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ARCHITECTURE AND SOCIETY RESIDENTIAL ARCHITECTURE FOR THE SILVER GENERATION. DESIGNING FOR OUR FUTURE SELVES

ARCHITEKTURA MIESZKANIOWA DLA SREBRNEJ GENERACJI. PROJEKTOWANIE DLA PRZYSZŁYCH SIEBIE

Abstract

The article undertakes the issue of designing architecture for the future, for the changing needs and characteristics of future generations. The aim of the study is to present research on new forms of residential space for the elderly and the disabled going beyond the current and generally adopted spatial and functional solutions. It is important to realize that currently defined needs of ageing societies are not going to provide the right answers related to future forms of habitation. The observation of tendencies in the evolving requirements related to residential space may prove useful in designing apartments for tomorrow's seniors. The prognosis based on the current body of knowledge, the research results or the development of medical or IT technologies, but predominantly knowledge about the predispositions, abilities and skills of the young people of today may offer more substantial grounds for developing the concept of housing forms for the ageing generations of the future.

Keywords: silver generation, residential architecture of the future, senior citizens, ageing

Streszczenie

Artykuł podejmuje temat projektowania architektury dla przyszłości, dla zmieniających się potrzeb oraz cech przyszłych pokoleń. Celem jest przedstawienie badań prowadzonych nad nowymi formami zamieszkania dla osób starszych i niepełnosprawnych, które wykraczają poza bieżące i ogólnie przyjęte rozwiązania

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funkcjonalno-przestrzenne. Istotne jest zwrócenie uwagi na fakt, iż aktualnie zdefiniowane potrzeby starzejących się społeczeństw nie dadzą trafnej odpowiedzi na formy zamieszkania w przyszłości. Obserwacja tendencji zmieniających się potrzeb względem przestrzeni mieszkalnej może posłużyć do formowania mieszkań jutra przyszłych seniorów. Prognoza, uwzględniająca obecny stan wiedzy, wyniki badań czy rozwój technologii np. medycznych czy informatycznych, a przede wszystkim wiedza o predyspozycjach, możliwościach i umiejętnościach osób dziś młodych, może dać pełniejsze podstawy do stworzenia koncepcji form zamieszkania dla starzejących się społeczeństw w przyszłości.

Słowa kluczowe: srebrna generacja, architektura mieszkaniowa, architektura przyszłości, seniorzy, starzenie się

1. INTRODUCTION

Where do we choose to live and how does the style and quality of our lives evolve as we grow older? Questions about the quality of ageing relate to many aspects of life, such as medicine, sociology, economy, urban planning, or technology. The attempt to understand the complicated context of social changes needs to take into account both the analysis of the contemporary meaning of 'ageing' and the ageing prognosis for future generations. The increasing lifespan observed in developed societies undoubtedly poses an interdisciplinary challenge if we want to fully enjoy the benefits of longer life in health and contentment. Professor Sarah Harper points to residential space as the most important element determining life quality.[6] Requirements related to residential space are different for different inhabitants. However, a timeless apartment in which we look forward to the future is one that can easily be adapted to accommodate changes in such spheres of life as family, work, education, or health. The rising demand for medical care, reflecting the changes in the demographic structure, will revolutionize the healthcare system. There will be a tendency to move medical services outside hospitals and outpatient clinics and provide them in residential units.

2. REDEFINING SOCIAL RELATIONS AND NEEDS OF FUTURE SENIOR CITIZENS

The ageing of populations, now strongly realized, is not a linear process. It does not proceed in a uniform manner in all countries; instead, it depends on the region and continent. Population ageing results from low birth rate and prolonged lifespan. Although this tendency is most visible in Europe, the process has recently slowed down on our continent, but is sharply rising in both Americas and in Asia.

The process of society ageing is compared with the use of the ageing index (AI). At present, the countries with the highest ageing index (20–25%) are Japan, Italy, Germany, and Greece. On the other side of the scale we have the United Arab Emirates with the ageing index of 1%, followed by Afghanistan, Angola, Bahrain, Burkina Faso, Benin, Burundi, Chad, Gambia, Qatar, and Kuwait. Poland is in the middle of the ranking with the index of 15%. Apart from economic aspects of the global ageing, the phenomenon also poses new social challenges, particularly for medium and low-developed countries.

[6] S. Harper, *Adapting to our ageing world* [in:] J. Meyerson (ed.), *New Old*, The Design Museum, London 2017.

The perception of age of an elderly person vs a young person is also changing. Statistical data show that the Polish society perceives persons aged 63 or more as elderly (for the EU, this age is similar – 64 years). Compared to the situation from the mid-twentieth century when people over fifty were considered elderly, the 'senior age' border has been moved by almost a decade. This situation is mainly the result of a better health condition of contemporary half-centenarians.

However, when we talk about the silver generation – the generation that presents us with new housing challenges – let us not think conventionally. Researchers and designers have been addressing the issue of designing for the elderly and the disabled for almost a century. Now, that issue does not require further development; what it needs is a radical change of viewpoint. The desired change consists in verification and redefinition of the notion of an 'elderly person' taking into account not only spatial or social needs of such persons but also their aspirations. In this new approach, the person for whom we need to redefine residential space is a person who is still young and will get older in time.

Designing for the future older generation needs to be done with the present-day young persons in mind. Therefore, what seems vital is not only reference to studies on contemporary elders but also to current prognostics that focus on the young people of today. Persons for whom we will design in the future display considerably different dynamics of development and activity throughout their lifetime.

The first highlighted aspect is the increased independence of persons above 60 years of age, also due to their better financial status. Sixty-plusers increasingly often live alone and this situation is caused not only by death of their life partners but sometimes also by their own decisions to get divorced or separated relatively late in life and face the full consequences. That independence often coincides with their refusal to accept the socially expected roles of grandparents and full-time minders of their grandchildren. Senior adults still want to be masters of their time and spend it pursuing their passions and interests. On the other hand, family ties are getting weaker and the family model itself changes, which weakens the young generation's sense of obligation to take care of an ageing parent. Consequently, the multi-generation home as a model of living is gradually disappearing.

Secondly, people aged over 60 are increasingly often active professionally and therefore they value the space intended for that activity. Also, they more and more often live active lifestyles, spend time outdoors and choose age-appropriate sports.

3. HOUSING NEEDS OF THE ELDERLY

The research conducted so far has revealed that young people (aged 25 to 35) and elderly people (above 75) who live alone have very similar needs in terms of residential space. Professor E. Niezabitowska points to striking similarities in both cases. She observes coincidence between both groups as regards preferred apartment sizes, the only difference being that elderly people find it essential to have easy access to the surrounding infrastructure, and therefore they prefer locations closer to the city centre over those in the city outskirts.[7]

[7] E. Niezabitowska, *Mieszkania dla ludzi starych i młodych w kontekście potrzeb i cyklu życia budynku mieszkalnego* [in:] M. Zrałek (ed.), *Przestrzenie starości*, Humanitas, Sosnowiec 2012.

The convergent housing needs of the two groups also reflect similar migration patterns. Young people move home most frequently; then, a period of stabilization follows. Migration occurs again in the elderly population (aged 75 or more); older people move close to the city centre, sometimes to care homes or to families. Taking Zurich as an example and drawing on the research conducted by C. Heye, to which E. Niezabitowska refers, we may state that seniors tend to settle down in urban areas bordering on the city centre. These are zones without direct city noise, but well-equipped with necessary infrastructure fully accessible for the elderly and the physically challenged.[8]

As far as Poland is concerned, this trend is more a future prognosis than actual reality; as follows from the available research to which prof. Niezabitowska refers, as well as the research carried out by the authors of this study, people from the generation currently facing old age do not plan to change their place of residence or move into an institution such as a nursing home for the elderly, etc.

An interesting form of residential design for the ageing society has been proposed by prof. Niezabitowska, who takes into account the life cycle of a building intended for several generations. She delineates spheres within the residential area that are given priority in the aspect of their adaptation for the elderly and the disabled.

It is assumed that areas such as 'urban environment', 'surroundings within 100m' or 'building entry area', and also basements, should be fully adapted to the needs of disabled persons (also for the blind and for wheelchair users). Areas inside apartments, i.e. kitchens, rooms and bathrooms, should be prepared for adaptation and possible replacement of equipment.

The above observations are reflected in current architectural realizations. "Not Alone" is a housing programme for people aged above 55 implemented by the TBS [Social Housing Association] in Stargard Szczeciński. The result is one of the first senior housing estates in Poland. Following a city planning and architectural competition, the realization was awarded to the DOMINO Architectural Studio from Szczecin. The estate is located far from the city bustle, in close proximity to everyday recreation areas. It also borders on a multifamily housing estate with commercial premises at ground level (currently under construction). The winning concept assumed the construction of four complexes of buildings (94 senior apartments) based on the same functional schemes and spatial solutions. Each complex consists of segments combined into a single unit. The design foresees one-room apartments of the floor area between 32 m^2 and 39 m^2 and two-room apartments from 50m^2 do 56m^2. The common areas of each complex are intended for integration of inhabitants: there are terraces with pergola roofing, a nursing treatment room and catering facilities. The intention behind the location of the senior estate is to activate the inhabitants of the Lotnisko housing estate. Small gardens have been designed for apartments. The semi-private zone has also been taken care of by organizing green indoor areas with recreational functions and meeting places linked to integration areas inside the buildings. Parking places and vehicle traffic have been removed from the space surrounding the buildings.

One of the interesting solutions used in the building design is colour-coding of communication routes helping the seniors recognize certain spaces and find their bearings in the buildings. Another good functional solution is the electronic alert system activated with a remote control device by the senior in life-threatening emergency situations. The signal is received by medical personnel on duty on the premises. That solutions offers inhabitants safety and psychological comfort of knowing that they will not be left alone in an emergency yet retain maximum everyday independence.

[8] *Ibidem*.

A specific advantage of the senior residential estate in Stargard Szczeciński is the fact that it is not an isolating and segregating place, which is often the case with collective residential facilities for the elderly. On the contrary: the complex forms an integral part of a bigger multi-family estate situated nearby. Additionally, the multi-generation character of the estate is reflected in the activities of volunteers who help senior inhabitants in their routine household tasks.[9]

Despite numerous advantages of the described housing estate, the never-ending problem (also emphasized by the town authorities) is the sharp discrepancy between old-age and disability pensions and the costs of living in the rented apartments.

4. APARTMENT – A WELL-DESIGNED SPACE

Modern residential architecture dedicated to elderly persons assumes various forms, offering various levels of care according to varying needs. Multipurpose spatial-functional structures are increasingly often observed in residential architecture meant for the elderly. Senior apartments are not just residential care homes or senior centres; these are entire housing estates, co-living complexes or 'dormitories' for the silver generation. However, the scale of that offer in the public and private sector is still insufficient to match the constantly growing demand.

A well-designed home is a universal space adjusted to the current and changing needs of its inhabitants, or easily adaptable. The concept of universal design is beneficial for all users. The idea assumes equal and fair access to all types of goods, taking into account the widely understood limitations that some of the users may have. The concept is based more on equality than on access for persons with dysfunctions. Thanks to solutions reflecting the idea of universal design, spaces can be created in which differences in users' social status can be blurred and the designed space is flexible enough to meet varied needs without favouring anybody.

According to the prognoses, a future senior will still be professionally active. Therefore, the assumption is made that his/her apartment must offer the possibility to work from home. The apartment of the future is a safe place suited to healthcare functions. The space in which seniors spend 95% out of every 24 hours should first of all be comfortable and encourage independence. The size of the apartment is not insignificant for functioning of an elderly person. The demand for smaller apartments increases with age and changes within the family resulting e.g. from moving out of grown-up children or spouse death. Technological innovations assisting in running a home also provide support in functioning in the residential space.

5. CURRENT TRENDS: TECHNOLOGY AND ROBOTICS

The global ageing of societies should not be an argument for creating urban space centred exclusively on the needs of the elderly. We should still be talking about universal design, i.e. design for everybody, taking into account the needs of various groups of inhabitants, answering numerous issues and combining various different functions.

This is so because age and the aging process determine people's lifestyle to a lesser and lesser degree.

[9] Stargard. Mieszkania wspomagane dla seniorów, http://nonstoptbs.pl/wp-content/uploads/2017/10/1.-Stargard-mieszkania-wspomagane-dla-senior%C3%B3w.pdf (access: 26.02.2019).

The increasingly fast development of technology makes our living environments smarter and smarter, assisted by digital systems, often machine-controlled. The current trends indicate that users of all ages, also 60+, are open to robotics in their homes. Excellent examples are Echo Amazon or Alexa voice-controlled devices that obtain data for users and, in time, interact with them on the basis of gathered information. Such devices often become everyday companions for their users.

However, solutions from the *smart home* range are not only assistants facilitating the search for information. Often they also have the security function, protecting residents against e.g. fire or burglary. Other devices, such as cleaning robots, replace traditional vacuum cleaners. Intelligent systems also help make household savings on the basis of observations and analyses of the inhabitants' lifestyle. More and more products intended to make everyday life easier appear on the market. Many of them derive from the idea of universal design.

New generations of senior citizens feel comfortable in the digital and virtual sphere. Everyday use of mobile devices for communication, ordering goods or electronic banking is no longer a challenge. We may therefore expect that voice-controlled devices, *smart home* solutions or electronic medical alert systems used in collective residential buildings may soon be in common use. On the one hand, they offer residents of assisted living apartments maximum independence from the personnel, but on the other they offer the sense of safety and a guarantee of quick assistance in case of emergency. Among other facilities we may mention sanitary equipment such as shower toilets replacing the classic bidets or bidetta hand showers, walk-in bathtubs, or anti-slip shower trays minimizing the risk of falling.

Electronic-aided furniture systems are increasingly often available on the market, such as electrically opening and closing furniture fronts, shelves and worktops of adjustable height. Such solutions find application in households in which a disabled person on a wheelchair shares a kitchen with a person without physical limitations. The vision of the future that makes the role of technology in the house even more pronounced is Amazin Apartment designed by Future Facility. The concept assumes that all equipment and technology is 'wall-integrated' and divided into two sides: the servicing side and the consumer side, the latter simplified as much as possible. The 'technological corridor' with a modular design provides centralized and comprehensive support for the elderly.

An example of such new solutions is the invention made at the Poznań University of Technology (Faculty of Machines and Transport and Faculty of Architecture) by prof. Agata Bonenberg, subsequently patented, called the **'**Modular cupboard for people with disabilities'. The implementation project has been developed within the framework of the grant from the National Centre for Research and Development (NCBiR) and is the product that promotes mobility and environment accessibility for senior and disabled persons. This solution encourages independence of people with impaired mobility and has been awarded gold medals at exhibitions held in Pittsburgh (USA) and (Romania). The success of that solution confirms the current need to adapt space in apartments in order to make it more accessible for the ageing population.

6. CONCLUSIONS

When offering recommendations for designing residential space for the elderly, one should first of all take into account the current demographic and social changes and, consequently, redefine the characteristics and needs of the 'new' seniors.

Major changes that have occurred involve the shift in the importance of various activities in society, including the professional activity that has been significantly prolonged. The role of an elderly person in society has also changed – it is no longer so clear-cut and focused on looking after grandchildren. The change of seniors' position within the family and also within society makes them more similar in many respects to younger people. What is more, the limits and limitations in the use of state-of-the-art technological solutions disappear among the older generation; there are less and less barriers and exclusion caused by lack of access to information through modern media. The global phenomenon of population ageing requires designers to take into account new spatial and functional needs of future residents when designing homes for the elderly. The research also indicates that many young people rule out any future possibility of institutionalized living in care homes or retirement homes. Hence, those forms should only be perceived as last resort emergency solutions in the event of total disability. All the above considerations alter the point of view on the architecture designed for the silver generation.

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