden overwhelming demand for child-care centers and schools that characteristically is not met on time. As the families age, the demand for facilities declines as abruptly as it began, leaving the recently completed schools and other structures in its wake, while a new mikrorayon elsewhere in the city is decrying time lags in providing needed facilities (Hamilton, 1978, p. 515).

In this regard it should be noted that there are other kinds of facilities in surplus also. Many towns have underutilized sports facilities, theaters, and similar establishments which were built in conformity with national norms, even though the age and sex composition of their populations does not require them. At the same time, new towns in Siberia suffer from a lack of such desirable facilities for their recurring waves of young people mostly in the age group just out of school who stay for only three years or less. Coffee shops, discos, cinemas, and other facilities to meet their needs are not even planned, since demand is calculated on the basis of requirements of "standard" towns of a given size with a "normal" profile of age groups. The shortage of nursery schools for children of young workers in Siberia is particularly great. Bratsk, for instance, has a birthrate three times greater than Voronezh, yet both are entitled exactly to the same number of children's facilities (Myasnikov, 1977, p. 124).

One is tempted to become very pessimistic about the future of Soviet cities from these and other points raised about the layout and infrastructure. However, we have witnessed the release of great energies with a change of regime, such as Khrushchev's tackling of the perennial housing crisis and the shortfalls in agriculture. The Soviet population has shown a great ability to muddle through current problems, and there is no reason not to expect a new dynamism that will lead to more rational land use and meet the needs of consumers more satisfactorily.

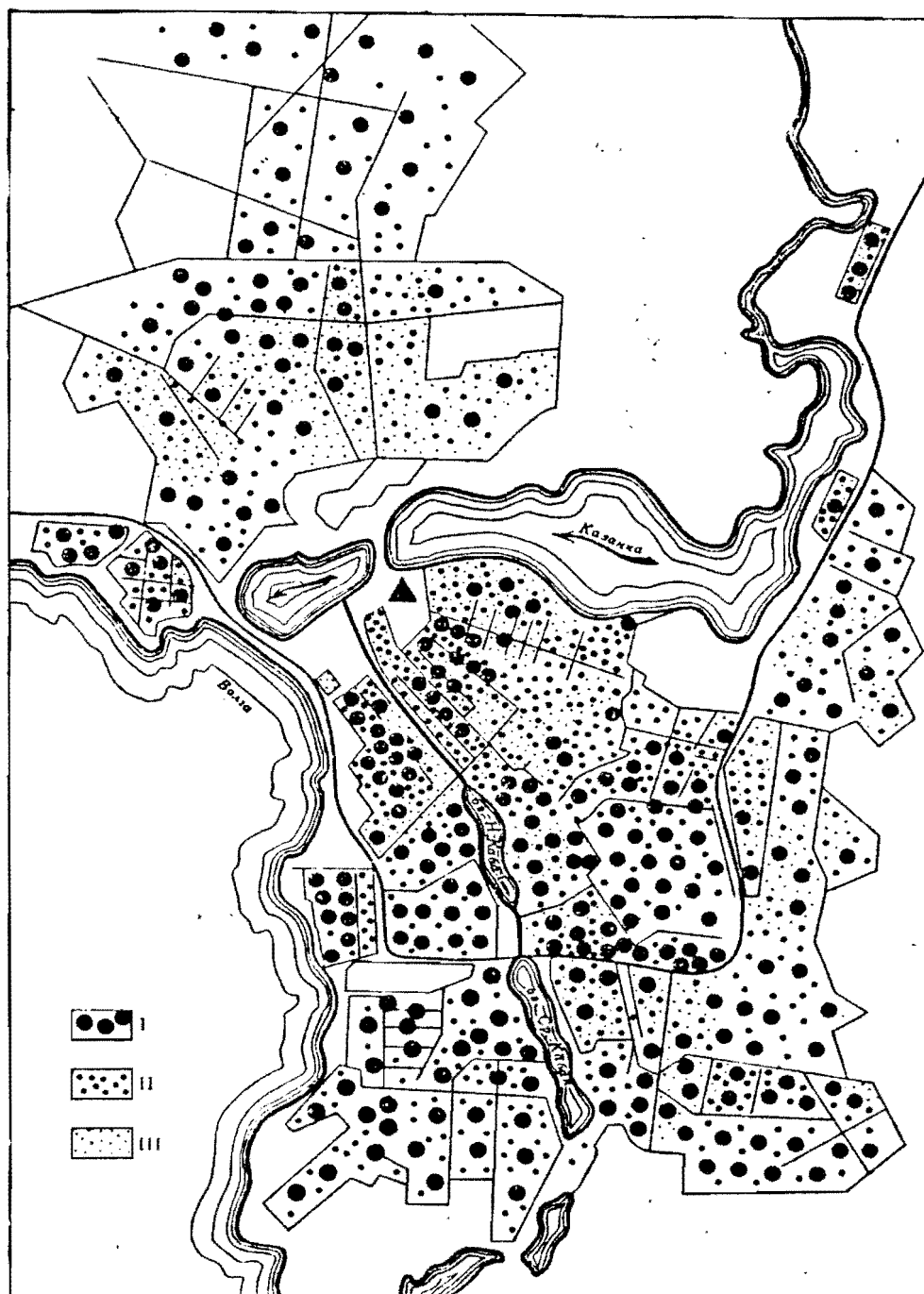
APPENDIX "A"



Relative proportions of Tatars and Russians in the city of Kazan.

After Rukavishnikov, 1978

APPENDIX "B"



Workers (I), servers (II), and intelligentsia (III) in the city of Kazan.

After Rukavishnikov, 1978

APPENDIX "C"

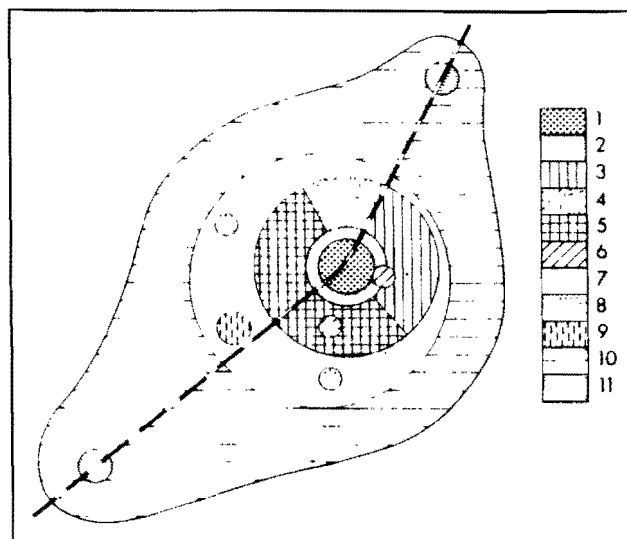


Figure 12.2 Model of the internal structure of a medium-sized Polish town.

Key: 1. City centre; 2. Transition zone; 3. Mixed industrial residential; 4. Industry; 5. Residential; 6. Special service areas; 7. Green belt; 8. Housing areas in the green belt/urban-rural fringe; 9. Production node; 10. Semi-urbanized rural hinterland; 11. Production centres in the rural hinterland

—Werwicki, 1979

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