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INDIVIDUALIZATION CONCEPT IN HOUSING ARCHITECTURE

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Abstract. *Although single-family housing in the city is considered higher quality and preferred type of housing, housing crisis, as a permanent actual problem in the world, requires adequate solutions. In this sense, housing in multi-family housing buildings can be considered as a necessity (social, moral, economic, etc.), but in fact, now and in the future, it is the main form of housing construction which can give the solution for housing problems. However, to make this housing type more attractive and acceptable to the occupants, it is necessary to improve it by the implementation of individualization modalities, and in that way make its qualities much closer to the preferred single-family housing.*

Key words: *single-family housing, multi-family housing, quality, contemporary practice, modalities of individualization*

1. INTRODUCTION

In the last decades of the twentieth century a rise of pluralism in society (differences that are related to social status, education, family model etc.) can be seen, which has gradually led to an increased need for the diversification in housing. Thus, "all over the world city planners and architects have increasingly been facing the same challenge: to provide intimacy and identity within seemingly endless urban agglomerations." (Förster, 2006, p.127) As a relatively recent phenomenon in the history of housing, the apartment is seen as a suit, specially tailored to the client. (Ebner et al., 2010) It used to be a privilege to build an apartment according to one's own preferences, ideas and dreams, but today it is a modern trend in a society which increasingly insists on the concept of individuality.

For many reasons single-family housing is considered higher quality and more attractive housing type than multi-family housing. Diversity, privacy and personalization, categories influencing the level of individuality, qualify single-family housing, while it is more difficult to achieve them in multi-family one. Multi-family housing design is a particular challenge for the architects because living comfort, offered by multistory apartment buildings, is expected

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to approximate to the living conditions in family houses. In multifamily housing design one should search for an analogy with a single-family house.

2. TERM INDIVIDUALIZATION IN HOUSING ARCHITECTURE

The term individualization in housing architecture signifies housing buildings capacity to "respond to the growing requirement to articulate each occupant's individuality" (Ferre, Salij, 2010, p.5), to provide uniqueness, intimacy and identity for occupants within growing and densely populated cities (Forster, 2006) or to be "viewed as a suit tailored to the subjective desires of the occupants" (Ebner et al., 2010, p.15).

According to the lexicon of foreign words and phrases (Vujaklija, 1991) individualization is "the process of extracting individuals from something general", and individuality is "features set whereby individual differentiates from all other individuals of its kind," which is only a partial explanation of these terms when applied to housing architecture.

The need for the qualities of the individual is particularly evident in the multi-family housing, which is often identified with uniform and anonymous housing complexes. Contrary to it, single-family housing is characterized by a far higher individuality level. The individualization concept in housing architecture signifies a wide and comprehensive approach including the identification of those single-family housing characteristics whose implementation in multi-family one will contribute to the increase of its individuality level.

The characteristics of single-family housing considered to be an advantage (Ralević, Đukić, 1995; Marušić, 1999; Stoiljković, 2008) which can be implemented in multifamily one relate to: separating the entrance to the apartment, the number of the apartment orientations, the treatment of the private open space, three-dimensional spatial organization of the apartment, level of flexibility, visual identity, more intense neighborhood connections, etc.

3. IMPORTANCE OF INDIVIDUALIZATION OF MULTI-FAMILY HOUSING

Multi-family housing with the single-family housing characteristics, or - how to make an apartment the first choice in the search for home - is an issue that poses a great challenge for the architects. When choosing between the family house and the apartment, most would usually favor the former. Indeed, few apartments can compete with the quality of the house - they simply lack conveniences that houses offer. Unlike a single-family house, apartment is characterized by distance from the ground, common access, compromised security and privacy, lack of identity, reduced social interactions, etc. Though a closer examination of these issues reveals a complex mix of benefits and drawbacks qualifying the multifamily housing, single-family housing is still considered higher quality and more human housing type and has always been the desire of most people.

Despite a number of undeniable advantages, hidden problems and disadvantages of this housing type are evident. They are thoroughly viewed in examples of the cities that spread out away from central urban areas over more and more rural land. Low-density housing is uneconomic, does not contribute to the creation of the urban fabric and has no urban character. Although residential suburbs with family houses have a smaller population concentration and plenty of open areas, they have very small green areas. Disposition of freestanding family houses almost in the middle of small plots, as required by regulations, is inappropriate and disables the creation of larger green areas, but the greenery is reduced

only to the narrow strips along the edge of the plots, which are insufficient for planting and normal development of higher plants. The desire for privacy, that just leads most people in the aspiration for a family house in the suburb, cannot be satisfied by the modern form of this housing type, because the courtyards are neither large enough (therefore the houses have no sufficient distances from each other), neither protected from prying eyes and noise. In addition, housing in the suburbs consumes huge amount of time that occupants spend traveling to their workplaces and other facilities in the city.

The disadvantages associated with single-family housing, unfortunately, are not perceived from the viewpoint of individual users, so this housing type remains a priority in their choice. However, the quality of life in single-family houses in the suburbs, many people dream of and aspire to, can be achieved, and in some cases even surpassed in densely populated urban areas by implementing appropriate architectural and technical solutions. (Schittich, 2004)

In developed countries, most affected by the unwanted consequences of urban growth, awareness is being changed and one is looking for better solutions for specific housing problems, such as density issues and housing types. In these countries stronger commitment to increase of housing density in certain areas and to the construction of more compact housing estates is seen. Multifamily housing imposes itself as a housing type which provides the easiest achieving of these objectives. In order to make this housing type more attractive and higher quality, individualization concept is implemented, and benefits and qualities of single-family and multi-family housing combine. "The concept of "home", tranquil and individual, architecturally appealing "habitation" in a verdant condominium - a synthesis of a country villa and city home - is seen as the remedy with the goal of inspiring new enthusiasm for living in the city." (Schittich, 2004, p.15) This is the concept of housing that insists on creating a healthier living environment, even in multi-story buildings. This new, or hybrid housing type, promotes social, economic and environmental imperative of return to the cities, and in turn offers a single-family housing quality in urban conditions. It can fully meet the needs of the modern inhabitants of the city and at the same time can be the counterweight to the tendency of uncontrolled urban sprawl and all negative consequences associated with it.

4. MODALITIES OF INDIVIDUALIZATION

The individualization concept includes identification of the positive characteristics of single-family housing and their implementation to multi-family housing buildings. Particularly important topics from the individualization aspect of view concern: access to the apartment and the entrance to the apartment, number of apartment orientations, private open spaces, housing flexibility, three-dimensional spatial organization of the apartment, visual identity of housing units and housing buildings, public open areas, providing the spaces for the intensification of neighbor connections and so on.

4.1. Access and entrance to the apartment

Single-family house has its own access and its own entrance which can be reached through the belonging part of the plot. In multistory apartment buildings there is one entrance to the building and accesses and entrances to all apartments are through common, semi-public space. This is one of the most significant differences between family houses and multistory apartment buildings. (Ralević, Đukić, 1995) The entrance to the house is

usually visible from the inside, which is an exceptional psychological advantage because it allows the occupant to see visitors before they come to the door and prepare for a possible meeting with them. In multistory apartment buildings separate entrances can easily be provided for the apartments on the ground floor. In this way a direct connection between the apartment and public space is created (Fig. 1).

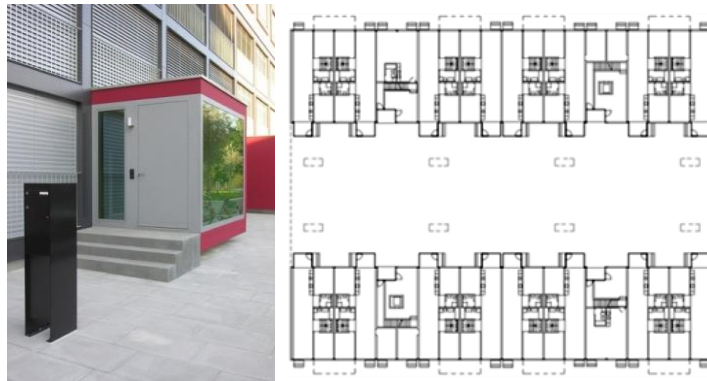


Fig. 1 Housing complex Eulachpark, Winterthur, Switzerland, Burkhalter/Sumi Arch.

Access to the apartment implies the transition from the semi-public zone of communication areas to the private one of the apartment and is important for preserving privacy. Unlike a single-family housing, where the relation of public and private zone is direct, in multi-family it is indirect - from the public, through semi-public (and sometimes semi-private) to the private zone.

On the other hand, although the organization of communication areas in multistory apartment buildings is important for the privacy of the entrances to the apartments, these areas could be places convenient for social interactions among the occupants. In addition, the way of apartments grouping relative to communication areas affects the number of apartment orientations, a particularly important feature for achieving the characteristics of single-family houses.

Today, in order to reduce costs, the access paths to the apartments are designed as short as possible. These areas are reduced to a functional minimum, and occupants usually pass quickly through them, without unnecessary delays (Stanković, 1997). However, by reducing the dimensions of access and communication areas in multistory apartment buildings, they lose their social potential. In contrast, the communication areas treated in an integrated manner and not reduced to a minimum, can serve as places for social interaction among neighbors.

Multistory apartment building where one apartment occupies the whole floor is an exceptional solution in terms of privacy while the common aspect is limited, and is considered the luxury type of housing. In these schemes, the greatest intimacy of the entrance to the apartment is realized but the possibility for encounters with other occupants when leaving the apartment is reduced, which adversely affects the social interactions. What makes this type outstanding is its potential for orientation of apartments on three or four sides, achieving in that way a quality of detached family houses. A larger number of apartment orientations benefits its insolation, ventilation and provides better visual contact with the environment.

When designing multiunit floor buildings it is advisable to separate vertical and horizontal communications. This contributes to the creation of an intimate hall in front of the entrances to the group of apartments, improves privacy of the entrances to the apartments and positively affects the possible interactions among the occupants who use it.

Apartments in buildings with external galleries often have functional organization like terrace houses, positioned along the pedestrian street. Galleries are places suitable for different occupants' activities - child's play, growing plants, rest, neighbors' chat etc (Fig. 2). Similar qualities can be achieved in buildings with central courtyards.



Fig. 2 Homes for Change, Manchester, UK, MBLA Architects+Urbanists

In terms of individualization in multi-family housing, central corridors, as spaces that connect apartments with staircases and elevators, are the most unfavorable typological form of communication areas. Long, narrow, poorly lit corridors have a depressing impact on occupants. A good solution to this problem would be sunlit spaces, positioned next to the corridors. The corridors would be lit through them and they can be used for different occupants' activities (Fig. 3).

Also appropriate to the organization of multistory apartment buildings with central corridor is the insertion of hollow spaces, or the skylights, along the entire corridor, which would provide good natural light and ventilation for corridors and for rooms located by it.



Fig. 3 Living at the park, Vienna, Austria, PPAG Architects

4.2. Private open areas

One of the main advantages that qualifies single-family house is its own open space - garden. In multistory apartment buildings, with multiplication of stories, connection between apartment and the ground fades away. In order to meet the occupants' need for connection to nature, the lack of belonging open space on the ground compensates with the construction of loggias, balconies, terraces etc. These open spaces in apartments represent a substitution for single-family house gardens. Both experts and occupants agree that high quality private open areas in the apartments are very important. Although spaces for serious gardening or outdoor recreation generally can not be provided within the apartments, functional organization of their open areas should compensate or mitigate these disadvantages in the best possible way.

Open areas in the apartments should be useful extensions of the interior space, they should satisfy the criteria of privacy and insolation and enable undisturbed simultaneous stay of all household members and perform of several different activities. 'Broad' connection between living room and the open area make them functionally linked, so they are observed as a whole, which multiplies its use value (Fig. 4). Beside the size, orientation and connections with the inside of the apartment, privacy, security, protection from sun and wind are essential for quality of open private areas.



Fig. 4 Four housing Blocks, Winterthur, Switzerland, Beat Rothen

On the ground floor, private open areas can be designed as enclosed gardens. In this way, their size, and also their use value, can remarkably be increased as opposed to the loggias or balconies of the upper floor apartments. In this way, housing quality on the ground floor, usually considered lower than on the upper floors, improves (Fig. 5).



Fig. 5 Chapel project housing development, Southampton, UK, Chetwood Associates

4.3. Three-dimensional spatial organization of the apartment

Living on one level, which is a characteristic of the classic multistory apartment buildings, imposes severe restrictions on spatial diversity. Doubtlessly, it has its advantages - apartments that occupy one level are barrier-free so they can equally well be used in all situations and phases of life. Still, by three-dimensional spatial organization of the apartment the differentiation of space and plenty of variations can be achieved. It contributes to breaking the uniformity, which usually qualifies multifamily housing. In contemporary housing practice examples of apartments expanding on more than one level are seen more frequently. Whether it is a two-story or multi-story apartment, split-level apartment or double-height apartment, this kind of spatial organization, although not innovative by its concept, is real refreshment on housing market.

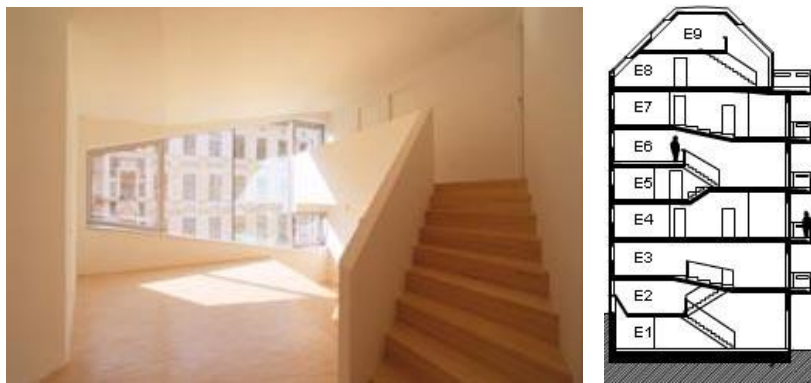


Fig. 6 MISS Sargfabrik, Vienna, Austria, BKK-3

The concept of three-dimensional spatial organization of the apartment comprises that apartment rooms are placed on different levels, that they are not restricted to standard floor height or that parts of the apartments spatially overlap. "Raumplan", or spatial plan, a concept that appeared at the beginning of the last century, significantly contributes to the refining the living space and to the achieving the spatial organization of single-family house.

By designing apartments on multiple levels or with varying heights of the rooms, apartment space organizationally and visually becomes enriched and upgraded, and it achieves one of the single-family houses quality (Fig. 6). Organization of apartments "in three dimensions" enables different combinations in spatial matching of apartment volumes. In that way a number of different apartment schemes can be planned, so they can meet the housing needs of different types of households.

4.4. Flexibility in housing

In terms of individualization flexibility in housing is important because it implies variety and diversity. As the housing needs change over time, it is advisable for apartment schemes to be adaptable and that they can follow the development of the family or the change of occupants. On the other hand, different types of households are characterized by different needs in housing, so it is good that the housing building has a wide range of apartment types, to meet as many different needs. The diversity of modern lifestyles ask

for various structures and organizations of apartments and adaptable apartments which can be used in many different ways.

The structure and organization of the apartment should primarily depend on the size and structure of households for which it is intended. Still, as in the design phase of the multistory apartment buildings the future occupants usually are not known, it would be advisable to offer a variety of apartments schemes to fulfill different requirements (Fig. 7).

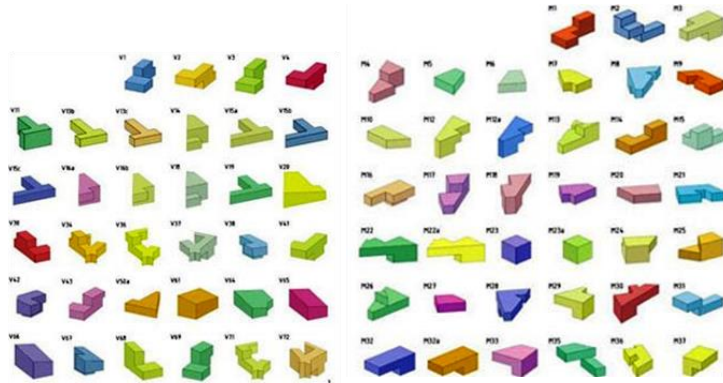


Fig. 7 VM House, Copenhagen, Denmark, BIG+JDS

Also, in order to "respond" to the changing needs of households over time or to the change of occupants, the apartment should be flexible and adaptable to different conditions (Fig. 8). The open plan enables overlapping and combination of different activities at different parts of the day. However, despite the great importance and potential of the flexibility of an open plan, for households with children more classic organizations of apartments, which include a certain constancy in use and which are characterized by adaptability, are more acceptable.

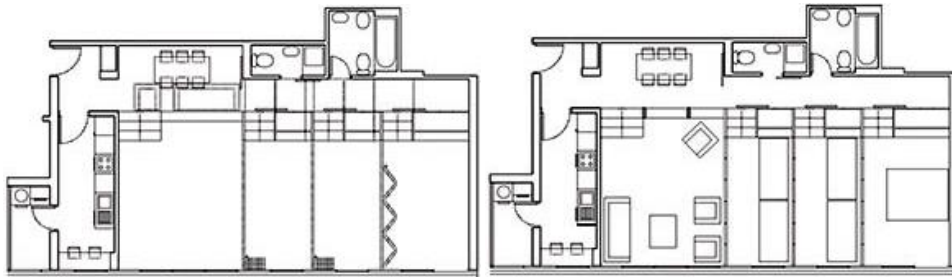


Fig. 8 Housing complex Carabanchel, Madrid, Spain, Aranguren/Gallegos

4.5. Visual identity of multistory apartment buildings

Human need for an apartment has not only an existential nature, is not only a need for physical protection, but also the need for identification with a particular place (Gaković, 1991). Visual identity of the apartment building and visual identification of individual housing units are important because the occupants have a need to identify themselves with their housing space and to recognize it among the multitude of buildings, realizing in that way their right to be different, compared to other users.

The composition of architectural elements, textures, materials and colors is what makes the morphological quality of the building. It contributes significantly to the building character, recognizability and acceptability in the environment. A good solution is characterized by a form appropriate to the location and purpose of the facility. However, visual quality and aesthetic component of the building are difficult to quantify, their value cannot be measured and it is mainly used subjective judgment, because it is difficult to determine the criteria of what is aesthetically pleasing and how to describe it.

The external appearance should define the building in the environment, to make it unique and distinctive, which will facilitate the identification of occupants with their "home". In addition, the visual separation of housing units, individually or in groups, by using of colors, materials, different shapes, specific composition, etc. in morphological design, will further contribute to the personalization and diversification of housing space, which all enables achieving a higher degree of individualization in multi-family housing. (Fig. 9)

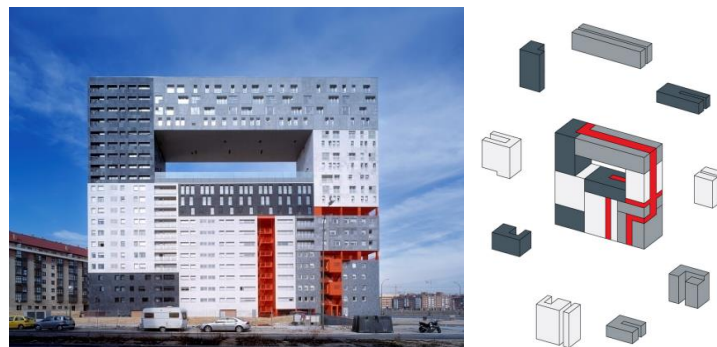


Fig. 9 Mirador, Madrid, Spain, MVRDV/Blanca Lleo

4.6. Public open areas

Single-family housing estates are characterized by stronger neighborhood connections than multi-family housing ones. Although in multistory apartment buildings units are physically closer, mere physical nearness does not necessarily imply sociological closeness of its occupants. By planning high quality public spaces within the building or around it, social interactions among residents can be encouraged.

In planning such public open spaces on the ground, great attention should be paid primarily to the security - both from traffic, and general safety for the users. Separated parking areas or underground garages (if conditions permit) would free up space around the apartment building of cars, which would provide space for other, more attractive purposes and activities (Fig. 10). General safety depends on many factors, some of which are location and structure of the population in the surroundings.

In designing terms, it is advisable for the open space to be clearly defined and enclosed. By placing buildings on the perimeter of the block common open space, sheltered from the street, is obtained in the interior of the block. That could be a nice semi-public zone, suitable for social interaction among neighbors.



Fig. 10 Housing complex The Bolonachi Building, London, UK, Levit Bernstein

In public open spaces green areas are of great importance. Combinations of high and low overgrowth with flower beds and rest areas are solutions that would please the majority of users (Fig. 11). Selected greenery should be resistant and easy to maintain. This recommendation also refers to the choice of materials for flooring, furniture, lighting etc.



Fig. 11 Benny Farm, Montreal, Canada, Saia/Barbarez/Laverdière/Giguère

Where possible, spaces for children to play should be provided. They should be positioned in a way to be possible to easily monitor them and, at the same time, without being a nuisance to occupants in nearby apartments. The selection of materials for these playgrounds is also of importance, as well as their integration with tall trees, in order to protect parts of them from the sun and to protect apartments from noise. Outdoor places for occupants recreation, places for rest, socializing and hobby should also be taken into consideration during the design of this kind of open areas, whenever conditions permit.

Many problems followed the use of roof terraces on multistory apartment buildings from the second half of the last century. They are primarily related to lack of good thermal insulation and hydroisolation. So roof terrace was a "forgotten" architectural element for a while, despite its potential as a common open area with a greater degree of privacy in relation to the courtyard. The materials in use today are of a better quality and more durable and the

chance for this kind of problems to occur is significantly reduced. By combining quality materials and innovative technical and designing solutions, roof terrace becomes topical again. In this way, apartment buildings get high quality common open spaces which contribute to the overall housing quality.



Fig. 12 Oaklands Court, London, UK, Monahan Blythen Hopkins

Green roofs are increasingly used in contemporary practice. They not only restore the natural element to the urban environment, but also provide solutions to important problems such as the urban heat island effect and the treatment of storm water. In addition to saving energy, planning green roofs can contribute to the increase of total green areas on the site (Fig. 12).

5. CONCLUSION

Medium- and high-density housing returns to the focus of housing architecture all over the world. Diversity of lifestyles imposes the need for specialized housing schemes or, for flexible housing that can adapt to changing living conditions. Mass housing production, reduced to average wishes and needs of future occupants, is no longer an option. Dream of the vast majority of the population, to have its own house in a suburb, must be harmonized with the necessity for medium- and high-density housing, in order to stop excessive unplanned expansion of cities and prevent further occupation of green areas. It is clear that we need new concepts and approaches to housing issues. By implementing the individualization concept in housing architecture one can meet the demands and needs of modern inhabitants of the city to a large extent.

Contemporary housing practice shows a high awareness of all participants in planning and construction of multi-family housing buildings on the importance of individualization for this housing type. Separation, isolation, solitude and anonymity of occupants (needs that qualify housing in the city today) are the requirements for individualization in its basic sense. However, in a broader sense, individualization means recognizing and understanding those characteristics of single-family housing that make it more attractive and desirable form of housing, and their implementation to multifamily one. Separate entrances to the apartments, spacious private open areas, multi-level organization of housing units, spaces

for social interaction among the residents, etc.. are just some of them. By implementing the modalities of functional, spatial and morphological organization of family houses, architects can realize single-family housing quality in multi-family housing.

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KONCEPT INDIVIDUALIZACIJE U STAMBENOJ ARHITEKTURI

Iako se jednoporodično stanovanje u gradu smatra kvalitetnijim i poželjnijim tipom stanovanja, stambena kriza, kao stalno aktuelni problem u svetu i kod nas, zahteva adekvatna rešenja. U tom smislu se stanovanje u višeporodičnim stambenim zgradama može smatrati kao nužnost - sociološka, moralna, ekonomska, itd. - ali realno gledano, i sada i u budućnosti, to je glavni oblik stambene izgradnje koje može dati rešenje stambenih problema. Međutim, kako bi i korisnicima ovaj tip stanovanja postao primamljiv i prihvatljiv, potrebno ga je primenom modaliteta individualizacije unaprediti, te ga na taj način svojim kvalitetima približiti toliko željenom jednoporodičnom stanovanju.

Ključne reči: *jednoporodično stanovanje, višeporodično stanovanje, kvalitet, savremena stambena izgradnja, modaliteti individualizacije*