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AESTHETIC AND PSYCHOLOGICAL ENVIRONMENT FOR PEOPLE WITH DISABILITIES

Abstract. The lack of equal conditions for understanding the world and finding people with disabilities in society. Currently, there is an excessive allocation of people with various disabilities, which leads to a negative psychological impact on the personality. The means of selection are understood, for example, in order to separate them from the large flow of main entrances, to typify the formation of a lifestyle and the perception of this image using typical tools (ramps, tactile paths, etc.) and to demonstrate the impossibility of forming equal psychological and physical conditions in some parts of architectural spaces.

Key words: inclusive environment; public space; accessibility.

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ЭСТЕТИЧЕСКАЯ И ПСИХОЛОГИЧЕСКАЯ СРЕДА ДЛЯ ЛЮДЕЙ С ОГРАНИЧЕННЫМИ ВОЗМОЖНОСТЯМИ

Аннотация. Отсутствие равных условий для понимания мира и нахождения людей с ограниченными возможностями в обществе. В настоящее время наблюдается чрезмерное выделение людей с различными ограниченными возможностями, что приводит к негативному психологическому воздействию на личность. Средства отбора принимаются, например, для того, чтобы отделить их от большого потока главных входов, типизировать формирование образа жизни и восприятие этого образа с помощью типичных инструментов (пандусов, тактильных дорожек и т. д.) и продемонстрировать невозможность формирования равных психологических и физических условий в некоторых частях архитектурных пространств.

Ключевые слова: инклюзивная среда; общественное пространство; доступность.

Our purpose was to propose principles for the design of an aesthetic-psychological inclusive architectural space.

The Tasks were:

First – Identify the problem and determine the relevance.

Second – Analyze the relevant literature.

Third – Summarize statistics and analyze.

Fourth – Create principles for the architectural design of an inclusive environment.

And, the last one was to demonstrate the identified principles using the example of the LFA's own project in public space.

Main part. Orientation is the process of determining one's position in the locality or the direction of one's paths relative to the sides of the horizon and objects, which are landmarks. Not every object can serve as a distinctive feature.

For example, some trees and small groups of trees are good landmarks in the field, but the same trees in the forest are no longer to be landmarks because of their multiplicity, so, it is no longer possible to determine one's position on the ground and the direction of the path, therefore, it follows that, as architects we need to be given the opportunity psychologically feel staying in the appropriate space, so that each person does not depending on his orientation methods in the locality, he could feel the mood and image of the place, the same as others [6, p. 508-510].

Blind and visually impaired. Psychology of blind and visually impaired is an independent branch of psychological science. Like any science, psychology of blind and visually impaired has its own subject, which is the psyche of persons with profound visual impairments (blind and visually impaired). One of the most important conditions for normal vision is the field of view, a space, which all points are visible simultaneously with a fixed gaze. For red, blue and green colors, the field of view gradually narrows, and even more narrowing is observed with object vision. These parameters are much worse for people with visual impairment. This fact must be taken into account in the designing process.

Orientation is the process of determining one's position in the locality, based on the use of information from the preserved sense organs. Residual vision, hearing, touch and smell can be used in order to determine one's position in space. According to the type of activity, they distinguish between spatial, industrial, everyday, subject-cognitive and other orientations. Often the blind have to determine the shape, size and materials of objects, recognize them, distinguish them from each other to orient themselves among objects. The ability to freely navigate the locality and interact with the environment is called mobility. It allows a person to be independent, self-confident.

Conclusion. Landmarks for blind and visually impaired people should have the following qualities: to be clearly visible in the field of vision on the way and sufficiently highlighted in terms of importance. For the visually impaired, sufficiently bright, noticeable, expressive accents in form should be provided that correspond to the style of the locality. Various textures are used that show the place for tactile interaction with the locality. Also, tactile paths and other specialized devices must correspond to the place, based on the aesthetically psychological orientation. Their location should

not be alienated from society, in order to induce the interaction of the blind with the people around them.

Deaf and hard of hearing. Deaf psychology is psychology of persons with hearing impairments. There is a loss of clarity, brightness of an object reproduction, a decrease in size, movement in space of individual details of an object, assimilation of one to another well-known object for people with hearing impairments. Orientation occurs without the aid of hearing, therefore, the load on the visual apparatus increases [2, p. 200-221].

Also, a feature of people with visual impairments is the lack of a clear understanding of shape and size, and the sense of touch is not involved enough in these properties perception. Difficulties in perceiving spatio-temporal relationships between objects and perspective images are noted. The perception of an object in motion is poorly expressed. It is difficult to understand the subject if it is partially covered by another.

Conclusion. Architectural elements should be clear in shape or structure, bright enough (if it is necessary). You can also use dynamics to attract attention. Such a person hardly recognizes forms in motion, and this can be used to intrigue, and to take an attention of such a viewer.

People with mobility disabilities. Norman Künck: “In the philosophical understanding, independent life is a way of thinking; it is the psychological orientation of a person, which depends on his relationships with other individuals, on physical capabilities, on the environment and the degree of support systems development. The philosophy of independent life orients a person with a disability to the fact that he sets himself the same tasks as any other member of the society”.

Conclusion. From this passage, we are interested in such a factor as the locality. People with disabilities with limited movement should not feel aloof and conditions that allow them to feel on a par with others are more dependent on the formed space. People in a wheelchair do not feel themselves fully enough, even if the norms are fulfilled. In addition to the functions of various devices for comfortable movement, it is necessary to contribute to the aesthetic, semantic, psychological content of these objects (ramps, handrails) [3, p. 94-98]. By their location, they should not be isolated from the main transits; the paths of the disabled should be merged with the movement way of the whole society. But all this should not aggravate the physical accessibility of these facilities [10, p. 262-263].

Principles of architectural design of an inclusive environment. From the studies carried out and the statistics summarized [1, p. 74-78; 8, p. 24-25; 9, p. 426-431], the following design principles were identified:

1. Decision of detachment. The environment makes social relationships. Therefore, it is impossible to divide the space into parts for the disabled and for the community.

2. Elimination of the special equipment typification for disabled people in public spaces. Each public place must be approached subtly and in order to create the same atmosphere that occurs around healthy people. As for people with disabilities, it is necessary to make specialized items through which they come into contact with the environment.

3. Dynamics. It is necessary to give dynamics to key, cult objects in public spaces. This can help increase the focus on such spaces. Also, this movement can be used as an energy efficient influence on the environment.

4. Texture. A good complement to ramps, tactile paths, is a specific texture. It should act on the reader from a psychological and aesthetic point of view. Textures can convey sensations both through tactile perception and sound.

5. Field of view. The main objects should not be covered by the same bodies (trees, tables, etc.), since there are many of them in the environment, and they are identical for the people with disabilities (it is impossible to navigate). Objects which it is necessary to concentrate attention on, can only be closed with highlighting and accentuating objects. It is desirable that the subject is in a sufficiently open area. It should be dominant in the field of vision.

6. Color solutions. The use of calm, natural, natural shades is allowed when bright clean accents are included in the image. If the stylistic orientation does not allow the use of bright accents, then it is necessary to replace this principle with the above.

Demonstration of the identified principles on the example of the developed IAF project in a public space without reference to the locality. Based on the principles that we identified and on references, a conceptual project of the art object “Ritual-Return to the Origins” was created, dedicated to the theme of an inclusive environment. This object can convey to the creator the main feature of inclusion – unity in the process of being in architectural spaces. The most important thing is to experience collective participation.

The space is formed from a central (main) dynamic object and 5 cabins for the detached and creative. The central object is the focus of attention. Absolutely everyone can give it a dynamic state and feel the influence on the process. This interaction occurs due to a specialized ramp pedal. Rotation of dynamic parts is performed at a safe angle around the rotation axes.

There are 5 booths replicated in a circle within the radius of accessibility. Their functional purpose is a place for rest and observation of the main process from the outside, as well as for a certain psychological rethinking. On the outside, motivating phrases are engraved in Braille for the blind and visually impaired people entering. The cockpit has an opening transparent door, formed from a frame and nylon soft strings are stretched inside. The transparency of the door and a special sounding texture are created, due to them [4, p. 78]. The visitor, closing inside, will not be able to distance himself from the environment and the process. This can give a person a rethinking of their detachment from society and induce them to grasp the ritual, will not leave them unnoticed. The cabins are equipped with seats that can be reclined to ensure that a disabled person can stay in a wheelchair.

1. The solution to detachment is to be in the environment together. The society can jointly interact with the central object, and also the cabins located around have open views of the center of what is happening.

2. Elimination of typing – the development uniqueness. Each object is specially designed for a given idea and environment. This is a pedal-ramp for interacting with the central art object and a folding seat to provide wheelchair access to the cockpit. Also, here can be attributed to the Braille

font on the cabins' walls, these elements carry not only their direct functionality, but also are an aesthetic addition to the space.

3. Implementation of dynamics – the use of dynamic objects. There is no need to be afraid to use the dynamic components of the art space, taking into account the guests' safety. Also, thanks to the dynamics, it was possible to attract the attention of absolutely any people, be they in a wheelchair, blind (due to sound), deaf and ordinary people. With the help of this engineering idea, it turned out to better reveal the sacred image of the object. It became easier to communicate with space.

4. Application of texture – adding life to architecture. Both natural textures (wood) and additions in the form of sound were used in the project. Braille is also a specific texture in this project for an inclusive environment.

5. Selecting an object in the environment - open field of view. The art space is designed in such a way that the dominant cabins do not block the view. Rather, they even help to notice the central object among the repeating environment (trees). On top of that, the transparency of the structures appears.

6. Color solution - accents. As you can see, the natural color of the treated wood was chosen as the basis for the color scheme, but bright and noticeable accents (red springs and strings) were used to highlight the space and complement the composition. They are a spatial reference point.

Conclusions. Thus, our scientific work, we draw a thin thread between architecture and psychology. We carried out an analysis that led us to the revealed principles, having touched upon the aspects of sociology, psychology and architecture. In the future, these principles can be improved [5, p. 75-82; 7, p. 122;]. New architecture structures can be added. The prospect of further development is to connect various nosonomies here, the development of other city infrastructures according to these principles. It is possible to develop more universal principles that could help in any area of architecture. This work can serve as a kind of cheat sheet for future architects, since very little is said about it, we will start doing it, and they will start. As students of architects, we learned a lot from this work, understood how people with certain health problems might feel, and rethought the importance of aesthetics and psychology in this project development.

Литература

1. Кетова Е.В., Нижегородцева Ю.Е., Хлыбова Ю.О. Особенности создания инклюзивного образования и адаптации высших учебных заведений для студентов с ограниченными возможностями здоровья // Актуальные вопросы строительства: Материалы VIII Всероссийской научно-технической конференции, посвященные 85-летию со дня образования НГАСУ (Сибстрин) (г. Новосибирск, 07–09 апреля 2015 года). Новосибирск, 2015. С. 74-78.
2. Литвак А.Г. Психология слепых и слабовидящих. СПб.: РГПУ, 1998. 271 с.
3. Наумов М.Н. Обучение слепых пространственной ориентировке. М., 1982. 116 с.
4. Сафронов К.Э. Градостроительные методы формирования безбарьерной среды // Academia. Архитектура и строительство. 2011. № 1. С. 88-91.

5. Сафронов К.Э., Сафронов Э.А. Моделирование пассажирских и транспортных потоков в городской агломерации // Вестник Московского автомобильно-дорожного государственного технического университета (МАДИ). 2019. № 3(58). С. 75-82.

6. Смолина О.О., Гусева О.В. Анализ Отечественной и зарубежной нормативно-законодательной документации формирования безбарьерной среды жизнедеятельности для маломобильных групп населения с позиции доступности на трех уровнях пространства // Экономика строительства и природопользования. 2018. № 4(69). С. 79-86.

7. Холостова Е.И. Социальная работа с инвалидами. М.: Дашков и К, 2014. 240 с.

8. Шолух Н.В. Безбарьерная среда жизнедеятельности. Об опыте подготовки специалистов // Жилищное строительство. 1997. № 8. С. 24-25.

9. Шолух Н.В., Симоненко Ю.О. Специальные архитектурно-планировочные и инженерно-технические приемы и средства по адаптации внутренней среды учреждений культуры и искусства к потребностям лиц с физическими ограничениями // Проблемы экономики и управления строительством в условиях экологически ориентированного развития: Материалы 6 Международной научно-практической онлайн-конференции. Братск, 2019. С. 426-431.

10. Kalpakova Y.A., Burilo N.A. Creating a comfortable aesthetic and psychological environment for people with limited mobility and maintaining equality between healthy people and people with disabilities in society // Topical issues of rational use of natural resources: XVII International forum-contest of students and young researchers under the auspices of UNESCO (Saint Petersburg, 31 May – 06 June 2021)/ Saint Petersburg, 2021. P. 262-263.

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