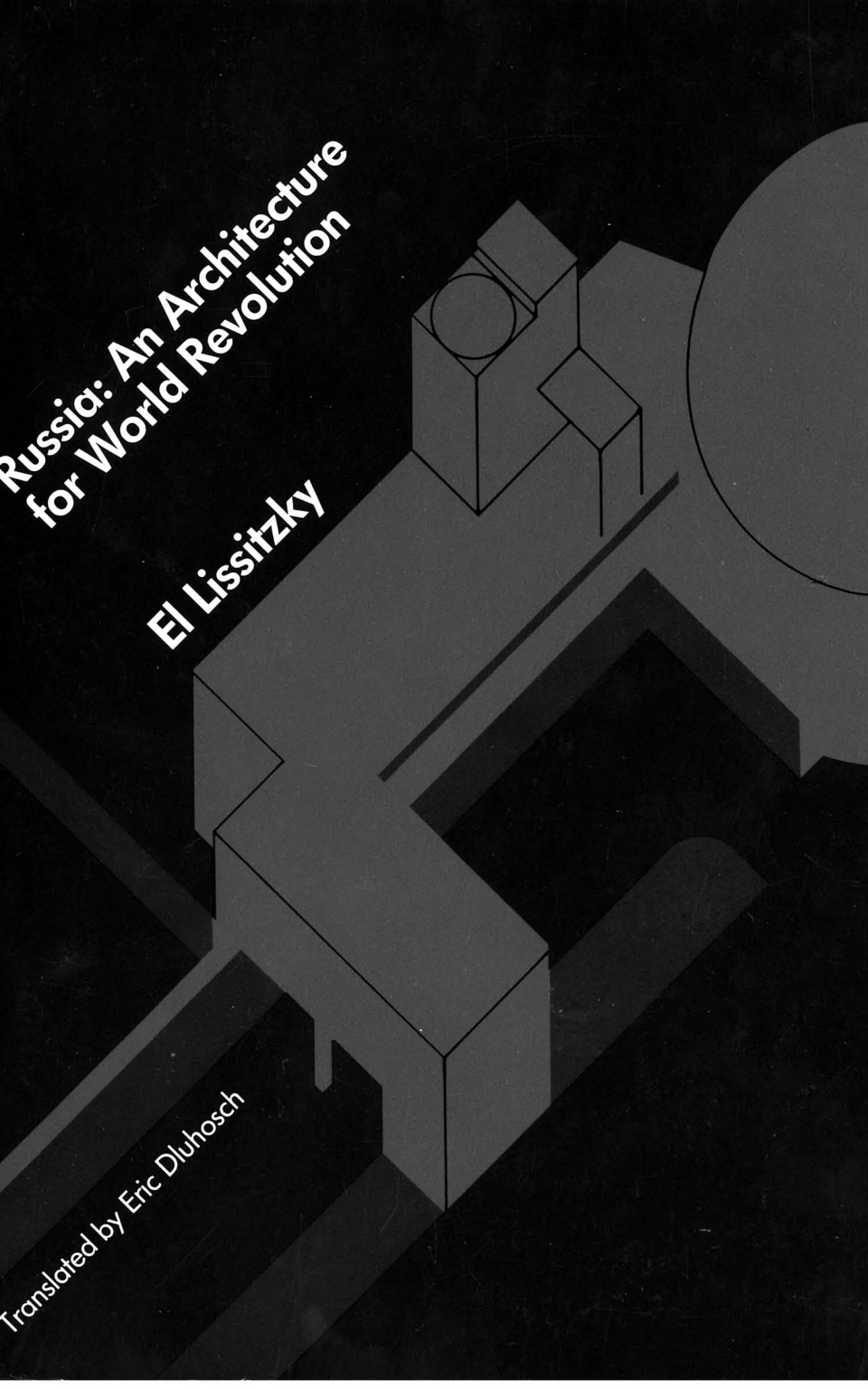




Russia: An Architecture for World Revolution

El Lissitzky

Translated by Eric Dluhosch

Basic Premises

The birth of the machine signaled the onset of the technological revolution, which destroyed the handicrafts and played an essential role in the rise of large-scale modern manufacture. In the course of a single century new production systems transformed all aspects of life. Modern technology not only revolutionized social and economic developments but aesthetic ones as well. The basic elements of new architecture in Western Europe and America were determined by this revolution.

October 1917 marked the beginning of the Russian Revolution and the opening of a new page in the history of human society. It is to this social revolution, rather than to the technological revolution, that the basic elements of Russian architecture are tied.

The individual, private client has now been replaced by the so-called "social commission." Emphasis has shifted from the intimate and the individual to the public and the universal. Today, architecture must be judged according to different criteria. The whole field of architecture has now become a problem. And what is more, in Russia this problem had to be faced by a country exhausted by war and hunger and tightly sealed off from the rest of the world. These new architectural problems could not be solved until a foundation had been provided by the restoration of order in the economy. Prewar production levels were quickly achieved. For our present needs, however, such prewar levels and rates of production are inadequate. To be effective and to fulfill our mission in the world, we must strive to accelerate the rate of growth, to force the pace. This can only be accomplished if we do not limit ourselves to what we have inherited but, instead, completely reconstruct it. We must not only build, but rebuild. We are rebuilding industry, we are rebuilding agriculture. This restructuring of production creates a new conception of life that nurtures culture, including, of course, architecture. Our new architecture does not just attempt to complete something that has been temporarily interrupted. On the contrary, it is poised on the threshold of the future and committed to more than mere construction. Its task is to comprehend the new conditions of life, so that by the creation of responsive building design it can actively participate in the full realization of the new world. Thus the thrust of Soviet architecture is directed toward the goal of reconstruction.

Interrelationships Between the Arts

Russian architecture, under the influence of Western Europe, succumbed—several centuries ago—to the domination of the Court, and was relegated to the care of the Academy. There, in the company of the other arts, architecture languished, semidormant and totally uncreative, leading a pseudoexistence. In Russia, only individuals licensed by the state were permitted to build, though anybody was “free” to paint or to write poetry. Thus, the practice of architecture merely fostered diligence, while painting fostered talent.

New artistic aspirations flourished in the fertile soil of bourgeois Moscow, supported by the great merchants, rather than in the aristocratic-bureaucratic atmosphere of Petersburg. Due to this support the arts advanced at an increasingly rapid pace. Developments in painting were pushed so radically and thoroughly that they culminated in the investigation of the most fundamental elements of the art. Art became more and more isolated. It found itself facing an abyss, with all art problems tending to degenerate into questions of *l'art pour l'art* or fashionable salon events, just as is now the case in the West. The Revolution rechanneled this stream of energy. It suddenly offered the radical artist such enormous scope for his activities that it will require the work of generations to fulfill these possibilities. Simultaneously, it introduced the concept of art as a form of cultural labor, which will in turn have a decisive effect on the reconstruction of our architecture.

The changing interrelationship between the newly emerging arts is another important factor that vitally affects the basic elements of modern architecture. The influence of the arts on architecture has been valuable and extraordinary, but has also brought some dangers in its wake. Our art belongs to the age of science. We employ the methods of our age—we analyze. Experimentation in painting is the least hampered by the medium. Thus, the new creative forces in art have uncovered the basic elements of three-dimensional design by a process of analysis. In the course of this work two distinct and clearly defined views have emerged:

“The world is given us through vision, through color” epitomizes one of these views. “The world is given to us through touch, through materials” represents the other. Both comprehend the world in terms of geometric order. The first conception calls for pure spectral colors,

abstractly included in the rational order of geometric elements, i.e., a color planimetry, a world of crystalline structure. This world is built up in visual, infinite space. Brought to its logical conclusion, such thinking eventually led to the complete renunciation of the color spectrum, with the result that everything was reduced to a planimetric figure scheme (black and white). Painting as such ceased to exist and turned to the design of purely abstract volumetric forms. The architectural character of these stereometric forms was immediately recognized. Thus, painting became a transfer point for architecture. A new asymmetrical equilibrium of volumes was constructed, the tensions between the solids were given new dynamic expression, and a new rhythmic order was developed. Since the leading exponent of the color theory was a painter (Malevich), he failed to recognize the objective reality of the world. Because he always looked at it only through his own eyes, he remained trapped in a world devoid of real objects. The broader implications of this had to be developed by us, the architects.

3, 4 The second conception of the world via the medium of matter required both a visual and a tactile perception of things. In this case the whole design process tends to emanate from the specific characteristics of the respective medium used. The leader of this movement (Tatlin) assumed—quite independently of the rational and scientific methods of technology—that the intuitive and artistic mastery of materials would lead to inventions on the basis of which objects could be constructed. He believed that he could prove this theory with his design for the “*Monument to the Third International*” (1920). He accomplished this task without having any special technical knowledge of construction, thus proving his assumption. This represents one of the first attempts to achieve a synthesis between the technical and the artistic. The efforts of the new architecture to loosen up volumes and to create a spatial interpenetration between outside and inside found their early expression in this work. Here, an ancient concept of form, as represented for example by the Sargon Pyramid at Khorsabad, was actually recreated in a new material for a new content. This effort, as well as a later series of experiments with materials and models, gave birth to the term “constructivism.” The present “constructivist” generation of professional architects looks upon this work as formalistic or even “symbolic.” Later we shall return to this subject and take issue with this type of dialectic. One thing can be established right now: these accomplishments in the sister arts have contributed significantly to the reconstruction of our architecture.

At first these pioneers were not able to build. The war had interrupted all construction activities. During the early revolutionary years old building materials were carried away to be used as fuel for heating purposes. This created vacant sites. New construction personnel had to be trained. The function of educating young architects was retained by the schools, which had to develop new methods. Paralleling the above-mentioned developments in painting was the formation of a synthetic movement led by architects (Architecture + Painting + Sculpture). These young architects, themselves still trained in classical schools, had to shed their own skin first. Their first act had to be one of destruction, of rupture with the past. Theirs was a struggle for expression.

The task was clear—it consisted in elevating architecture in terms of its artistic and pragmatic values to a level consistent with the values of our own age. These ideas assured the victory of youth in the schools. Youth was involved in the total content of life, while the old academicians had nothing to offer in return but borrowed, foreign, and long-corrupt theories.

Youth set itself the goal of achieving the synthesis between utilitarian tasks and architectural concepts of space. At first, in the early stages of development, actual conditions failed to provide the opportunity for real projects. Thus, projects had to be invented for imaginary sites (for instance, a restaurant and landing place on a cliff). **Fig. 1**

Whereas usually an organic realization achieves full form by a process of selection, in this instance much was accomplished in the realm of pure design ideas. This carried with it the danger of reverting to extreme solutions. The elaboration of new methods for the scientific-objective elucidation of the elements of architectural design—such as mass, surface, space, proportion, rhythm, etc.—was decisive in establishing the distinctive character of the new schools. A new methodology had to be created. This work, begun by such pioneers as Ladovski, Dokuchaiev, and Krinski, was continued by men of the younger generation, such as Balikhin, Korshev, Lamtsov, and others. Contemporary schools must not only train builders and designers but must also educate architects who work in their own field as scientists.

This serious work on the basic elements of architecture called for the mobilization of all the vital energies available. A group was formed which placed the main emphasis on construction and which demanded the direct application of the methods of the engineer and the builder to architecture. Form was to result directly from construction. Inter-

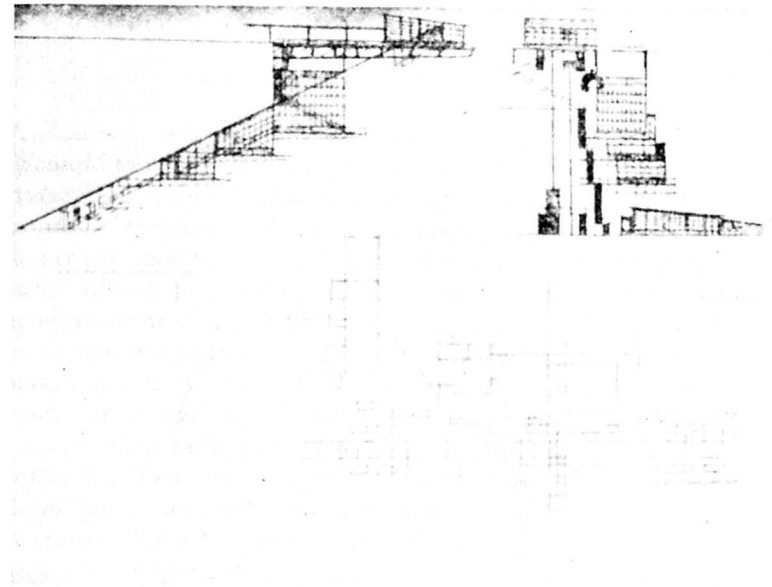


Fig. 1. Atelier Ladovski (Vkhutein 1923): Restaurant and landing platform on a cliff.

national architecture displays this tendency, but in the content of our situation there is a basic difference that must be taken into account. In all countries except Russia technical achievements can be counted on as a given quantity of modern life. In America the architect has a direct and continuing relationship with technology. Perhaps this is why he does not ask more from technology than it can offer. In our country it is still impossible to have such urban complexes as are found in Paris, Chicago, or Berlin. It is through technology that we can build a bridge to all the most recent achievements, which is what made it possible for our country to pass directly from the hoe to the tractor without having to travel the long path of historical development. That is why we want to introduce the most modern methods of building and construction into our country—and why we see the works and designs of both the “formalists” and the “constructivists” as a radical experiment in the manipulation of construction.

First Projects

In 1923, Soviet architecture was presented with its first new task. A plan was advanced to build a massive complex in the center of Moscow, a so-called "Palace of Labor", for the new collective ruler, the worker. It was to serve for large congresses, mass rallies, meetings, theatrical productions, and so on. The task was as colossal as were the times. However, time had yet to produce a crystallization of definite architectural concepts. Thus, most of the proposed designs were amorphous and fragmented conglomerations, drawing their inspiration both from the past and from the mechanistic present, and based to a large degree on literary rather than architectural ideas. The design of the three brothers Vesnin marks the first step away from destruction toward new construction. By elevating a closed plan by means of an exposed reinforced concrete frame, a clear stereometric volume is produced. The whole is still conceived as an isolated, single object, independent of urban design considerations. The compulsion to rely on columnar organization remains pervasive. The complex is crowned by a romantic allusion to radio-tower technology, and the large space designed to accommodate 8,000 persons is still completely conventional. Nevertheless, this design represents the first attempt to create a new form for a social task that in itself was still ill-defined at the time. The ensuing period offered an increasing number of more concrete tasks, their purpose and aim becoming gradually more defined, and what was accomplished improved accordingly.

In 1924, the brothers A. A. and V. A. Vesnin worked out a design for the office building of the newspaper *Leningradskaia Pravda*. The building lot measured a mere 6 × 6 meters. The design of this building represents a characteristic solution in a period yearning for glass, steel, and concrete. All accessories—which on a typical city street are usually tacked onto the building—such as signs, advertising, clocks, loudspeakers, and even the elevators inside, have been incorporated as integral elements of the design and combined into a unified whole. This is the aesthetic of constructivism.

The first small building that gave clear evidence of the reconstruction of our architecture was the Soviet Pavilion at the Paris World's Fair of 1925, designed by Melnikov. The close proximity of the Soviet Pavilion to other creations of international architecture revealed in the

Fig. 2
Plate 1

Fig. 2. Brothers Vesnin:
Palace of Labor, 1923.
Top: Section.
Bottom: Plan.

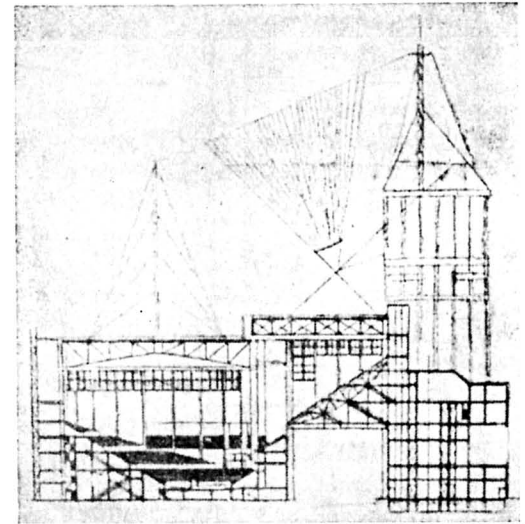
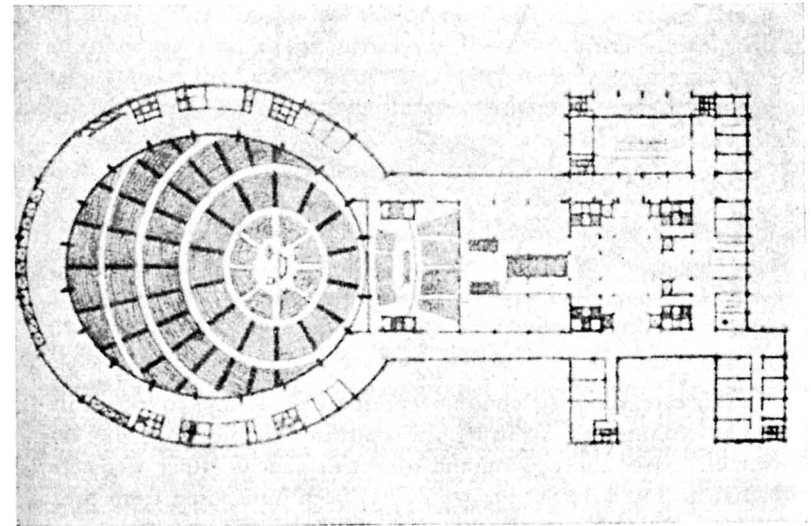


Fig. 3
Plate 1



most glaring way the fundamentally different attitudes and concepts embodied in Soviet architecture. This work represents the "formalistic" wing of the radical front of our architecture, a group whose primary aim was to work out a fitting architectural concept for each utilitarian task.

Fig. 4
Plates
14

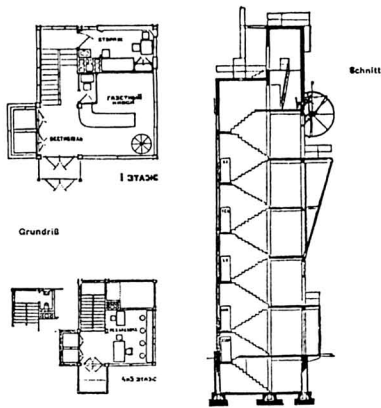


Fig. 3. Brothers Vesnin:
Newspaper building.

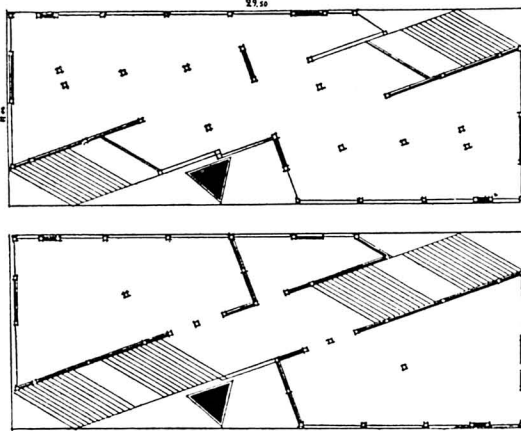


Fig. 4. K. Melnikov:
USSR Pavilion, Paris,
1925. Ground floor and
second floor plans.

In this case, the basic concept represents an attempt to loosen up the over-all volume by exposing the staircase. In the plan, the axis of symmetry is established on the diagonal, and all other elements are rotated by 180°. Hence, the whole has been transposed from ordinary symmetry at rest into symmetry in motion. The tower element has been transformed into an open system of pylons. The structure is built honestly of wood, but instead of relying on traditional Russian log construction employs modern wood construction methods. The whole is transparent. Unbroken colors. Therefore no false monumentality. A new spirit.

Housing is one of the most pressing problems in all of Europe. In the West it was simply a matter of resuming construction activities where they had left off before the war, though under changed economic and technical conditions. In Russia, however, this became a question of solving a new social problem of fundamental cultural significance. In our country all existing differences in housing accommodation, from a hole in a basement for the worker in a large city, a multiroom high-rise apartment to a private villa, have been abrogated. The Soviet architect was given the task of establishing a new standard of housing by devising a new type of housing unit, not intended for single individuals in conflict with each other as in the West, but for the masses. A good existing example of this type of housing is the log cabin, still used by the great masses of the rural population, which over the centuries has developed appropriate structural and technical construction standards. Even though these houses are the product of the handicrafts, they are in all other respects, as for instance in the development of individual parts, a standardized mass-production effort with each part developed and fixed in such a way that the builder can easily assemble the parts by himself (dry assembly). The same system was also used in the cities until industrialization produced the split between city and country.

The dwellings in the city of Moscow are built of wood . . . the roofs are covered with wood shingles . . . hence, the great conflagrations. Those whose houses have burned down can procure new ones: Outside the city walls one can find on display in a special market a number of houses ready for assembly. They are available at reasonable cost and can be easily assembled on any other building site. The above-described house market is located in a certain district of the city . . ., the purchased house can be delivered within two days ready for assembly in any other district of the city. The timber framework has been pre-cut and matched and it remains only to fill the crevices with moss . . .

A. Olearius (1636), *Journey to Moscovium*

I quote this excerpt in order to document the healthy collective impulses that have always existed within the people and also to prove that uniformity and standardization did not result in superficiality.

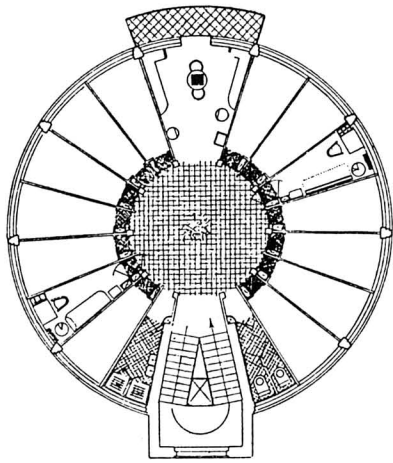


Fig. 5. Kotsar (Vkhutein): Bachelor apartments. Plan.

In the future it will be necessary on the one hand to establish a balance between the intimate and individualistic demands for housing, and on the other to take full account of general social conditions. Thus, for example, cooking should be transferred from the private single kitchen into the communal cooking laboratory; the main meal should be consumed in public eating establishments; and the rearing of children should become the responsibility of the kindergarten or the school. In this way all the spaces essential to the individual's intimate life can be defined and isolated from the sum total of the over-all housing shortage in terms of both present and future needs. Conversely, communal facilities should become ever more flexible in size and design. By taking such a stance, architecture becomes the expression of a social condition and attains new validity by becoming an effective element in the life of society. Presently our goal is the transition from housing as an agglomeration of many private dwellings to housing communes.

The construction activities of the communal administration and the large central cooperatives have resulted in a one-sided attack on the housing shortage in our country, because until recently these efforts have not led to any radical experiments in the field of new housing. The architectural faculty of Vkhutemas was asked by the Building

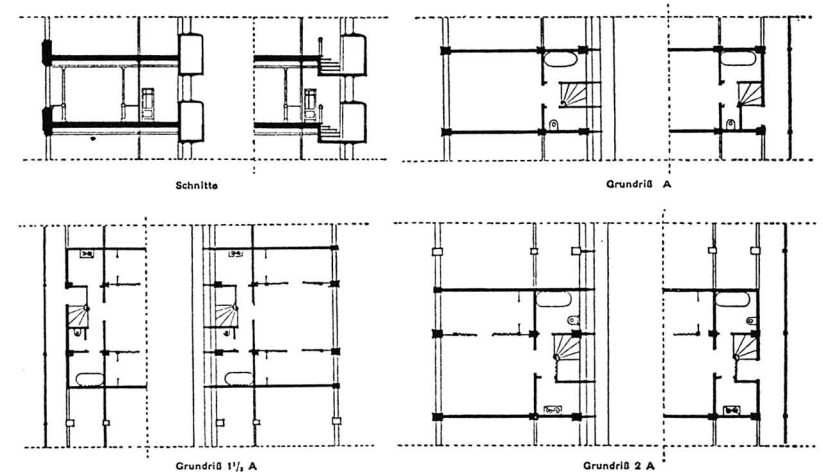


Fig. 6. A. Zilchenko: Apartment layouts with corridors dividing the floors.

Department of the Mossoviet to work on a project that called for the planning and design implementation of a human settlement. One of their solutions is presented here to serve as an example: a circular tower, consisting of individual dwelling units 6×9 meters in size and planned as a home for single persons. All general activities are designed to take place in an adjacent communal structure.

Economy is one of the governing factors in this proposal. The grouping together of a large number of housing units produces arcade-like corridors and results in the reduction of the over-all number of stairwells.

Fig. 6 Zilchenko's split-level corridor is an interesting invention. He places the main corridor near the exterior wall, thus providing the rooms behind the corridor with direct daylight, while at the same time reducing the number of necessary stairwells. The apartments are located along the corridor and consist of one-, one-and-a-half-, and two-room units, each having its own bathroom and kitchen facilities. Obviously, such a system could be applied to a number of other structures as well. Genuinely new building types can be evolved in this manner. Such new systems stimulate the economy to produce new materials, provide the designer with concrete and reliable form elements, and suggest to the cultural pioneer new possibilities for community formation. One of the governmental agencies doing such radical work was the Building

Committee of the Economic Council of the R.S.F.S.R. Here, housing problems were systematically researched, which lead to a number of proposals by architects Ginsburg, Pasternak, Vladimirov and Barshit. So far, the following types have been developed:

Type A: Blocks of ordinary individual apartments have been transformed into a housing commune by the introduction of a full-length corridor lined with single rooms in the lower stories. This corridor

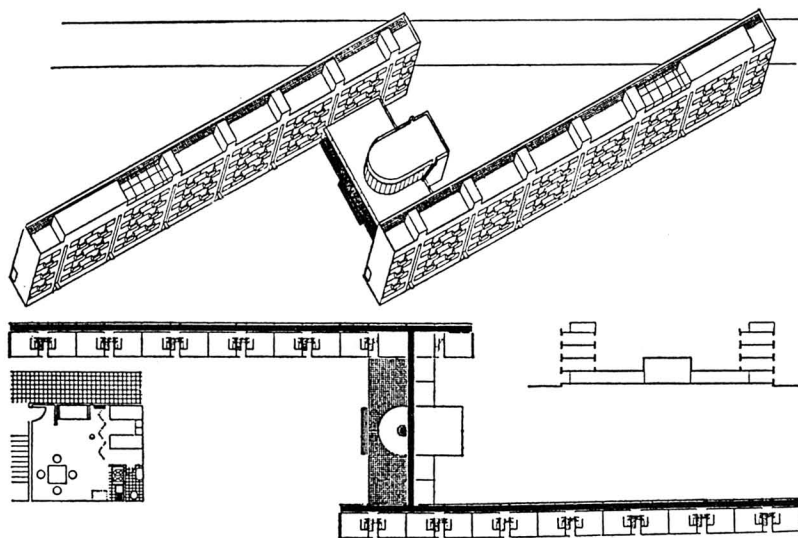


Fig. 7. Building Committee of the Economic Council of the R.S.F.S.R.: Housing commune, type A.

provides a connection between the stairwells and the communal center (dining room, rest room, children's playroom, and so on).

Type E: A housing commune consisting of 360 individual rooms, each designed for a single person only. There are six levels divided into two equal parts, three stories each. Horizontal traffic is carried by two corridors on the second and fifth levels. Small, open staircases connect the corridors with landings on floors below and above. Each landing serves four of the single rooms. The staircases are placed parallel to the long axis of the building, forming a unified system from the bottom

Fig. 7

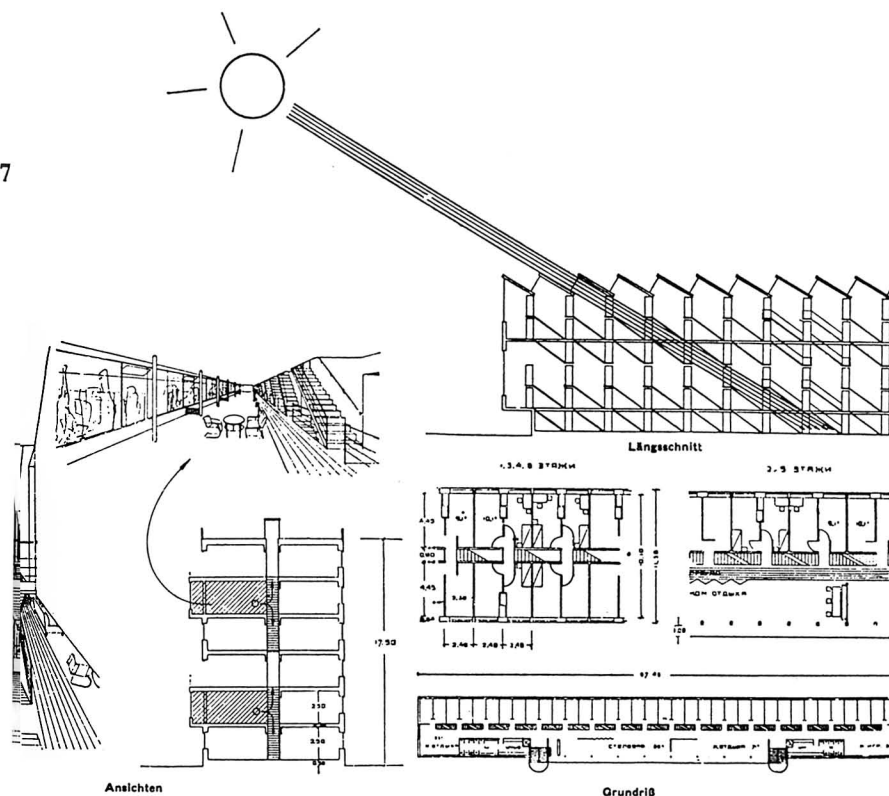


Fig. 8. Building Committee of the Economic Council of the R.S.F.S.R.: Housing commune, type E.

to the top, and receive direct daylight by means of a glazed shed roof. The corridors are central and have been widened near the communal rooms.

Type F is characterized by a corridor serving two stories. The dwelling units are one-and-a-half stories high with a 3.25–3.50 meters high living room and a 2.15–2.25 meters high sleeping nook with adjacent bathroom. The space saved by lowering the sleeping nooks has been used for the corridor. This corridor connects the dwelling block with the community center, with its complex of kitchens, dining rooms, reading halls, recreation rooms, and children's playrooms.

Fig. 8

Fig. 9

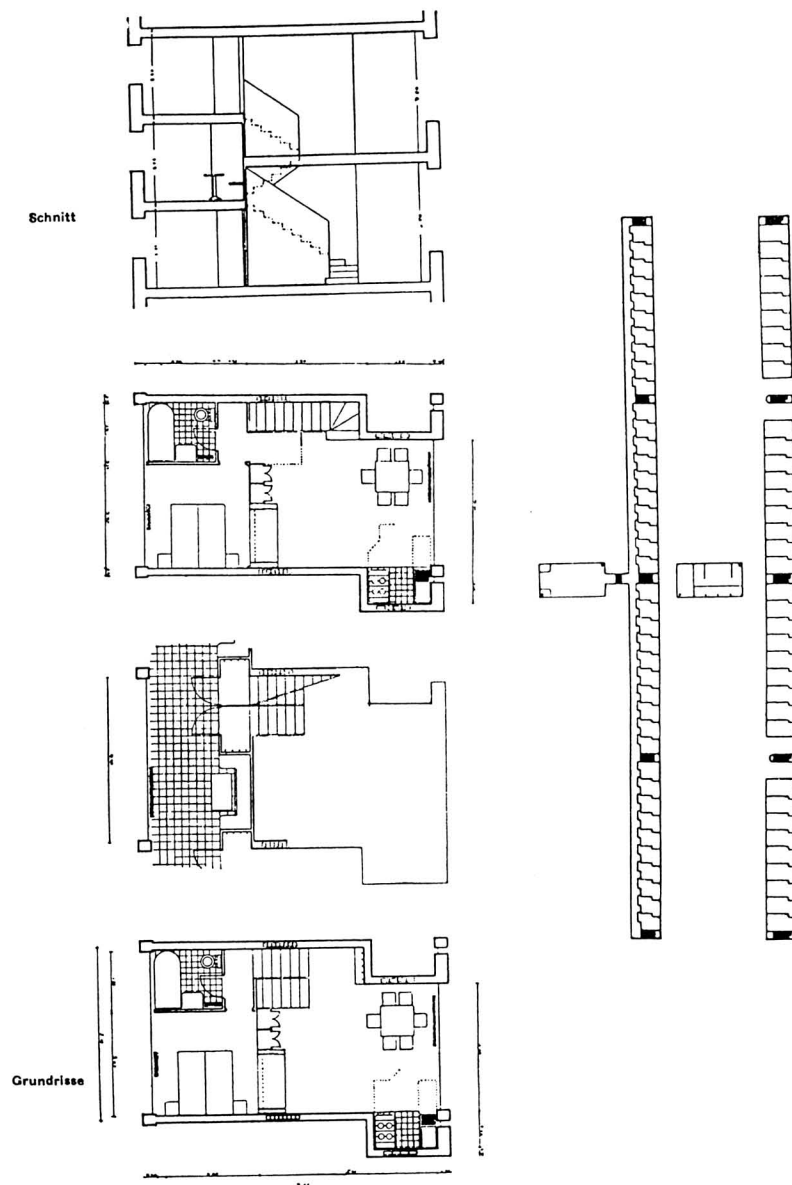


Fig. 9. Building Committee of the Economic Council of the R.S.F.S.R.: Housing commune, type F.

Fig. 10. K. Ivanov, F. Tio-
kin, and P. Smolin (Civil
Engineering Institute):
housing commune.

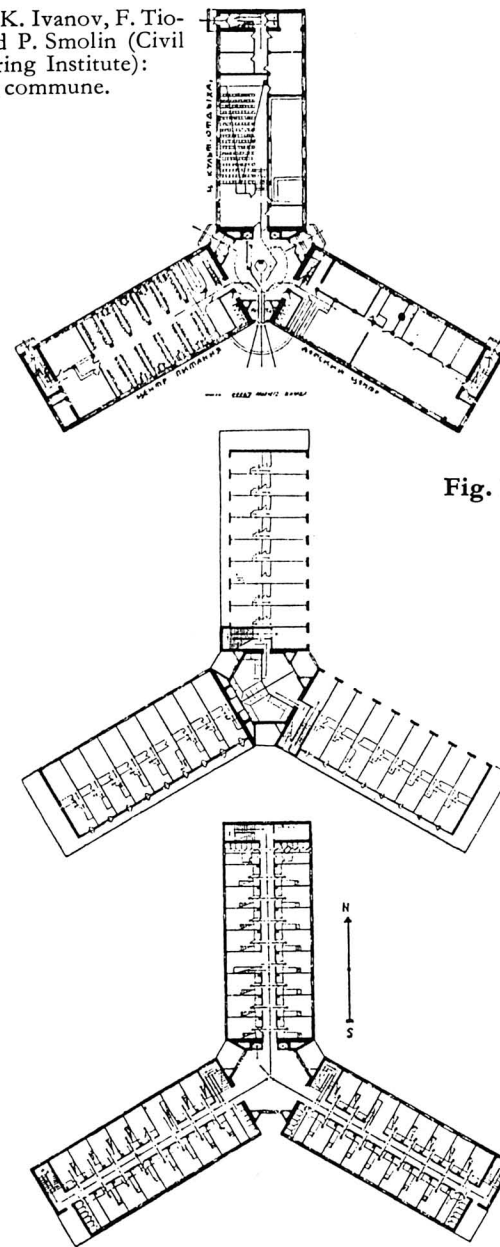


Fig. 10

All these systems are quite flexible and lend themselves to a number of variations, depending on the type of building lot, the desired number of housing units, etc. Let us look at another type of solution for a housing commune, proposed by the Leningrad Building Institute. The design consists of a compact, centralized, tri-axial building volume of six stories for 660 tenants. A single corridor serves three floors. The dwelling units consist of two and three rooms, respectively. Three basic types of community rooms (dining, children's care, and recreation) are located on the first floor in a separate wing of each complex.

It is not important whether the scheme favors a horizontal (corridor) or a vertical (staircase) system; the important thing is that the housing block, which up to now has merely represented the algebraic sum of self-contained private apartments, has now been transformed into a synthetic complex for total communal

living. Once the functions of the individual elements become better defined, it will be much easier to design the over-all structure in a more flexible way. At the same time it will be possible to give more consideration to individual desires.

All these inventions and the restructuring of individual elements have one goal in common: to determine the direction in which the housing of a Socialistic society should develop. This then, represents one of the central tasks in the reconstruction of our architecture.

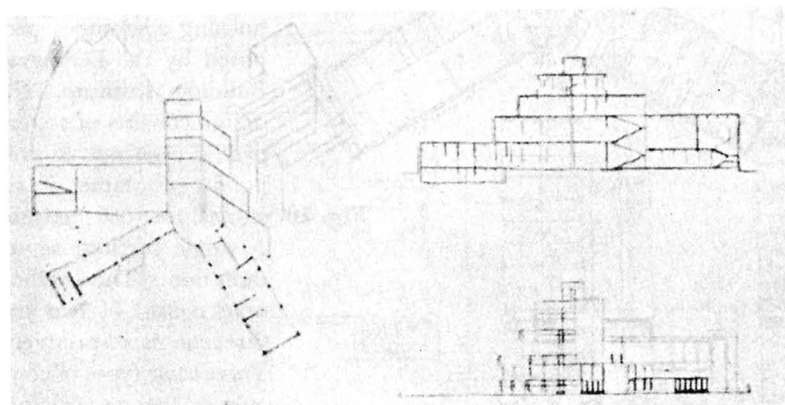


Fig. 11. I. Lamtsov: Design for a club. Sections.

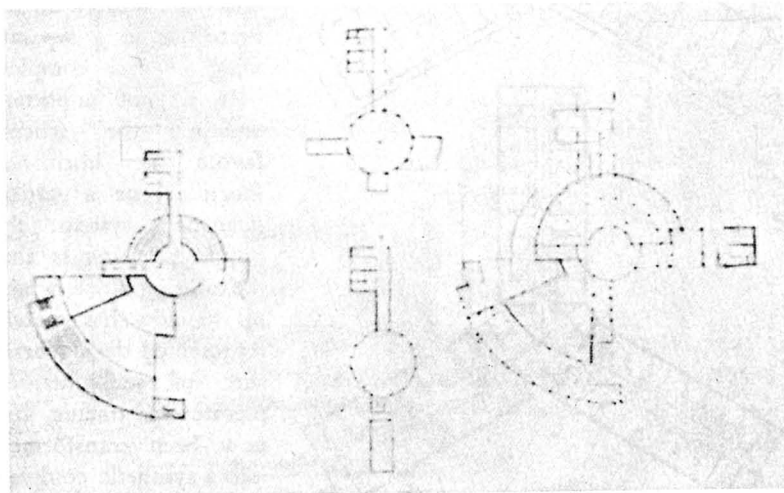


Fig. 12. I. Lamtsov: Design for a club. Plans.

The Club as a Social Force

Buildings designed to serve all of society have always acted as a repository of the sum total of all creative energies. Depending on the prevalent social order, these have usually been of either a religious or a governmental character: the Church and the Palace. These were the power sources of the old order. Their power can only be transcended by establishing new power sources belonging to our new order. Some years ago it was thought that palaces would serve this purpose, except that now they were to be called "Palaces of Labor." This created the danger of introducing a foreign and superficial pathos into our lives. If the term "palace" is to be applied to our situation at all, and in order for it to have any validity in our situation, it is the factories that should be transformed into "Palaces of Labor" first. The competition of 1923 for the "Palace of Labor" in Moscow represented a new departure in this direction and marks the beginning of a great number of competitions for similar palaces, later called "Palaces of Culture," which in turn eventually came to be known quite simply as "Clubs."

In the course of this work three phases of development can be traced:

1. The remodeling of existing buildings that had previously served different functions, and their subsequent transformation into clubs.
2. The building of new complexes. However, it was soon discovered that the conglomeration of diverse and unrelated individual elements, consisting of the theater hall (old baroque system) and the motion-picture hall, both surrounded by corridors and individual rooms, did not offer a good solution for the new cultural task.
3. Only gradually were attempts made to resolve this task by a complete restructuring of the problem.

The growing needs in this area helped to bring about a clearer understanding of the whole problem. To achieve a solution, new spatial volumes and construction methods had to be created capable of providing all the age groups of the working masses with facilities for recreation and relaxation after a day's work, i.e., a place to store up new sources of energy. Here each child, each adolescent, each adult, as well as all the older people, could be educated into becoming collective human beings

outside the circle of their families, while their individual interests could be enlarged and broadened at the same time. The aim of the club is to liberate man and not to oppress him as was formerly done by the Church and the State.

It would be shortsighted to think that such a building could be invented in one try by a so-called architectural "genius." What we demand from the Soviet architect is that, as an artist and because of his perceptive intellect, he will fully comprehend and amplify the faintest ripple of developing energies much sooner than the masses—who tend to be shortsighted as far as their own growth is concerned—and that he will transform this energy into tangible architectural form.

We present in Fig. 13 the design for a club, planned as the center of a settlement. The club rooms and the service rooms are located along two perpendicular axes. The large theater hall and the smaller auditorium are situated radially. Each successive floor recedes toward the top in a step-like manner, and the whole is grouped around a vertical axis.

A conceptual expansion of the problem yields the following propositions:

The large park grounds are to be organized in such a way that a number of open, half-open, and closed rooms will form a unified whole, responding to the functions of club life. The club ought to become a gathering place where the individual becomes one with the collective and where he stores up new reserves of energy, while he should at the same time be given the opportunity to split off and join smaller groups for the pursuit of special activities. Thus, both small and large rooms must be conceived in an organic manner, while the whole should form a new unified spatial relationship. In this context, the Roman bath, old monastery layouts, or theater plans, can no longer serve as models. It is evident that flexible rooms will have to be created to allow for different uses and variable circulation patterns. The most important thing to remember is that in the club the masses should provide for themselves, that they should not throng there from the outside merely to seek amusement, but that they should instead arrive at a realization of their potentialities by their own efforts. The club's role is to become a University of Culture. If one accepts the premise that private dwellings should strive to operate on the basis of the greatest possible austerity, then by contrast, public dwellings should provide the maximum of available luxury accessible to all. The term "reconstruction" is therefore not applicable to this case, since there is no building precedent in the past that by virtue of its social significance would provide us with a prototype

Fig. 13
Plate 19

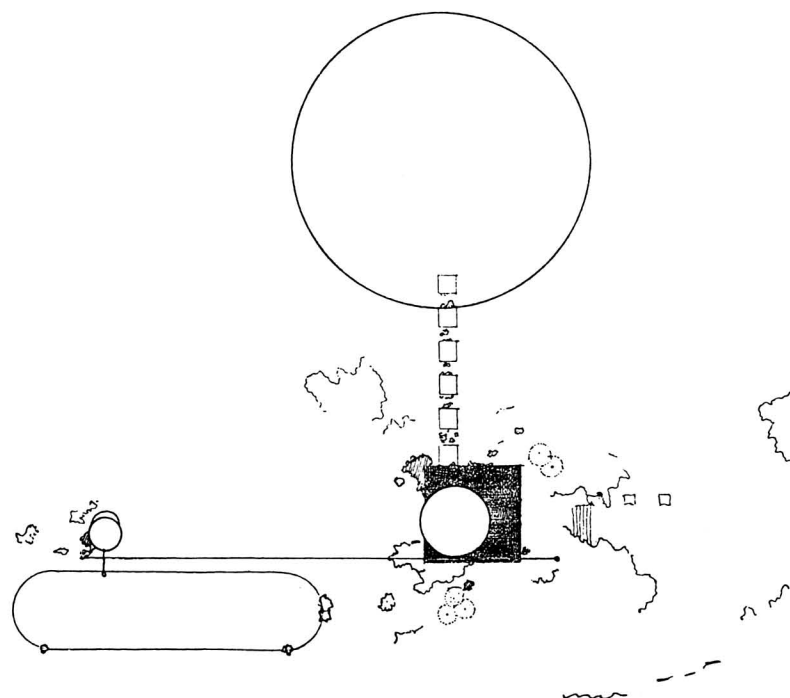


Fig. 13. I. Leonidov: Club.

solution. Here, both internal and external form must become the concrete expression of our concept of the spiritual condition and the aesthetic life of social man.

Sports

The close relationship between mental and physical training suggests a similar affinity between sports structures and clubs. The new society desires a strong generation, for strength is equated with optimism and the joy of living. This explains why “physculture” enjoys equal rank with the other elements that make up the totality called “social culture.” In our society so-called sports records are irrelevant. Physculture, i.e., the culture of the body, is important.

All trade unions possess their own sports grounds. The largest sports complex of this kind is being built on the outskirts of Moscow, along the most beautiful stretch of the shores of the Moskva River, the Lenin Hills rising from the right bank, the opposite shore being flat and even. Shown in plate 23 is one of the most interesting designs for this project: a sports complex on the left bank of the Moskva, on a site where the river forms a large sweeping semicircle. The largest part of the complex consists of a colossal autodrome. Its outline is determined by the semicircular shape of the site and also by the traffic pattern. A number of stadia are located within and outside the autodrome. The river bank itself has been developed into an aerodrome. The most characteristic and striking feature of the design is the structure of the grandstand. It consists of a huge, bracket-like superstructure of reinforced concrete and steel-rib construction. The autodrome is on the lowest level. Below are a number of rows of seats covered by a projecting canopy whose top surface is designed to serve for bicycle and motorcycle racing. More rows of seats rise up to a break in the structure, which from that point on projects forward again. Five rows of enclosed booths are suspended from the underside of this cantilever.

The V-form of the grandstand has a double advantage: the viewing distance from the last row is only slightly greater than from the front one, and the upper seats provide a protective roof for the lower ones. Here, elements of structure and design have been consciously combined. Plans for the right bank near the Lenin Hills have been developed by the ASNOVA-Group under the leadership of Ladovski, who designed the stadia complex of the “Red Sports International.”

Institutes of public hygiene are closely related to physculture. In Russia the bath has a very specific character—it is a steambath. The village has traditionally solved the problem in a very simple way: usually

Plate 2

Fig. 14

Plate 2

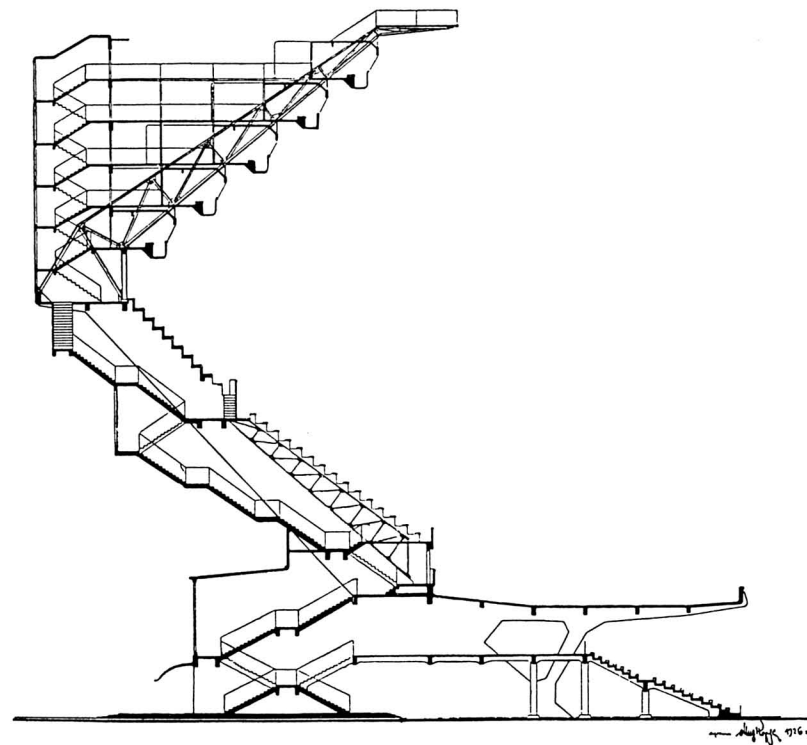


Fig. 14. M. Korshev: Section through the grandstand of a stadium for the city of Moscow, 1926.

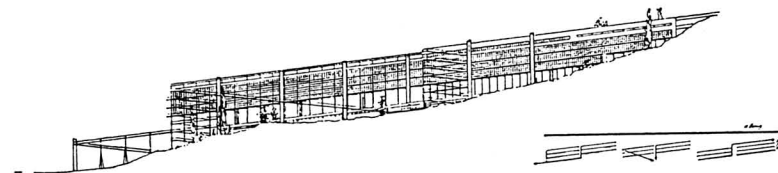


Fig. 15. Afanessiev (Vkhutein): Spa hotel.

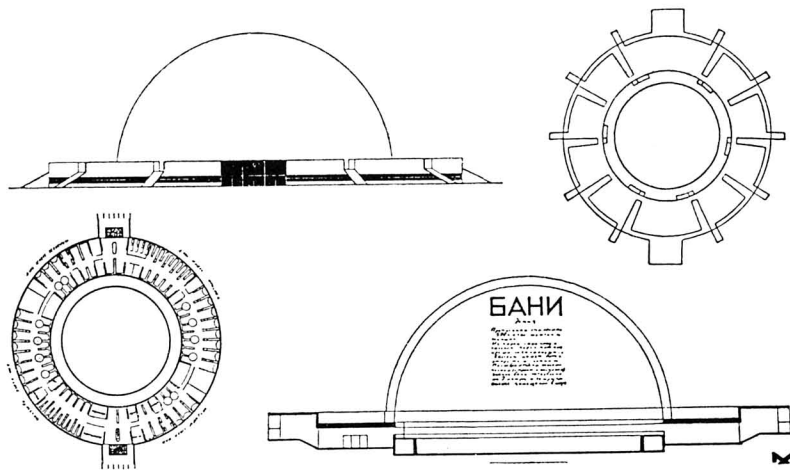


Fig. 16. Atelier A. Nikolski: Bathhouse for the city of Leningrad.

a small hut with a large stove was placed next to the village well. The city on the other hand developed the public bath house with its large communal steamroom. The floating swimming pools in the rivers used during the summer and the large bathing facilities on the Russian Riviera, which take up one third of the whole Black Sea coast from the Crimea to Batum, are used by the Russian population as open-air bathing establishments. Formerly, these facilities were accessible only to the propertied classes. Now, the whole coast has been declared a national recreational area and is being intensively developed to accommodate the vast number of vacationers crowding the beaches. In the design of these facilities two contradictory elements have to be reconciled: the free and organic growth of nature, seen as an entity of stone, vegetation, and water, as opposed to unity created by man. All this must be combined and ordered in harmony with the sensibilities and spirit of our time.

The conceptual aspect of this problem may be approached from two basically different vantage points: singular order, i.e., an order directly aimed at the whole, and organic order, or geometric order, i.e., an order based on uninhibited inner growth. The design of a facility on the shores of the Black Sea (Fig. 15) may serve as an example.

The planning of the building follows the slope of the shore with a corridor 200 meters long, flanked by the dwelling units. This represents

geometrical order. There is a plan afoot to build, adjacent to the massive main building, a system of easily assembled housing units that could be erected at various locations according to personal preference and as required during the bathing season—in other words, a prefabricated standard unit for individuals or families, easy to assemble. Everybody picks his own location out of the available sites. The unity of a camp site develops. Modern mechanical services are provided only on a community scale. This represents an attempt to achieve a synthesis between individual freedom and collective interdependence.

Plate 26

Fig. 16

Plate 25

One example of a solution for a citybath house is described below. The circular layout is planned as a large garden. From the outside one enters directly on to the flat roof and into the sun bath. The swimming pool is located in the center. It is covered by a glass dome that can be opened during the summer months. The individual baths for both men and women are located to the right and left along the circular periphery and are sunk two meters below the ground for the sake of lower construction costs.

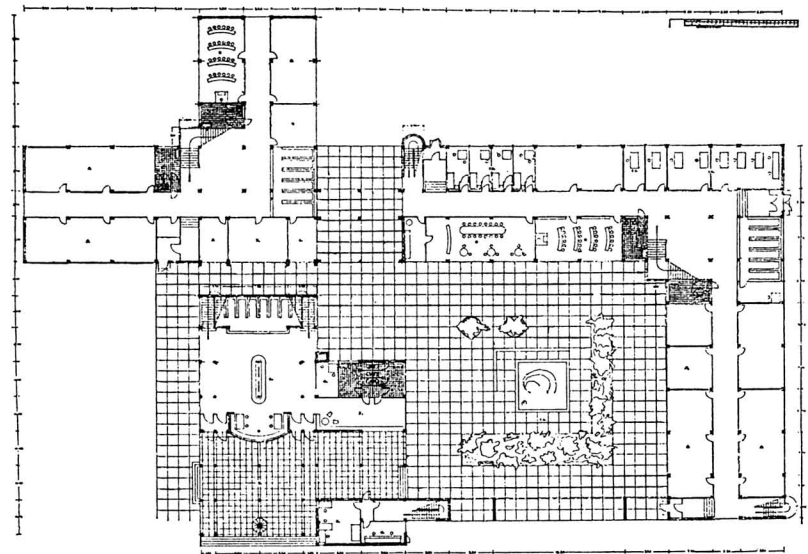


Fig. 15

Fig. 17. M. Ginsburg: Government building for Alma-Ata. Plan.

Old Cities—New Buildings

A new social order is being realized in an agricultural country. We have inherited cities as different as Moscow and Samarkand, or Novosibirsk and Alma-Ata, each belonging to widely differing cultural stages. In these cities, buildings which in the past had satisfied the needs of a feudal culture are now expected to serve completely new purposes. On weekdays their streets and squares have had to adjust to an entirely new traffic rhythm and have also had to create new possibilities in terms of their function and use during holidays. Until recently, little time had been devoted to the solution of these very fundamental urban problems. The urgent need for offices for the centralized economy, for government offices of the new autonomous republics, and so on, had to be satisfied first. A number of such buildings have been constructed in Moscow

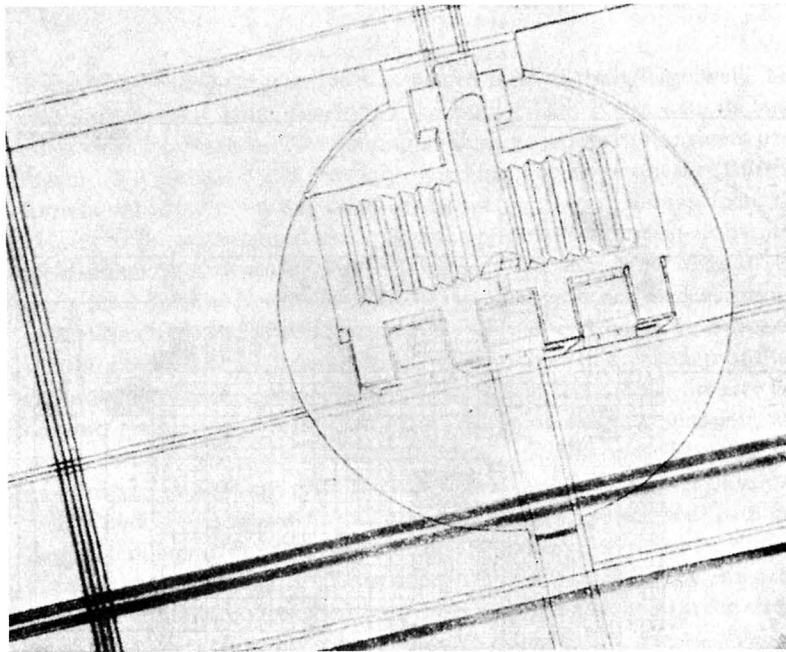


Fig. 18. Atelier A. Nikolski: School for 1000 children.

Plates 31, (State Trade Center), in Kharkov (Palace of Industry of the Supreme
32 Economic Council), and in the Siberian "Chicago," Novosibirsk. All these were conceived as modern office structures, built in reinforced concrete, with sharp projections and large glass surfaces. The huge dimensions of these massive buildings are an expression of new power rather than one of new ideas in design. They are starkly bare, their volumes are plain and stereometric, and the traditional elements of their monumental façades have been transformed into a series of horizontal strips of concrete and glass. The steel construction of the windows provides the only rhythmic articulation of the wall. In each building one can find visual features that create new spatial effects. Nevertheless, all this still belongs to the past. Just as in the past, houses follow a continuous street line, as if the individual lots of private owners still existed. There is no suggestion whatever of the new situation in land ownership. The new houses put up so far give us no indication of the new concept of the open street, or of the city as the

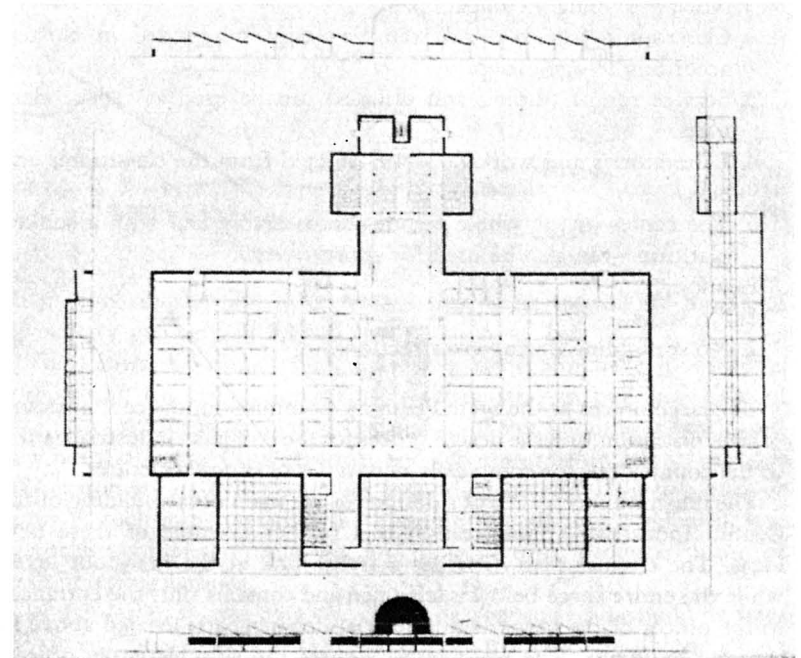


Fig. 19. Atelier A. Nikolski: School for 1000 children.

expression of a relationship of new associations as a result of which mass and space may be organized in a different way—even in the old parts of the city.

This new social attitude toward all problems suggests a number of new proposals. The introduction of new building types into the old fabric of the city affects the whole by transforming it.

Let us examine a design for a government building, proposed for Alma-Ata, the capital of the Kazakh Autonomous Republic. The city is located deep in Asia but was planned by Europeans. The new open design of the proposed building complex will certainly affect the character and the planning of the system of all future streets and open squares in the city.

Another example is a school for 1000 children, designed in A. Nikolski's studio. It is not a multistory building in some tight street, but a city district in itself. The guidelines: new pedagogy, hygiene, economy.

1. Single-story construction permits optimum admission of daylight while providing a compact plan.
2. Classrooms (standardized) can be easily subdivided in clusters according to age group.
3. Service rooms (dining and utilities) can be used as independent units.
4. Laboratories and workshops are isolated from the classrooms and labs.
5. The center of the whole layout—an assembly hall with a sunken platform—can also be used for sports events.

Economy:

1. No stairs.
2. No scaffolding during construction.

The large offices of the State Planning Commission, the centralization of administration, and the design offices for the complete industrialization of the country call for completely new types of office structures.

The illustration (Fig. 20) of a design for the main office building of the Central Industrial Administration is a further example of these new ideas. The circular plan provides a traffic link at the first-floor level, while the entire space below is left open and contains only the entrances to the offices of the individual industrial departments, located above in separate buildings. The main tower houses the administrative offices. Attached to it is the employees' club with all communal facilities. A very

Fig. 17
Plate 30

Figs. 18,
19

Fig. 20
Plate 33

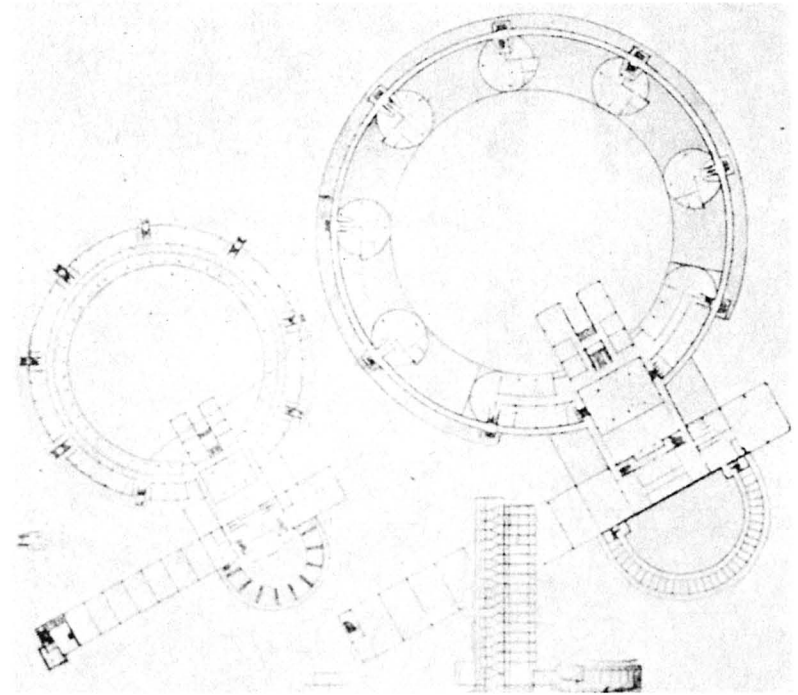


Fig. 20. A. Zilchenko (Vkhutein): Office building for the Central Industrial Administration.

direct and simple orientation system has been created by means of elementary geometrical forms.

Fig. 21
Plate 37

The Central Consumer Cooperatives of the USSR have sponsored a competition for the design of their administration building. One of the entries is reproduced here. The design of this building is based on a new point of view. Until recently, and according to traditional ways, it was customary to string together individual buildings serving various needs in such a manner that the building line along the sidewalk was eventually completely built up, and this, in turn, produced more or less interesting façades.

In the design shown here, the closed narrow end of the building faces the street. The workrooms are located away from the street along a long wall facing a garden. The only element running parallel to the street is

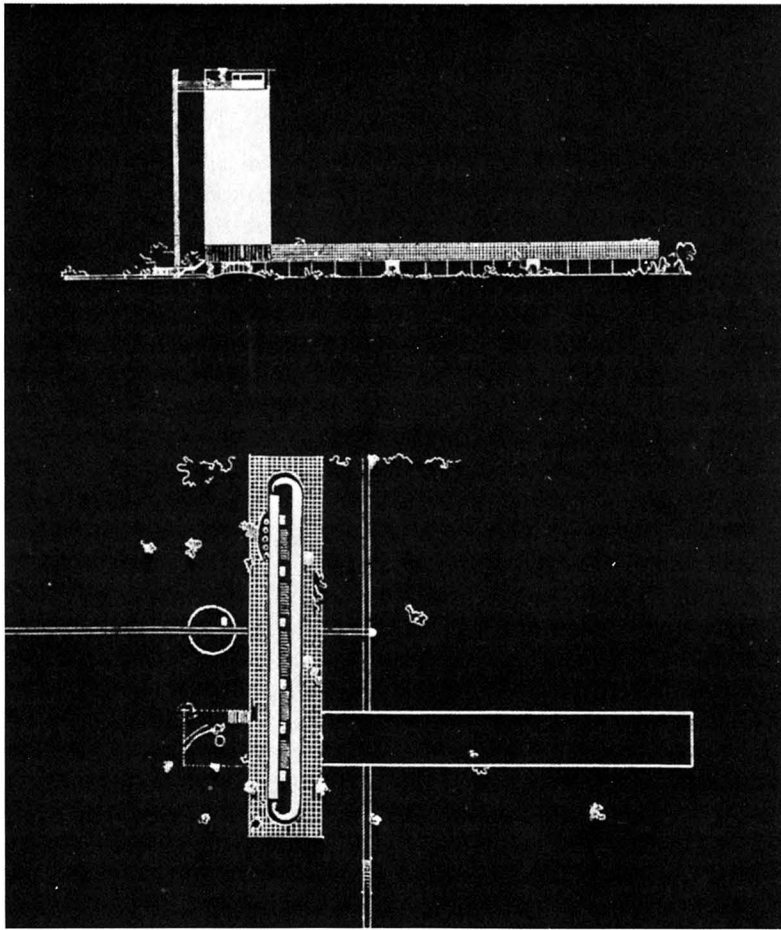


Fig. 21. I. Leonidov: Office Building for the Union of Cooperatives.

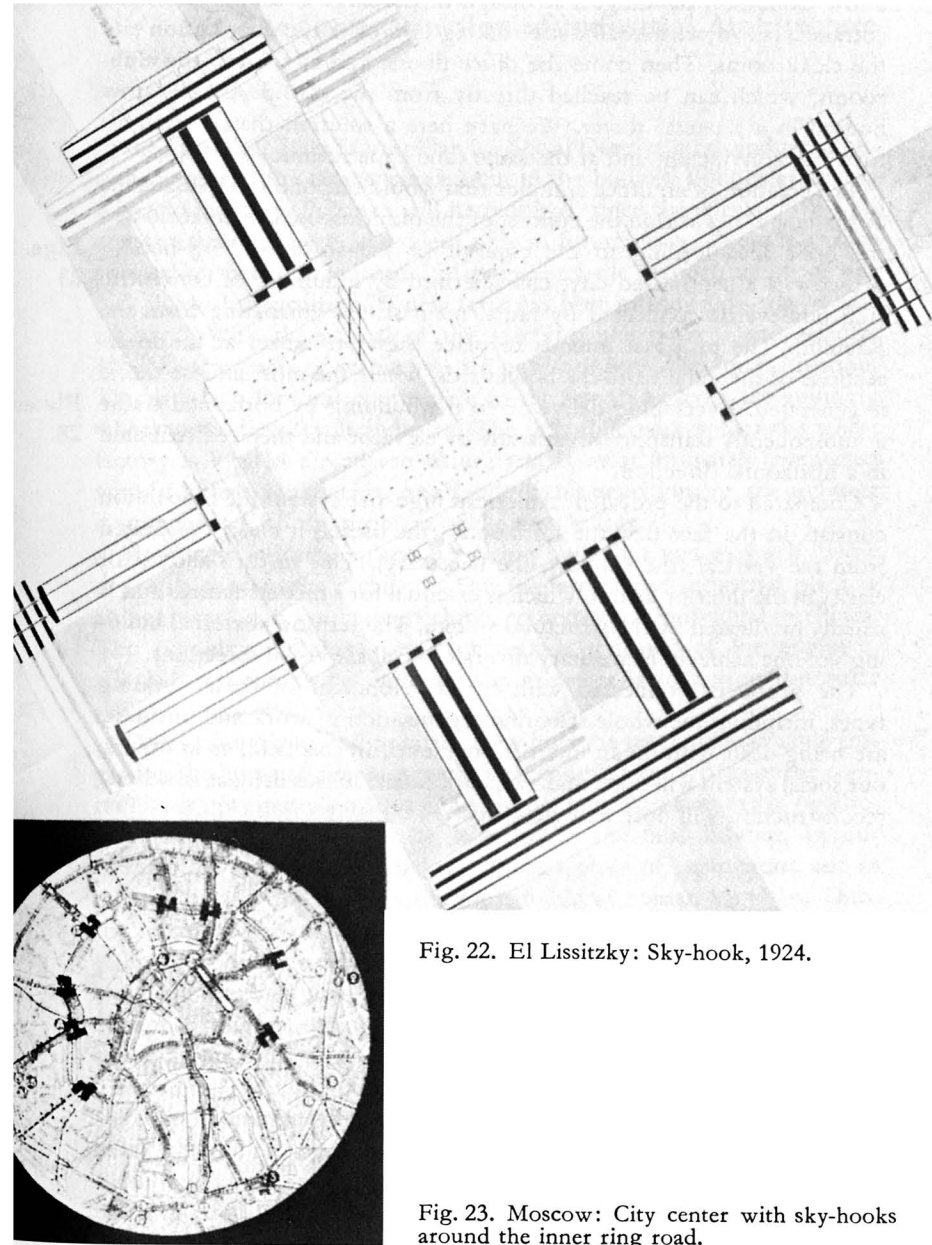


Fig. 22. El Lissitzky: Sky-hook, 1924.

Fig. 23. Moscow: City center with sky-hooks around the inner ring road.

a low exhibition building. The design of the large building places the entrances below, with a hall above taking care of traffic distribution and the cloakrooms. Then come the office floors, and at the top the club-rooms, which can be reached directly from the outside by elevators housed in a separate tower. We have here a solution that is straightforward, convincing, and at the same time antiacademic.

The creation of an office complex that would respond to the demands of the new times within the context of the old Moscow urban fabric was the basic idea leading to the concept of the so-called “sky-hook.” Moscow is a centralized city, characterized by a number of concentric ring boulevards connected by radial main streets emanating from the Kremlin. The proposal intends to place these structures at the intersections of the radials and the boulevards, where the most intense traffic is generated. Everything delivered to the building by horizontal traffic is subsequently transported vertically by elevator and then redistributed in a horizontal direction.

Compared to the prevalent American high-rise system the innovation consists in the fact that the horizontal (the useful) is clearly separated from the vertical (the support, the necessary). This in turn allows for clarity in the interior layout, which is essential for office structures and is usually predicated by the structural system. The resulting external building volume achieves elementary diversity in all six visual directions.

The problems connected with the development of these building types, including the whole scientific organization of work and business, are being dealt with on an international level. In this field, as in others, our social system will open up new possibilities. In this field, as in others, reconstruction will pose new demands.

**Figs. 2:
23**

**Plates:
28**

The Reconstruction of Industrial Architecture

In the Five-Year State Master Plan for Social Development, industrialization represents the largest single item in the budget. Billions are being given to industry. Patience will be required, since the effects of this reconstruction will become evident only in future years. There is a close connection between industrial planning and the reconstruction of our old, sluggish agriculture. A new term has been introduced—the “wheat factory.” With the arrival of the machine, the tractor, and science, 100,000-acre tracts of virgin soil are now being readied for cultivation. This is a leap forward comparable to the transition from the spinning wheel to modern textile industry. The only difference is that the wheat factory is located directly in nature and is most intimately connected with its human settlements. As a result of this development, the architect is now faced with the problem of the new village.

Many new industrial plants are being built, but you may ask “How does this concern the architect? The modern, large industrial plant is an aggregation, a synthetic machine, composed of individual machines. The planning of this composite unit is the task of the engineer. All that remains to be done by the architect is to design the outer shell.”

This seemingly logical point of view puts the machine first while forgetting the human being and the human community. Work for the community is not simply a matter of adding up figures; a number of psychophysical components must be included in the final balance. In our country the factory has ceased to exist as a place of exploitation and as a hated institution. Work is the most noble of human activities. Once the term “Palace of Labor” is introduced it should, strictly speaking, refer to the factory. Wages and material gain alone are not enough to stimulate productivity—a new psychological force must take the place of capitalistic competition. Free Socialistic competition, i.e., the competition between individual factories, plants, and trade groups provides such a stimulus. The architectural design of the new environment for work has become an active and important element in this process. By virtue of exact division of time and work rhythm, and by making each individual share in a large common responsibility, the factory has become the real place of education—the university for new Socialist man. Our largest meetings are held in the factories. Stage plays and concerts are performed

in large factories during work breaks. Thus, the factory has become the crucible of Socialization for the urban population; its architecture is not merely the wrapping for a complex of machines but something completely new and different.

The New City

Social evolution leads to the elimination of the old dichotomy between city and country. The city endeavors to draw nature right into its center and by means of industrialization to introduce a higher level of culture into the country.

The city of today can no longer satisfy all the demands made on it by society. The conditions out of which old cities developed have long since disappeared, but we continue to live in their petrified shells.

The layout of our old cities was determined by business, trade, and exchange—the marketplace; as well as by protection and defense against war and attack—the castle or the Roman camp. This led to the development of the concentric and the gridiron town plan.

In our day these old systems are supposed to satisfy all kinds of new needs. Twice a day the city experiences its ebb and flood. Traffic has become a major problem. It is increasingly becoming a question of time rather than space. Traffic has to connect all developed parts of the city: business and administration centers, cultural districts, industrial districts, and housing. The social substructure of all these areas has been entirely changed in our country. Departments that deal with organization and design must attack these problems that face the Soviet Union in a new spirit. Specialized knowledge alone—even the best—is inadequate in this situation. Everything must be conceived on the basis of broad concepts and an unshakable confidence in the future. Two basic forces, fundamental to the treatment of the problem of cities, must be taken into consideration: the social structure of society, which allows the new city organism to give the fullest expression to its life processes; and the level of technology on which the realization of these new ideas depends. This ought to lead to the following developments:

- (a) City type and urban structure.
- (b) Districts within which individual social neighborhoods establish themselves.
- (c) The design of the resulting volumes and spaces must take into account the new social and psychophysical characteristics of society.

Several such proposals stand ready to be debated. As first attempts trying to take hold of the subject while searching for some kind of new

point of departure, they tend to be of a more or less theoretical nature. However, all these proposals have one thing in common, namely, that the actual realization of such cities is being projected for the final stage of the present transition toward Socialism. On the whole, these planning efforts are intended for flat terrain. It is assumed that these cities already harbor a classless society.

Proposal (a—d) of Fig. 25 develops a metropolis conceived as the intellectual and administrative center of a territory. It is based on the assumption that free competition rather than competitive struggle will be the main source of strength of the society of the future.

Three principal long-distance arteries lead to the central railroad station and the airport. The centrally located public core, where all communal activities take place, includes sports and amusement facilities as well. Three city districts are located in the area between the traffic arteries: the administrative and government centers (intellectual center); the production center; and the educational center.

The proposal is based on the assumption that the population of the city will be in a state of continuous motion: people arrive from the outside, from the country, and return there. In the city itself no one is any longer tied to one and the same occupation. Living quarters are changed with each new employment.

The city originates from three nodal points, which remain eccentrically fixed during the subsequent growth of the city. This eccentricity is a result of the direction of growth into the country and traffic moving on elevated highways in circles.

More than half of the city area is given to green spaces, while residential and communal buildings are provided with landscaping at varying levels.

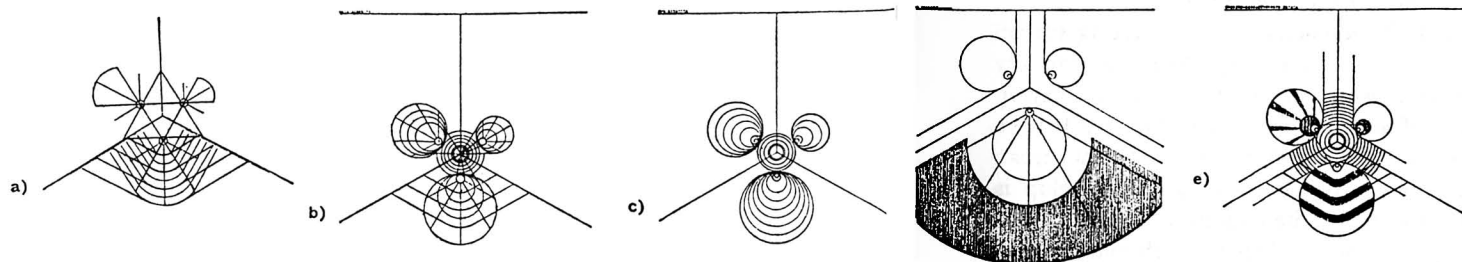


Fig. 24. T. Varentsov: Housing systems for the city of the future.

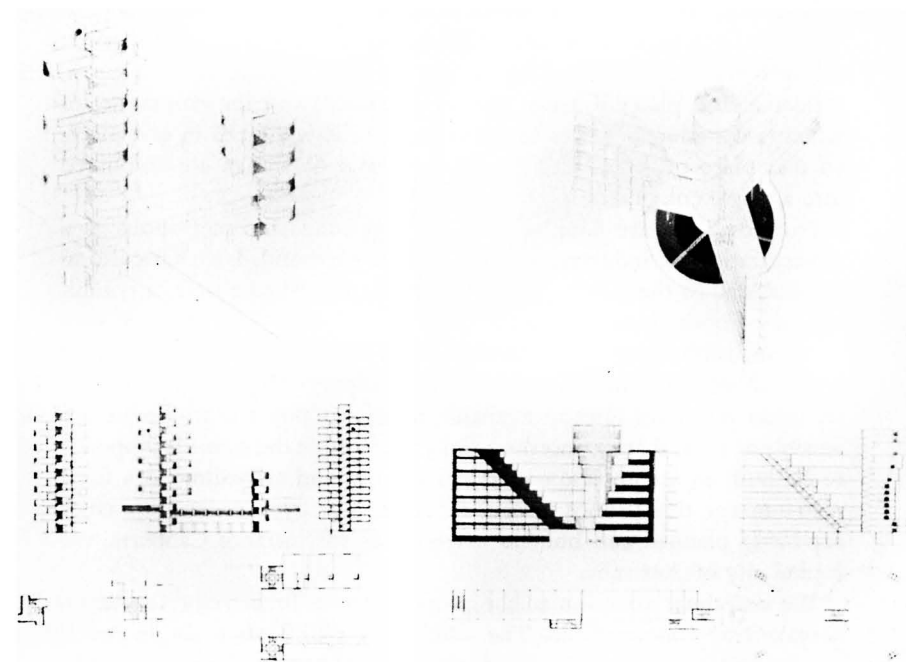


Fig. 25. Varentsov (Vkhutein): Schematic diagrams for the city of the future.

Buildings are conceived as standard units according to function. Thus we have high-rise buildings for offices in the government district, and two types of residential buildings: the individual apartment, where residence and place of work remain separated; and the commune, in which a community unites to perform all of its activities in one place, so that place of work, club, restaurants, and dwellings are combined into a single complex.

Nowadays we are familiar with two extremes: the metropolis as a concentration of industry, and the village surrounded by agricultural production. In the new type of city system described above, a combination of both these tendencies becomes possible. The territory may be planned either way—the parabolic strips of the drawing accommodate both technical production areas and food supply. This idea is based on technical resources already available to us, so that the proposals are feasible as far as that is concerned. Only the fact that the whole is supposed to be built as a complete entity—all at once and according to a fixed plan—makes this proposal seem fantastic. But even today new cities are being planned and built as a whole, as for instance Canberra, the capital city of Australia.

We also draw attention to the proposal for a “linear city” based on a system by Charles Gide. The whole city represents a single street, a spine, whose vertebrae are made up of individual residential blocks.

Another proposal presented here is that of two old cities connected by a linear city. As with all problems of the future—and that includes the questions of planning and urbanism—reality will surpass the most daring prophecies. Current discussion is not about details but about the fundamental attitude toward the total character of building development and the principles of design. It is a question of “geometry” versus “organic.” It is a question of the social condition of the human society for which one designs. Whenever anarchic and unbridled conflict becomes the basis of a social order, prescribed order tends to act as the only cohesive force, and “geometry” as an ordering system becomes most useful and unequivocal. However, when a community organizes itself into a living organism, with each individual playing his inseparable part, incapable of separate existence, then we believe that we can perceive the basis for the development of a new urban order. How the core of these new urban complexes will develop is a matter of selection and depends on the site conditions and the landscape in which they are to be placed, while their form should develop by organic growth.

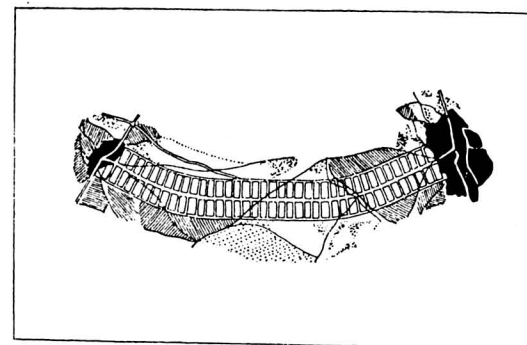


Fig. 26. Schematic diagram showing two old cities connected by a new “linear city.”

The Future and Utopia

In these times we must be very objective, very practical, and totally unromantic, so that we can catch up with the rest of the world and overtake it. But we also know that even the best "business" will not of itself advance us to a higher level of culture. The next stage of cultural development will encompass all aspects of life: human productivity and creativity, the most precious faculties of man. And this not in order to accumulate profits for individuals, but to produce works that belong to everybody. If we just consider all the accomplishments of our own generation, we are certainly justified in taking for granted a technology capable of solving all the tasks mentioned earlier. One of our utopian ideas is the desire to overcome the limitations of the substructure, the earthbound. We have developed this idea in a series of proposals (sky-hooks, stadium grandstands, Paris garage).

The design of the Lenin Institute on the Lenin Hills in Moscow is based on this idea. The building complex consists of a tower structure (library for 15 million volumes), low-story buildings with reading rooms and workrooms, and a spherical building (elevated in the air) containing a central reading room for 4,000 users. The latter can be

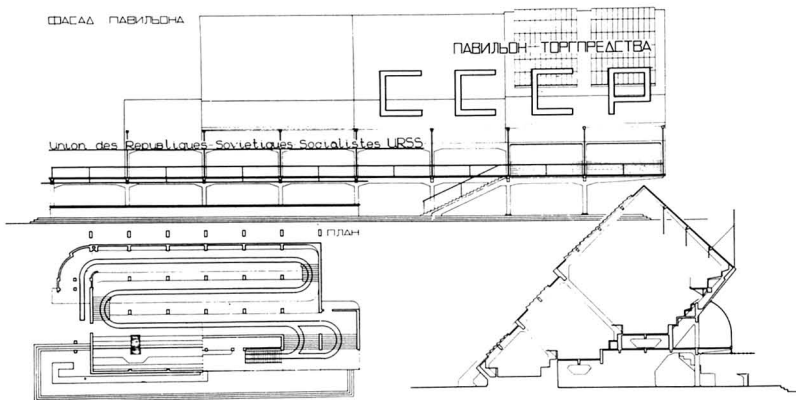


Fig. 27. M. Korgiev: Trade Fair Pavilion for the Paris Commercial Representatives.

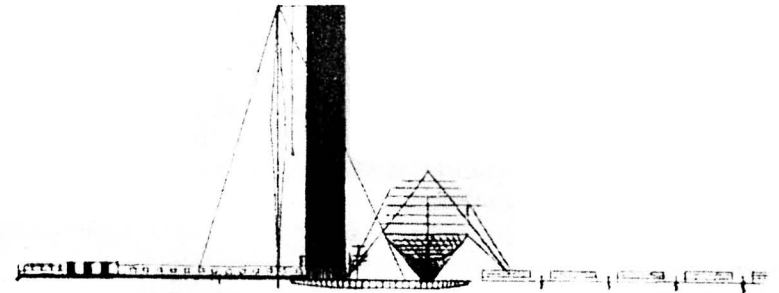


Fig. 28. I. Leonidov: Lenin Institute. Main elevation.

Plates:
28, 62
Figs. 2
29

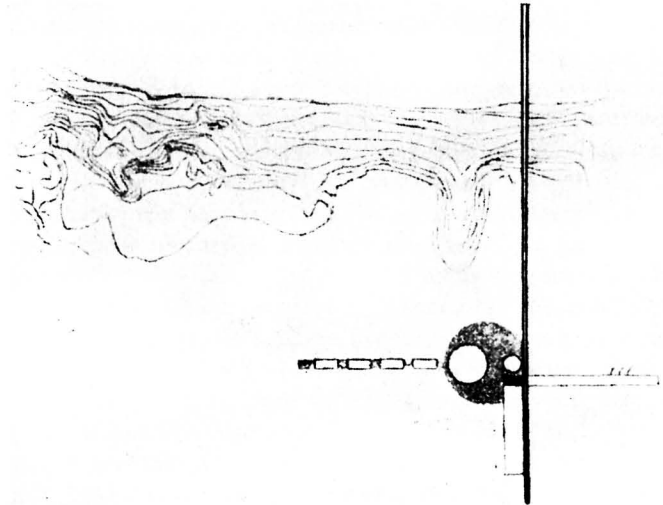


Fig. 29. I. Leonidov: Lenin Institute. Site plan.

divided up into several sections, and the sphere itself can be used as a planetarium. The institute is connected to the city across the river by means of an aerotrain.

It is the task of technology to make sure that all these elementary volumes that produce new relationships and tensions in space will be structurally safe.

The idea of the conquest of the substructure, the earthbound, can be extended even further and calls for the conquest of gravity as such. It demands floating structures, a physical-dynamic architecture.

Though in reality a reduction of these futuristic plans and proposals is still necessary, their basic soundness is apparent even at the present time. A good example of this approach is the exhibition building of the Trade Representatives of the USSR in Paris. The designer has taken the "utopia" of the suspended grandstands and developed it further to achieve an enclosed building, thereby fusing the path of the visitor with the various objects and goods exhibited. This represents a crystallization of an idea where function, construction, interior space, and exterior volume are intensified by giving the whole a new meaning and a new unity.

Fig. 2

We know that the birth of the new architecture will not take place in the schools, and we also know that none of the institutions concerned with design or with actual construction proceed in a truly creative manner. So far we have not been able to develop stable systems responsive to the needs of our time that would embrace the whole building process—starting with design and ending with actual work on the site.

Reconstruction has placed heavy demands on architecture, thus creating a need for a great number of new specialists in this field. Even in most recent times the architectural schools merely *taught* students the technical subjects, whereas they *educated* them in the artistic subjects. This luxury, which places all emphasis on the teaching talents of the master, can no longer be tolerated in our time. We demand a firm, scientific foundation for the *learning* of the art of architecture. The architectural faculty of the Technical Arts Institute (Vkhutein) has acted as the central clearing house in the continuing search for new fundamental concepts that will form the theoretical basis of the new architecture.

Through the initiative of Ladovski, a psychotechnical laboratory was established, charged with the development of proper methods for testing the students' psychotechnical aptitude for architecture.

The design problems given to the students by the school were closely related to the current building programs of the various communes and other state institutions. This represents a source from which the future architect and builder may continuously extract new ideas. Thus the schools, which have often been accused of "utopianism," become the real pace setters in the art of building.

We know the danger inherent in schools. As long as the designer deals only with a sheet of paper, his main driving force will be diligence, competition, and the record performance for which he fights with his school colleagues. This alone can only lead to a new academicism, isolated from life. Because of this, it is necessary to steel youth by simultaneously exposing it to the struggle with real materials and the work of actual construction on the building site. Hence, the new school program allots more and more time to practical work in the field. In this way, and in accordance with the general educational goals to be achieved, the schools must be perpetually concerned with their own reconstruction.

Ideological Superstructure

Let us review some aspects of the life process introduced into our world by the Revolution which, as I write this, is scarcely five years old. During this period the great challenges posed by the cultural revolution have taken deep root in the consciousness of our new generation of architects. It has become obvious to the architect that by virtue of his work he is taking an active part in the building of a new world. For us the work of an artist has no value "as such;" it does not represent an end in itself; it has no intrinsic beauty. The value of a work of art in our society is determined by its relationship to the community. In the creation of each great work of art the contribution of the architect is explicit, while the contribution of the community is latent. The artist, or the creative worker, invents nothing; there is no such thing as divine inspiration. Thus we understand by the term "reconstruction" the conquest of the unresolved, of the "mysterious," and the chaotic.

In our architecture, as in our entire life, we are striving to create social order, i.e., to raise the instinctive to a conscious level.

The ideological superstructure protects and secures work. The socio-economic reconstruction, mentioned earlier, represents the substructure of the renewal that has to be accomplished in architecture. It provides a definite point of departure, but it would be fallacious to account for all the complex interrelationships in such a simple way. Life, organic growth, represents a dialectic process that simultaneously affirms both the yes (plus) and the no (minus). Growth is part of the social life process as well as the result of certain actualities, both affecting the formation of future intentions. On the basis of the existing, an ideology is formed representing a definite view of life and leading to certain interpretations and interrelationships which, in turn, affect further growth. The development of our architecture reflects this dialectical process:

1. *Destruction of tradition.* Material production is stopped in the country. The thirst for superproduction. First design dreams. Subsequent formation of an ideology embodying two basic demands concerning the entire future development: the elementary and invention. A work which is to be in harmony with our time must include invention within its totality. Our time demands designs that have their origin in

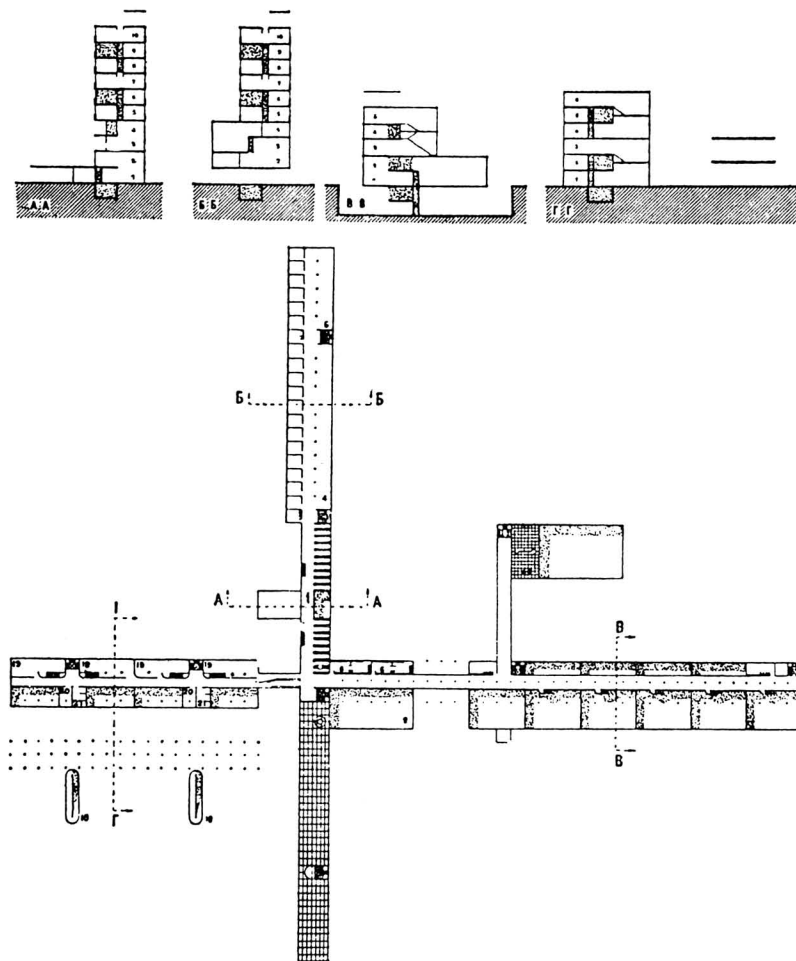


Fig. 30. Building Committee of the R.S.F.S.R.: Housing commune.

elementary forms (geometry). The struggle with the aesthetic of chaos takes its course. The demand is for a conscious order.

2. *Start of construction.* First in industry and production. The concrete situation leads to conflict. Yet the new generation, which has grown up in a time that lacked architecture, does not have sufficient practical experience, has little authority, and has not yet become academic. In the struggle for building commissions the thrust of their ideology is in the direction of basic utilitarian considerations and the satisfaction of basic needs. The slogans are: "constructivism," "functionalism," "engineer" equals "architect." At any rate, whether one said "machine" or "architecture," it was assumed that a solution could be derived from the same algebraic formula, a formula in which the only "unknown" was simply some X to be found by one and the same method. For both the architect and the engineer the result was supposed to work out automatically. It was thought that one need only introduce new structural methods and new materials, and the product would turn out to be a self-evident whole.

3. The first phase of reconstruction demands the concentration of all forces in the sphere of the socio-economic revolution so as to intensify the cultural revolution. The physical, psychological, and emotional factors of a great culture are indivisible. The intrinsic nature of art reveals itself through ordering, organizing, and activating consciousness by emotional energy charges. Architecture is considered pre-eminent among the other arts, and the attention of the community focuses on it. Architectural questions become questions of concern to the masses. The design dreams of the initial period lose their individual character and obtain a firm social basis. The "utilitarians" are once more challenged by the "formalists." The latter assert that architecture is not synonymous with engineering. To solve the utilitarian, the useful, and the expedient, and to construct a volume that functions well for a particular purpose, represents only one part of the problem. In addition, materials must be organized correctly, and the problem of construction must be solved. However, in order to achieve a true work of architecture the whole must be conceived and must come alive as a spatial idea, as well as be a creative effort exerting a definite influence on the human spirit. For this reason it is not enough to be "modern"; on the contrary, it is necessary for the architect as an artist to gain command of all the means of expression that relate to the art of building.

Let us summarize these three points more concisely:

- (a) The rejection of art as a mere emotional, individualistic, and romantic affair.

- (b) "Objective" work, undertaken with the silent hope that the end product will nevertheless eventually be regarded as a work of art.
- (c) Consciously goal-directed work in architecture, which will have a concise artistic effect on the basis of well-prepared objective-scientific criteria.

Such an architecture will actively raise the general standard of living. This represents the dialectic of our development process, which purports to arrive at the affirmative by negation—a process similar to melting down old iron and forging it into new steel.

Moscow, October 1929

El Lissitzky