NEW TYPES OF DWELLINGS FOR PROSPECTIVE CONSTRUCTION AFTER 1981

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16. Abstract

The article discusses architectural considerations for the next stage of mass housing construction in the USSR. The architects are concerned with both the aesthetic and functional quality of the constructions, in terms of the prospective inhabitants as well as the environments in which they will be located. Experimental building designs emphasize: variety of appearance, environmental control, and the communal life.

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New Types of Dwellings for Prospective Construction After 1981

V. Butuzov and Ye. Kapustyan

In the next decades mass housing will be constructed in our country on the basis of standard plans for dwellings and block sections developed in 1969-1973. /17* Along with this, beginning in 1981 housing will be further improved. Determination of its trend is the task of the searches currently being made by the Central Scientific Research and Planning Institute of Standard and Experimental Planning of Housing, by all the zonal institutes and planning organizations of the major cities in the country on the basis of the developed scientific predictions. In order that the long-range construction is guaranteed by the standard plans, the preliminary work is already developing now: the primary requirements are being defined for the functional determinations of residential regions, dwellings and apartments, their hygienic and living qualities and for the architecture of the housing system.

Plans for experimental dwellings for construction in 1975-1980 are being developed in a number of cities in the country with different natural-climate conditions. The All-Union Open Competition for Plans of New Types of Dwellings is being held. The goal of this extensive experiment is to improve housing comfort and to calculate new social requirements. In the housing sphere they are reflected in the creation of possibilities for shortening the labor time for doing housework, for productive use of free time by the population, which must promote harmonic development of the individual and more complete disclosure of the individual capabilities of each person.

A number of social tasks in the housing sphere have already been set by many architects in the previous and current stages of housing construction. However, for these stages the adopted solutions were premature, although in a number of cases they were even implemented in construction (the commune-houses of the 1930's, the dwelling of the new mode of life constructed in Moscow in the late 1960's). These experiments were not developed because they did not correspond to the overall level of organization of the every day services of the population.

With the growth in standard of providing the population with housing, with the further development of the building industry, and with the mastery of different methods for erecting buildings from prefabricated and monolithic designs it will be possible to solve the functional and architectural problems of housing more diversely and freely. Systematic improvement of the living level of the population and development of the service sphere will permit solution of new social tasks in

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* Numbers in margin indicate pagination in original foreign text

the housing sphere. The results of the search work make it possible even now to state a number of considerations on long-term housing.

The standard for providing a single person with living and useful area predicted for 1980 will increase. Improvement of the engineering and sanitary-technical equipment of housing is planned. Houses of 9 and more floors will be equipped with passenger and freight elevators for conveying large-sized objects and automatic elevators for delivering mail to the floors. The hygienic qualities of the apartments will be improved. The majority of them will have two-way orientation and through or angular ventilation. It is proposed to change the standard requirements establishing the upper limits for the total areas of the apartments and the minimum dimensions of the rooms and kitchen--they will be increased. The master bedroom will be enlarged to 14 m^2, the second bedroom for two people to 12 m^2. The general rooms will be planned in size from 17 m^2 to 22 m^2 depending on the number of rooms in the apartment.

The dimensions and equipment for the kitchens will ensure the possibility of preparing food and doing housework with electric appliances. /19 In equipping the kitchens with electric hot plates (which will permit joining the kitchen space and the common room by a door or sliding partition) it will be possible to set up a dining area in the common room or in a special place in the dining room connected to the kitchen. When the functions of feeding are removed from the kitchen, its area may be not more than 7 m^2 in small apartments and 9 m^2 in multi-room apartments. Outfitting the apartments is being perfected--household cupboards and closets for clothes and other domestic items are set up in the necessary number. Summer accomodations, loggias and balconies, convenient for use, are planned.

A more comfortable system of occupying the apartments is envisaged, based on improved standards of occupation and detailed calculation of the needs of different families. The designing of the apartments will take into consideration not only the numerical and age composition of the family, but also the family relationship of its members. The number of diverse types of apartments which differ in size and number of rooms will increase. The comfort will also be improved due to the division of the apartment into two functional zones--the general consisting of the entrance hall, common room and kitchen, possibly with an isolated dining room or place for a dining table, and the summer area, and the more intimate area consisting of the bedrooms, bathroom and laundry and coat

closet or chamber with closets.

A level of comfort is planned at which the majority of families will live in apartments with the number of rooms equal to the number of family members. This occupation will permit location of the sleeping areas for all family members only in the bedrooms. The common room of the apartment, freed from being a sleeping area, will become the center of family life, a place for contact of all its members at any time, especially in the evening. This will determine a new relationship towards the apartment composition. The common room can be joined by double doors or sliding partitions to the master bedroom, to the hall, to the kitchen, thus forming a suite of rooms. This will permit enrichment of the interior and perception of the apartment as a single architectural space. Flexible planning will promote improvement of comfort and prevention of moral depreciation. /21

The setting of social tasks in the housing sphere requires experimentation with the forms of bringing the elements of public service to the housing. In the designing of experimental dwellings a system of public service is elaborated in which all the necessary types of service-- household-domestic, trade, cultural-educational, sport-sanitation--are divided into elements, a part of which must be directly connected to the dwelling, while a part is concentrated in large enterprises for serving the population of the entire residential region or group of dwellings.

This division and selection of elements which can be placed in the actual dwelling are made with consideration for the specific conditions and site of construction of the experimental dwellings. Depending on the climate region the form of connection is determined between the dwelling and the entire service system--with an exit beyond the building for passage from the apartment to the section of the service facilities in the service centers, or without exit from the building, which is important, for example, for the northern regions of the country.

The selection of the system and placement of the service is affected by local and national traditions of association of the population in the housing sphere. Consideration is made for the degree of mutual contacts of the population according to the principle of proximity which is different in various size cities. Essential in the selection of the service system should be consideration for the level of service of the population reached in the

given city, and of the economic indices which determine the possibility of subdividing individual types of service. The number of stories and capacity of the dwellings are taken into consideration.

According to the predictions, in perspective in the major cities of the country the average number of floors in dwellings will increase. The volumes of construction of houses of 9 and more floors may reach 40% of the total volume of urban housing construction in the country by 1990. Together with nine-story houses, houses 16 stories high will be built, and in certain cities 20 stories and over. A large dwelling which concentrates in itself a great number of residents will be included in the mass housing system.

An extensive experiment in the system of public services may be conducted even within several years when experimental complexes and individual buildings with elements of public services will be constructed. They are already being erected in Moscow and are also planned for construction in Kiev, Tbilisi, Tashkent, Tol'yatti, Naberezhnyye Chelni, Vorkuta and Krasnoyarsk.

The completion of a new system of service has been closely approached by the Moscow architects who developed a plan for a prospective model residential region, Chertanovo-Severnoye; one of the goals of its construction is the selection of the best system of service for the population which meets the task of transforming Moscow into a model communist city.

On the basis of consideration of the aforementioned factors which determine the selection of the system and the placement of the public services and utilities, a system was selected for the conditions in Moscow in which all the primary types of service are concentrated in enlarged centers servicing all the residential regions with a population of 20,000 inhavitants. The centers will have their branches in the direct vicinity of the housing and located in enlarged vestibules in the dwellings. These are stations for reception, storage and distribution of orders for foodstuffs, equipped with individual cooling cabinets for each apartment, and a "service bureau." The station-branches are connected with the service centers by underground passages. In the vestibules of the dwellings will appear various vending machines for selling essential goods of standard and daily demand. Common domestic facilities have been planned in each dwelling-self-service laundries, individual storerooms for sports equipment and seasonal items, for carriages and bicycles. Garages are located under the buildings.

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Approximately analogous systems of organizing and placing public services /23
are proposed in the plans for experimental residences for 2-2.5 thousand inhabitants which were elaborated by the TsNIIEP zhilishcha [Central Scientific Research and Planning Institute of Standard and Experimental Planning of Housing] for construction in Tol'yatti, by the institute of KievZNIIEP [Kiev Zonal Scientific Research and Planning Institute for Standard and Experimental Planning of Residential and Public Buildings] for construction in Kiev and in the plan for a one thousand capacity building developed by the institute TBILZNIIEP for construction in Tbilisi. In relation to the fact that these experimental residences may be constructed as single facilities in areas which do not have such a centralized and comprehensive system of services as is planned in the prospective model residential region in Moscow, the composition of the service facilities planned for the actual residence is somewhat greater in them.

In the plan for the experimental residential complex for two thousand inhabitants elaborated by the institute of TashZNIIEP for construction in Tashkent it is proposed to organize the service system with consideration for the national traditions of everyday and cultural contact of the Uzbekistan population. The entire system of service is divided into three groups and located in three independent units, a central and two units,each of which is designed to serve a population on the order of a thousand residents, which corresponds to the traditional national principles of joining the population into groups called "makhalya." In the central unit is placed the public-domestic service, in the remaining units--facilities and open terraces for cultural rest, education of children and meetings of committees of public self-government, women's council, as well as rooms for elderly men. In each dwelling the necessary domestic facilities, storerooms and carriage areas are planned. Entrances to the residences are linked with the service units by shaded paths.

A basically different system of public services, corresponding to the climate conditions has been adopted in the plan for an experimental residence elaborated by the institute of LenZNIIEP for construction in Vorkuta. The harsh climate of the North dictated the method of continuous housing system in which the living and service facilities are joined spatially. The residential structures, children's institutions, trade enterprises, enterprises of public catering and domestic service are linked by corridors, covered inner

streets located within a single building. The primary enterprises of service are concentrated in a unit located in the center of the complex. A part of the general facilities are dispersed along a lengthy residential building--these are solariums, creative workshops and handiwork workshops, storerooms for household and sports equipment, storage for carriages, reception stations from The center of domestic service, hire station, self-service laundries, and a "Bread--Milk-Cookery" store.

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Proposals on the forms and organization of the public services adopted for the experimental plans do not yet exhaust evidently all the possible variants. There is still much in this problem to be discussed and it may be clarified to a certain extent only on the basis of studying the experience of using the first experimental dwellings. The different viewpoints which are expressed today treat several problems. One of them is the possibility of organizing public catering in these dwellings. Another important problem is definition of the degree of mutual contacts of the people in the dwelling which affect the composition of the accomodations for public and cultural measures, as well as the selection of the correlation of state and self-service forms of service.

At the first stage of treating the entire problem, in the program of the first experiments a viewpoint was adopted according to which public catering in the examined period will still be very limited in the dwelling. Cafeterias and cafes are only envisaged in major public centers, or in dwellings of large capacity where a cafe-automat may operate primarily designed for morning and evening attendance.

An important foundation for determining the composition of the common facilities must be the predictions of sociologists on the degree and nature of mutual contacts of residents of the dwelling. Hypotheses are advanced that on the basis of an improvement in the level of education and culture of the population contacts between neighbors may increase on the basis of common interests. However, by promoting contacts it cannot be assumed that the arrangement of common facilities planned today would lead to the required contact between residents. The degree of associations will be determined by each family. The types and nature of the public services must correspond to the needs of the population and the economic resources at each period of social development. In relation to the changes in needs of the population for

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different types of services which can occur as a consequence of the rapid growth of technical progress, plans must be made for interchangeability and free choice of services, and, consequently, alternative use of facilities at different stages of use of the dwelling.

A new stage in mass housing construction should introduce considerable changes in the appearance of the residential regions on the basis of an intrinsic decision of housing architecture. For this there are specific and effective prerequisites. One of them is diversity of the design decisions for houses and types of apartment intended for different conditions. Among the many reasons for today's monotony in the residential regions one can cite the uniformity of the design schemes of houses and apartments which were chosen for the overwhelming majority of cities for the greatest economic solution and simplicity of factory production which corresponded to the main task of the previous period.

At the new stage diverse design schemes will appear which will change the /28
set volume-space composition of the dwellings and the monotony of their facades. This is testified to by the aforementioned experimental plans. Sectional-corridor schemes inherent to multistory buildings are emerging. Outer stairwells which create a special compositional pattern and are natural for corridor and gallery schemes are appearing. This method has been successfully employed, for example, in the composition of the residential complex developed by the TsNIIEP zhilishcha for Naberezhnyye Chelni.

Houses are proposed with apartments at two levels, rational for providing them with through ventilation in multistory houses (plan of TbilZNIIEP), which also provides a new compositional scheme for the facade. The creation of
a windbreak housing system, necessary in regions with harsh climates, which, by /30
forming partially enclosed courts open in a southern direction, may moderate the microclimate of the built up territory and bring to life a new and very versatile form of dwelling (plan of LenZNIIEP). In the multistory buildings of the southern regions can be placed public landscaped terraces at different floors, especially on the upper ones which will enrich the volume and versatile solution of the building space. For terraces roofs and staggered construction of the building will be used. The apartments of the upper floors may be designed differently from the others, for example, have exits onto the terraces. This creates a link with the environment for the residents of the

upper floors of a multistoried house and somewhat compensates for their remoteness from the territory near the house.

Larger public structures which appear in the body of the actual house together with apartments will be reflected in the architecture of the facade. This will introduce a new compositional regime into the set scheme of facades governed by the monotony of the structures comprising the multistoried residence. To depart from the set scheme will also facilitate differentiated placement and grouping of apartments of various size in individual sections of the building.

On the first floors, together with the service facilities but isolated from them can be placed apartments for families with many children as well as for the very old and invalids. Each apartment can have an exit onto the adjacent section which will create additional conveniences and will diversify the architecture. On the upper floors of 9-story houses it is expedient to construct two-story apartments which would increase the load of the elevator and reduce the cost of a unit of area in the house and by being reflected in the outline of the facade would also create diversity of composition.

The architecture of the houses can also be diverse due to the use of a broader range of wall materials, since the laminated plastic, surface finish and color of light, attached panels may be different from those of concrete panels.

The cited examples indicate that during the planning of the types of dwellings for the next stage of mass housing construction, the architects will seek ways to create intrinsic architecture of housing systems on the basis of new and more diverse functional and design plans for dwellings.

Captions for illustrations

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Fragment of facade of 12-16-story dwelling. Architects and engineers who developed the residential complexes Yu. Ivanov, B. Makarchuk, V. Loginov, A. Petrushkova, G. Karlsen, L. Loginova, V. Azarov, A. Monakhova, V. Melomed, A. Skorova, A. Gorskiy.

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