

## ARCHITECTURE OF REHABILITATION FACILITIES FOR PEOPLE WITH VISUAL IMPAIRMENTS

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There is a need to create common and consistent rules that would allow understanding disability as a phenomenon of the system. There are many different definitions of disability. The effects it entails visual dysfunction depends on several factors. The paper presents examples of rehabilitation and educational institutions for the visually impaired in Poland and abroad. The aim of the project was to develop the concept of software – adaptive spatial resort for those who are completely blind or visually impaired is defined, which is used primarily for adaptation and educational purposes as well as therapeutic and convalescent. Multisensory space combines elements of architecture, art and media. The essence of architectural design and rehabilitation facilities are functional, simple and intuitive to use, with an emphasis on open spaces and objects in such a way that their function was understandable for every user, regardless of experience or an advanced degree of dysfunction.

**Key words:** Architecture, design, rehabilitation facilities, people with visual impairments.

Існує необхідність створення єдиних і послідовних правил, які дозволять зрозуміти інвалідність як системне явище. Є багато різних визначень інвалідності. Ефекти, які пов'язані з порушенням зору, залежить від кількох факторів. У статті наведено приклади реабілітаційних закладів для інвалідів в Польщі та за кордоном. Мета проекту полягала у створенні концепції – адаптивного просторового центру для повністю сліпих та слабозорих, яка використовується в основному для цілей адаптації і навчання, а також лікувальня та одужування. Мультисенсорний простір поєднує в собі елементи архітектури, мистецтва і засобів масової інформації. Суть проекту полягає у архітектурній функціональності об'єктів, простоті і інтуїтивно зрозумілому у використанні, з акцентом на дизайн простору і об'єктів таким чином, щоб їх функція була зрозуміла для будь-якого користувача, незалежно від досвіду.

**Ключові слова:** архітектура, проектування, реабілітаційні центри, люди з порушенням зору.

### The quality of life of people with disabilities

The quality of life of people with disabilities has become a subject of research in many disciplines analyze in detail the phenomenon of disability and types of social barriers that paralyze gain unfettered control over their lives dysfunctional. There is a need to create a common and consistent rules that would allow to understand disability as a phenomenon of the system. Proponents of the system approach argue that disability is a relational and is the result of human susceptibility to disease and the characteristics of the environment that promote disclosure restrictions motor skills and cognitive.

There are many different definitions of disability. The medical community in terms of perceived disability problems of those affected. A disabled person is diagnosed as sick. To popularize the phenomenon of stigma disabled environment leads to assume that the limited performance is a consequence of defects, deficiencies and errors. Is redefining the role for the person with a disability. Such

individual has to equal rights to the use of the environment. Accents are changed to take account of the state of research and visibility of human cognitive characteristics.

The World Health Organization has adopted in 2001 a new system of human model of disability – disability is (...) the result of a complex relationship between the state of health of the individual and the characteristics of its people and the external factors that represent conditions in which the individual lives. The expanded definition of WHO treat every person with a disability and the situation in which it is located as a one-of-a-kind. Is not defined takeover premature or general assumption about the needs of people with disabilities and the use of strategies that are tailored to the specific situation in which the person is located?

### **Visual dysfunction**

The effects it entails visual dysfunction depends on several factors. Important is the age at which there is a loss of vision – there is a qualitative difference between blind since birth or early childhood blind and blind above 5 years of age – those who have lost their sight more experience their disability than those with congenital dysfunction. It depends on how the loss of vision, range of vision loss (total overlooking, a sense of light and stored in varying degrees of useful degrees of vision); personality – lifestyle, interests, commitment to passion. In the case of resulting visual dysfunction occurring since birth or the resulting in early childhood effect of disability can be a delay development of the child, the delay some of the processes development of the child egg of cognitive functions, development of speech, perception the ambient, gastrointestinal motility, of socialization, orientation, in space. People suffering from the loss of sightless full of personality (sum of psychological traits, such as beliefs, attitudes, temperament, ability, character – specific to the individual and determining specific behaviors and reactions to the same phenomena and situations). Especially those with a sudden (step) suffer vision loss depression that "disorganized" personality, resulting from the loss of physical full value. As a result of sudden or progressive visual dysfunction are a loss of mobility, which closes the attachment to one place as a result of panic and fear, and a sense of dependence on others. Loss of use of the tools of everyday life determines the progressive personality disorders, lack of acceptance of the situation and the feeling of helplessness when performing basic tasks. The visually impaired related to a problem in getting information and the loss of the ease of communication through writing and the use of info graphics. In addition, inability to receive gestures, facial expressions, body language makes it difficult to read emotions, the information generated emotions. Loss of sight permanently or temporarily hinders, restricts or prevents everyday life, fulfilling social roles and normal functioning in the mainstream environment.

### **Rehabilitation and educational facility for the visually impaired in Poland**

In Poland there are few school and educational centers for the blind and visually impaired – Bydgoszcz, Krakow, Laski near Warsaw, Lublin, Lodz, Owińska near Poznan, Radom and Warsaw. Students stationed there have greater access to educational support, activities revalidation. Special Education Centre for Blind Children them. Róża Czacka in Laski near Warsaw. Department Laski is most often associated with blind teaching center in Poland. Preparing for an independent life are about 300 blind and visually impaired children from across the Poland. After finding a person gains vision dysfunction psychological and typhlos teaching. Pre-school education involves learning independence and self-reliance. Next steps in implementing a program of education and support school independently. Special Education Centre for the blind and visually impaired in Krakow. Founded in 1948, the Krakow Special Education Centre is the only center of education, counseling and rehabilitation of children and youth with visual impairments in a wide age range in the Carpathian region. The resort is an assumption of late modernism, adapted the profile of rehabilitation and educational. The facility includes workshops for both educational and therapeutic. In the province of Subcarpathian there is a defined space adaptation for people with diagnosed visually impaired?



*Fig. 1. Special Education Centre for the blind and visually impaired in Krakow.  
(Source <http://www.blind.krakow.pl>)*



*Fig. 2. Special Education Centre for the blind and visually impaired in Krakow.  
(Source <http://www.blind.krakow.pl>)*

### **Examples of rehabilitation and educational institutions for the visually impaired abroad**

Center for blind children Anchor in Colorado (USA) Center for Blind Children is working with the youngest to maximize and optimize all the senses. Early intervention improves the ability to adapt to new situations and to participate in social life. Julie McAndrews Mork Building is built in 2007, a unique building designed specifically to teach very young children with visual impairments. It includes lights, textures, sounds, sensory garden with a pond and sculptures. Pathway provides free hiking moving out and the possibility of riding the tricycle. The spacious interior corridors give children a sense of security so that they can move without fear and read location [6]

School for disabled Hazelwood in Glasgow (designed by Gordon Murray + Alan Dunlop Architects, nominated in 2008 for the World Architecture Festival awards) Hazelwood School is situated on the outskirts of Glasgow. It is a center of learning for children and young people with multiple physical or mental disabilities. The property is designed for people aged 2 to 19 years, with efficiencies coupled disabled. Each student has more than one diagnosed disability such as impaired vision, hearing, mobility or cognitive impairment. In order to enhance the experience of students, the school develops its independence through individualized curriculum multi – sensory. An integral part of the practice of teaching gardens of the resort is teaching. It is important that children have access external environment, which affects the development of their perception. The sensory experience is a key part of the curriculum in Hazelwood. Easy orientation in the school is the main corridor that runs around the building as a tool for navigation. Spacious sculptural units that make up the wall of sensory function as a storage device. The wall is covered with a stopper. Each of the external finishing materials was chosen for its significance in the sensory information.



*Fig. 3. View of downtown anchor.  
(Source: [www.anchorcentre.org](http://www.anchorcentre.org))*



*Fig. 4. Inside the center of Anchor  
(Source: [www.anchorcentre.org](http://www.anchorcentre.org))*



*Fig. 5. Hazelwood School view of the mountains.  
(Source: [www.hazelwood.glasgow.sch.uk](http://www.hazelwood.glasgow.sch.uk))*



*Fig. 6. Hazelwood School interior.  
(Source: [www.hazelwood.glasgow.sch.uk](http://www.hazelwood.glasgow.sch.uk))*



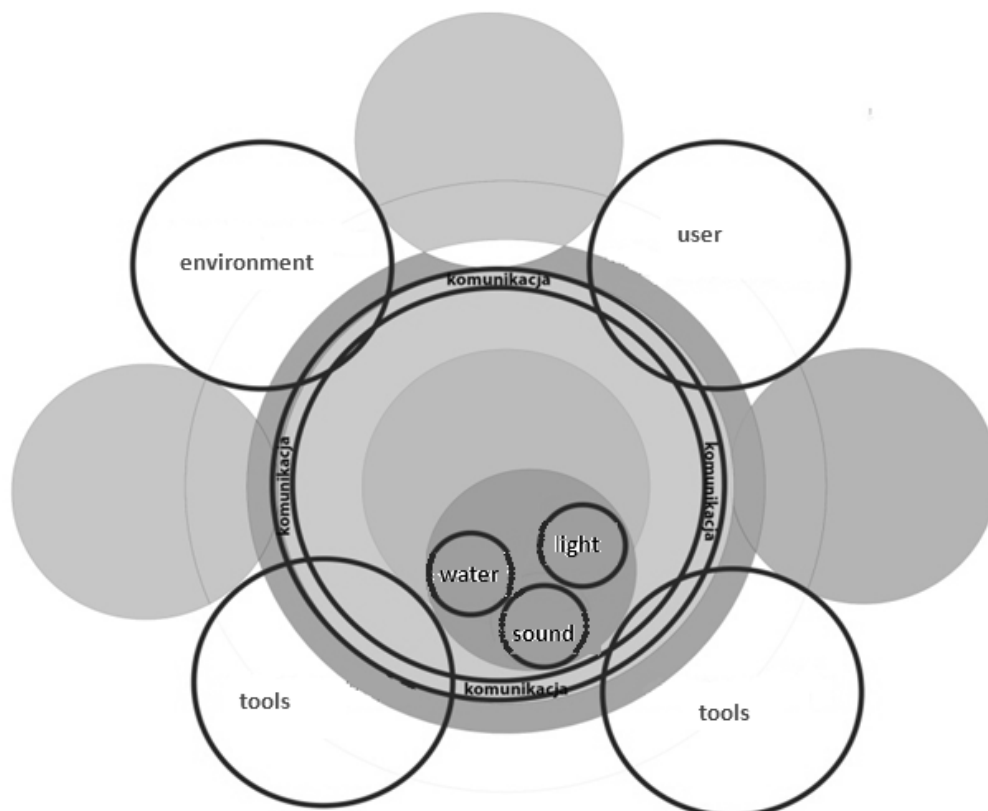
*Fig. 7. Hazelwood School. (Source: [www.hazelwood.glasgow.sch.uk](http://www.hazelwood.glasgow.sch.uk))*

### **Architectural design, multi – sensory space**

The man seems to be an intermediate element in the flow of energy and information, which is recognized as part of the system as it creates space and existence today in the progressive technology. This generates the need for a conscious communion with the body and re-explores the space through stimulation of the body's own sensors. In this case, the transformation is a clear sensory reception architecture which involves a change in the perception of the environment. Architectural object in context is, according to the vision of a dynamic, functioning perceptual quality. The space multi – sensory combines elements of architecture, art and media. A new concept of architecture defines the space as a model of kinetic energy. Here penetrate the plane of technology, art, architecture, which is the result of an interactive space, multi – sensory. The design philosophy seems to provide the person with disability solutions that support certain features of her body and mind. The aim of the thesis project was to develop the concept of software – adaptive spatial resort for those who are completely blind or visually impaired with a defined, which is used primarily for adaptation and educational purposes as well as therapeutic and convalescent. This is the essence of the functionality, simplicity and intuitive to use. Emphasis should be placed on the design of the space and objects in such a way that their function was understandable for every user, regardless of experience or an advanced degree of dysfunction. Rule visibility of information says that the information read by the objects and structures was multifaceted. The designed object with a clearly defined purpose only creates the background for the events accompanying activation. This determines the need to preserve the context and work out a compromise between architectural forms and important issues affecting the challenging issues surrounding the perception of visually impaired persons. The subject of the project is an extreme user (extreme user), which lacks a basic sense of understanding and perception of the environment –

sight. A person with a visual impairment despite his disability has a wide range of cognitive tools and using the remaining (strained) is a full member of the senses of space and can be consciously define. The senses of cognition of the blind are primarily touch, which provides them an opportunity to imagine things, people, and shapes. By simple definition of space and ease of navigation, you have a sense of security and self-sufficiency – just straightforward formula for the effect on such a belief. People with impaired vision thrive in areas limited to, the way perception and perception and reading information. You understand general availability and security which ensures oval unlimited access to every part of the building, which has been duly divided into part: the environment, the user tool (task). Each zone is assigned functions and tasks, and is thus defined by the user in a manner accessible to be able to read and identify the space in which it is located, and the event in which they participate. These are the three areas that intertwine and form a circle that defines the object. The circle evokes good accessibility; location and elimination of discomfort seek the road. You can easily read and "feel" for visually impaired persons confined space explored.

Each zone provides general accessibility by introducing the corresponding node associated line the main corridor of the building. It integrates the basic functions of the object. In the environment you get support for multidisciplinary prevention and treatment. It is a place of confrontation with non-disabled persons or persons with dysfunctional progressive complications. In this section, there are also administration offices and technical facilities. User is a space dedicated to the residents and people associated with different types of tasks activating. It defines a methodical and educational space, a place of adaptation and adjustment. In this section, the most important is you and your needs. It consists of an especially dedicated sub-activity includes the methodology for the study and improvement of the alphabet Braille, or audio description teaching.



*Fig. 8. The proposed facility – schematic diagram*

Some called as a tool (task) can be read directly as the county has suggested the possibility of adapting and reading architecture by participating in one of the events in the field of acoustics, lighting, texture. The experiences of this place, allows the user to integrate the structure. In the case of total incapacity of the eye – it is often the only tool of communication.

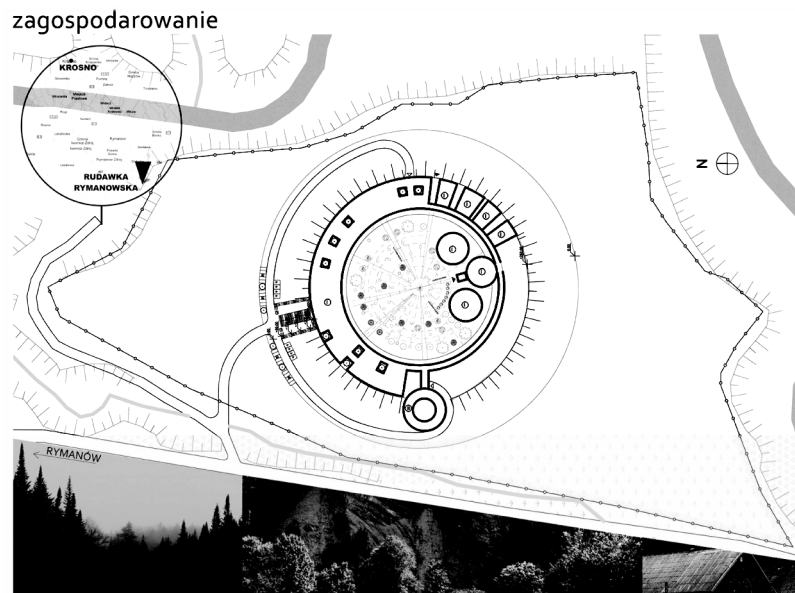


Fig. 9. The master plan for the area



Fig. 10. View of the interior corridor of the main building

### Conclusion

There is a need to create common and consistent rules that would allow understanding disability as a phenomenon of the system. There are many different definitions of disability. The effects it entails visual dysfunction depends on several factors. The aim of the project part of the work was to develop the concept of software – adaptive spatial resort for those who are completely blind or visually impaired is defined, which is used primarily for adaptation and educational purposes as well as therapeutic and convalescent. Multisensory space combines elements of architecture, art and media.

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