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PLAYING WITH COLOURS IN SENIOR ARCHITECTURE – REMOVING BARRIERS

ZABAWA KOLOREM W ARCHITEKTURZE DLA SENIORÓW – USUWANIE BARIER

Abstract

The following research has been designed to present solutions for buildings which were created for senior citizens. The purpose of this paper is to select methods that, by using colour, would greatly improve the quality of life for the elderly. Social psychology emphasizes the close relationship between humans and the environment they live in. A safe and friendly space adapted to the specific needs of its users has an important impact on their quality of life. It also can be stated that there is a close connection and dependence between the quality of the living environment and the quality of life of senior citizens. Colour constitutes a vital component of the living environment design in senior architecture. It is not only evidence of a building's aesthetic value, but becomes an essential spatial mark.

Keywords: seniors' architecture, barriers, colour

Streszczenie

Celem przedstawionych badań jest ukazanie rozwiązań budynków przeznaczonych dla osób w wieku senioralnym. Ważnym elementem pracy jest wyłonienie przesłanek, umożliwiających poprawę jakości życia osób starszych poprzez zastosowanie koloru. Psychologia społeczna zauważa ścisły związek między człowiekiem a środowiskiem życia. Bezpieczna, przyjazna, przystosowana do potrzeb użytkowników przestrzeń wpływa korzystnie na jakość życia. Można zatem uznać, że istnieje ścisła zależność między jakością środowiska zamieszkania a jakością życia osób starszych. Ważnym elementem w projektowaniu środowiska zamieszkania dla osób w wieku senioralnym jest kolor, który nie tylko świadczy o estetyce obiektu ale jest również jest charakterystycznym znakiem w przestrzeni.

Słowa kluczowe: architektura dla seniorów, bariery, kolor

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Malarz wciąż zachodził w głowę:
Są kolory i odcienie,
Każdy inną ma wymowę,
Każdy jakieś ma znaczenie.
Jan Brzechwa

1. Introduction

Due to the fact that societies are currently aging, architects are facing very important challenges linked to adjusting changing user needs. Newly created spaces should be clear and without any barriers.

The barriers we come across in our everyday life can be divided into: urban – elevations (macro scale), architectural – stairs (mezzo scale) and object-related – bathtubs, toilets (micro scale). The subject literature [1] offers another barrier division into structural and non-structural. The former referring to those spatial elements which impede access to this space.

The second group – non-structural barriers – refers to efficient space perception and place to place mobility (wayfinding). Two scales can be distinguished in this issue: urban and architectural. Wayfinding is especially important when analysing the needs of senior citizens, whose spatial perception is already impaired. This problem is especially observable in residential areas, where a complicated urban structure (complex, irregular shapes of buildings and their enormous size, and their location – one building adjoins two streets) makes it harder to find the desired destination, and often our own living address. The same problem can be observed in closed buildings (hospitals, shopping malls, railway stations, airports) where inappropriately marked routes, without clear, comprehensible directions make it harder to reach the desired destination. Thus, a properly designed space should include a sufficient number of clear and intelligible directions. Elements of architecture, graphic design both tactile and verbal (for the visually and auditorily impaired) provide cohesion and ease of use in the space. To make finding recommended routes easier they should include the following four segments:

1. Orientation – ability to determine one's own location in relation to the surrounding objects and the destination itself.
2. Route Decision – the choice of routes leading to the destination.
3. Route monitoring – the possibility to verify whether the chosen route leads to the destination.
4. Destination Recognition – confirmation that the destination has been reached.

Old age is often associated with weaker perception of many elements, and this has recently triggered the concept of designing buildings with easier access for senior citizens. One of the most vital factors in such design is colour, which not only adds to the aesthetics of the building but becomes an important spatial marker. It is known that aesthetic appreciation of the building depends on different factors such as colour, shape, and scale. Various architectural forms affect human mental processes differently. Colours can improve or harm our mood. There are sharp dividing lines between colours depending on their numerous properties. Humans are very sensitive to colour. A person's perception of colour is a subjective and often subconscious process. Knowledge of the specific characteristics of certain colours and their combinations enables significant enrichment when designing a building and influences its perception. A certain colour can also become a spatial marker, and thus is easily identified.

The following paper offers two buildings for senior citizens which make perfect use of colour, consisting of multi-family dwellings designed for the elderly – one located in Poland – Stargard Szczeciński, and the other in Holland – Amsterdam.

2. Residential complex for people 55+ – color corridors

In 2008 in Stargard Szczeciński a small residential complex designed for people of the 55+ age group was built. The project was selected in a competition in 2006, which was won by the DOMINO architectural bureau. It is the first of this kind, implemented by Stargard's Communal Building Associations wholly dedicated to the elderly. It is a unique example of a comprehensive approach to design in Poland. Design solutions have been subordinated to the needs of future users. Therefore in addition to the technical facilities they offer residents the security, both physical and psychological.

Bearing in mind the limitations of seniors regarding mobility, vision, hearing and memory, the architects created a clear visual identification system. They designed a system of pictograms, and convex door numbering. Colour plays a crucial role in the solution.

Diverse colouring of individual segments has been introduced, thus facilitating identification of the place of residence and linoleum finish routes, which create a mood of "familiarity". The entire facility consists of three two-storey segments hosting 22 flats.

To identify each element a different colour was used. And so we have yellow, blue, and red. The designers started with the assumption that at age 55+ it would be easier to find an apartment, if it was clearly colour highlighted. The architects concluded that a family would consist of one or two people, and therefore result in a size of housing which would comprise not more than two rooms and a surface area of not more than 56 m². Each segment is composed of six apartments, three on each floor, to which lead clearly labelled doors. There are also common areas available to residents: a lounge with a kitchen and two terraces. This complex provides full-time care, space for a nurse practitioner and volunteers who mostly come from neighbouring houses. An animator is also employed whose task is to co-organize and co-ordinate joint meetings.

The complex is certainly a unique example of design for the elderly in Poland. In an interview, architect Wojciech Danaj says of the project: "*It was a totally new design experience. The project id clear in our memory because of its purpose, as well as the possibility of a less standard approach to the design of both the architecture as well as features and equipment, including interior design*. [2] On the other hand to the question *Has the experience acquired in this way resulted in further orders for architecture for seniors?* The answer is: *Until now, no*".

3. WoZoCo – colourful balconies

The Wozoco building[1] was designed to be used for housing for people aged 55+ [3], and is probably one of the most widely published buildings. It was designed in the leafy suburb of Amsterdam Osdrop – a city garden realized in the years 1950–1960 on the basis of a plan

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[1] WoZoCo is the first of a family of large buildings designed by MVRD, which include Parkrand, in the western part of Amsterdam, Silodam, on the waterfront in Rotterdam and Matador, in one of the new districts in the southern zone of Madrid.

Ill. 1.   Stargard Szczeciński, housing estate for senior, ground floor [5]
Ill. 2.   Stargard Szczeciński, housing estate for senior, section [5]
Ill. 3., 4. Stargard Szczeciński, housing estate for senior [5]
Ill. 5.   Amsterdam, WoZoCo, 5-floor [3]
Ill. 6.   Amsterdam, WoZoCo, south view (phot. B. Gronostajska)
Ill. 7.   Amsterdam, WoZoCo, north view (phot. B. Gronostajska)

by Cornelius van Eesteren in the late 1920s. In the vicinity of the north side green polders are situated, while on the south side the plot is restricted by four blocks of two-story serial buildings with small plots perpendicular to WoZoCo. The district is green and peaceful – ideal for the elderly. The character of the shaped space was the result of urban strategy aimed at increasing housing densities on these two areas (western areas of the city). The building was located on the edge of the neighbourhood and provides a background for low buildings

from the 1960s as well as the northern border of these areas. The motivation and underlying philosophy in shaping and forming the building were records of the local plan and the Dutch building regulations that strictly defined the height (9 storeys), size and illumination of the built-up area of housing[2]. Such restrictions meant that the planned building in the main stem could hold only 87 apartments, serviced northern, closed gallery. Such restrictions meant that the planned building in the main stem can fit only 87 apartments, serviced by a northern, closed gallery. The project, however, included the construction of 100 apartments.

The remaining 13 apartments – of different heights and sizes – were organised into spatial boxes suspended on the north facade. This treatment on the one hand broke up the monotonous, uniform north elevation, and on the other hand made it possible to fill those apartments with light from the east and west, which was in line with Dutch regulations. Thus the distinctive, extravagant form of the building was the result of the constraints that inspired and influenced its shape. This example clearly shows how difficult spatial conditions can achieve unconventional results through innovative treatments and bold design. Unfortunately, this unusual solution inflated construction costs by 50%. To save on construction, the architects introduced cheaper materials and reduced the number of partitions. This time, too, they managed to transform the limitations into success.

This aggressive form of the heterogeneous material was softened. Facades finished in wood, which over time took on a patina, colourful railings for balconies and glass curtain walls favourably enhance the aesthetic reception of the whole.

The construction of the levitating cubes was based on truss supports connected to the main rectangular, linear shaft. Thanks to these boxes, the corridor perspective was broken – the gallery with numerous doors looks different on each floor, creating different views – a frame for the countryside. The form of the building, at that time, was very innovative and an avant-garde solution that has repeatedly been an inspiration for future architectural projects.

The building offers small but diverse flats for senior citizens that in their system refer to the tradition of Dutch functionalism[3]. Apartments consist of rooms or annexes, bedrooms, bathrooms, kitchens, living rooms of various sizes, balconies open to the south (or east and west in the case of hanging cubic meters) with distinctive, colourful glass railings and small rooms with windows facing the galleries (in larger apartments). The balconies are big enough that you can instantly stand plant pots, a table, and chairs. Greenery is extremely important to the Dutch, on sunny days, life goes on the balconies that are a very characteristic element of the solution. Contact with the countryside, in the form of small gardens, is provided only by ground floor apartments. The building does not look like a residential estate for senior citizens. It is a cheerful sculpture of freely scattered glass windows and balconies, colourfully illuminated in the midday sun and carefree suspended boxes, where deep shadows provide the tectonic elevation.

4. Summary

You could say that colour is an essential element of architecture. It is very important in facilities designed for senior citizens. We conclude that colour in residential architecture should:

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[2] In the Netherlands, housing cannot be illuminated the northern light [4].
[3] Similar solutions we can meet in estates Bergpolder, Kraingse, Plaslaan (slabs built) in Rotterdam, 1936–1937.

- be used in accordance with the knowledge of the effects of the psychological and psycho-physiological perception of colour,
- emphasize a formally valid space that should be distinguished in elevation,
- provide logical signposts to indicate routes.

R e f e r e n c e s

[1]   Komar B. *Współczesna jakość spółdzielczej przestrzeni osiedlowej w świetle zasad rozwoju zrównoważonego na wybranych przykładach*, Wydawnictwo Politechniki Śląskiej, Gliwice, 2014, 131–133 .

[2]   Interview for bankier.pl, [in:] http://www.bankier.pl/wiadomosc/Caly-budynek-tylko-dla-seniorow-2166972.html

[3]   http://housingprototypes.org/project?File_No=NL011, Architecture In The Netherlands, 1996–97, UAi Publishers, Rotterdam, p. 120–123.73. El Croquis #87, 1991–1997.

[4]   http://housingprototypes.org/project?File_No=NL011

[5]   http://www.szczecin.pl/UMSzczecinSwiat/files/72AF859E12764037BED7E9671B28C1C8/program_rewitalizacja_razem.pdf]