

Co-Creating Inclusive Public Spaces: Engaging Underrepresented and Marginalized Communities in the Planning Process

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1 ABSTRACT

Demographic data show that life expectancy is increasing, due to medical developments, higher living standards, healthier diets, etc. But longer life expectancy also means a higher proportion of the elderly population with various functional handicaps. The concept of functionally disabled people is broad and can include persons with disabilities, the elderly, pregnant women, young children and anyone who is permanently or temporarily handicapped in some way. This paper reviews the academic research in the field of architecture in relation to the accessibility of public spaces for persons with disabilities, with a focus on co-creation and community engagement.

For all people, independent movement and mobility are essential. A requirement for ensuring the independent movement of persons with disabilities and their integration into society is the physical accessibility of urban areas and buildings. The technical foundations for accessibility design have been established by universal design's principles and guidelines, but they still require aesthetic value to be added. Allowing disabled people access to public spaces increases their visibility, which strengthens their sense of independence and autonomy and promotes a more positive perception of society. Persons with disabilities are less stigmatized as a result of their inclusion in society, and the general public and professionals are more aware of the need to modify environments and services so that everyone can use them. Inclusion of persons with disabilities in society leads to destigmatization and increased awareness among professionals and the general public about the importance of adapting the environment and services so that all users can use them on equal terms.

However, more than technical solutions are required to achieve accessibility and inclusion. Co-creation and community involvement are essential components of creating accessible and inclusive public places. Co-creation is a design approach that involves end users and designers working together to jointly develop solutions that are tailored to their needs (Pralhad & Ramaswamy, 2004). Community participation means actively integrating people of the community in the design and planning processes, particularly those who are underrepresented or marginalized, to ensure that their viewpoints are taken into consideration.

Architects frequently associate disability with accessibility and compliance with spatial legislation, but they overlook the social aspect of disability and the added value it can bring. Individuals with sensory and physical limitations view spaces differently, giving them a distinct perspective on and experience with the built world. By incorporating underrepresented and marginalized people in the design process, architects can acquire a more diversified perspective on accessibility and inclusivity, leading to more effective and meaningful design solutions.

This paper proceeds by saying that community involvement and co-creation are critical for developing inclusive and accessible public spaces. To accomplish accessibility and inclusion, more than simply technological improvements are required; a societal and cultural shift in favour of respecting diversity and strengthening underrepresented and marginalised people is also required. Involving persons with disabilities in the design and planning process may result in a more inclusive and equitable society.

Keywords: built environment, inclusion, urban space, disabled people, accessibility

2 INTRODUCTION

According to statistics provided by the World Health Organization (WHO, 2022), approximately 1.3 billion individuals, constituting 16% of the global population, are estimated to experience some form of disability. Furthermore, demographic data indicate noticeable growth within the ageing segment of the population, consequently leading to an increase in the number of individuals with disabilities. It is important to acknowledge that the definition of functionally disabled people encompasses a wide range of individuals, including those with disabilities, the elderly, pregnant women, young children, and anyone facing permanent or temporary limitations owing to various impairments.

The Convention on the Rights of Persons with Disabilities, the first international human rights treaty of the United Nations (UN) concerning the protection of the rights of persons with disabilities and the prevention of discrimination against them, introduces a social perspective into its definition. In contrast to the past, when individuals with disabilities were often perceived as recipients of medical treatment, the Convention recognized them as bearers of human rights. As per the Convention's definition, a person with a disability is „a person who has long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others“ (UN General Assembly, 2007). Disability is defined as „an evolving concept, and results from the interaction between persons with impairments and attitudinal and environmental barriers that hinder their full and effective participation in society on an equal basis with others“ (UN General Assembly, 2007).

The European Union (EU) recognizes and respects the right of persons with disabilities to measures ensuring their independence, social and occupational integration, and participation in community life, as stated in Article 26 of the Charter of Fundamental Rights of the European Union. In the European Action Plan 2006-2007 on the situation of disabled persons, the EU sets one of its three goals: „removal of barriers in the environment that prevent disabled persons from using their abilities“ based on the principle of 'design for all' (European Commission, 2005).

In Slovenia, the rights of persons with disabilities are guaranteed by Article 14 of the Constitution of the Republic of Slovenia, which guarantees equality before the law and „equal human rights and fundamental freedoms for all, irrespective of nationality, race, sex, language, religion, political or other opinion, property, birth, education, social status, disability or any other personal circumstance“. The field of social inclusion and equal opportunities for persons with disabilities and ensuring unhindered access is regulated in Slovenia by legal acts, such as the Equalization of Opportunities for Persons with Disabilities Act (ZIMI), Social Inclusion of Disabled Persons Act (ZSVI), Building Act (GZ-1), and Rules on Universal Construction and the Use of Construction Works.

For all people, independent movement and mobility are essential. A requirement for ensuring the independent movement of persons with disabilities and their integration into society is the physical accessibility of urban areas and buildings. If space is adapted to the needs of persons with disabilities, it becomes suitable for all users. This paper aims to provide a systematic literature review in the field of architecture and urbanism related to the paradigms of universal design and the relationship of architecture and architects with persons with disabilities. Additionally, the article will shed light on examples of good practices regarding the involvement of disabled individuals in the planning process, mutual collaboration, and learning.

3 CONCEPTS OF ACCESSIBILITY

The concept of accessibility design and planning is called differently depending on its occurrence in different periods and geographical areas, e.g. 'universal design', 'inclusive design', 'design for all', 'barrier-free design', 'accessible design', etc. All of the mentioned concepts have the same common principle, which advocates the design of the environment and products in such a way that, to the greatest extent possible, all people can use it. However, different terms describing the same design concept can lead to poorer awareness, slower implementation of established concepts in practice, and deliberate omission of suitable solutions (Albrecht et. al, 2017, Persson et. al, 2104, Iwarsson & Ståhl, 2003).

The concept of 'barrier-free design' first emerged in the United States of America (USA) in the 1960s when the American National Standard for Accessible and Usable Buildings and Facilities was issued. The impetus for the development of the standard was the return of persons with disabilities from the Vietnam War to the USA. The aim was to provide an alternative to institutional healthcare and to support independent living (Persson et al., 2014).

The concept of 'universal design' has its roots in the concept of 'barrier-free design'. The American architect Ronald L. Mace, in the 1970s, defined the concept of universal design as “design that is usable by all people to the greatest extent possible, without the need for adaptation or specialised design” (Mace et al, 1991). Mace, had been a wheelchair user since childhood, said that the removal of the 'special needs' label was the most significant change brought about by the use of universal design (Null, 2014).

Architect Selwyn Goldsmith explored the field of 'universal design' in the United Kingdom (UK). Goldsmith placed the disabled at the top of the universal design pyramid, demonstrating a participatory approach to design 'from the bottom up' (Goldsmith, 2000). He was the first architect to introduce a system of sloping access over kerbs or ramps on the pavement to facilitate the passage of wheelchair users (Goldsmith, 1997:214).

The term 'design for all' was defined in the 'Stockholm Declaration' by the European Institute of Design and Disability (EIDD) as „design for human diversity, social inclusion and equality“. The Declaration was adopted by EIDD members at the Annual General Meeting in Stockholm on May 9, 2004.

The term 'inclusive design' is the most commonly used term in the UK. The British Standards Institute has defined 'inclusive design' as: „the design of mainstream products and/or services that are accessible to, and usable by, as many people as reasonably possible on a global basis, in a wide variety of situations and to the greatest extent possible without the need for special adaptation or specialized design” (BSI TBSI, Vol. BS 7000-6; 2005). The definition is similar to the purposes of 'universal design' and 'design for all', but includes the phrase 'as reasonably possible'. This means that adaptations to achieve accessibility do not have to be made if they are too expensive or difficult to achieve. This phrase allows accessibility solutions not to be implemented, which is unacceptable as it excludes vulnerable groups and denies them equal use of services and facilities.

The ISO standard defines the concept of 'accessible design' as a „design focused on principles of extending the standard design to persons with some type of performance limitation to maximize the number of potential customers who can readily use a product, building or service” (ISO/IEC Guide 71:2014).

In Slovenia, architect Marija Vovk worked on the topic of accessibility. With her handbook “Designing and adapting the built environment for the benefit of persons with disabilities”¹ (Vovk, 2000), she has made an outstanding contribution to the initiation of the process of removing architectural barriers and to raising awareness among professionals about the problem of the inaccessibility of the built environment. The research group, led by landscape architect Albreht Andreja, published a design manual 'Space for All', supplemented the guidelines for designing a space free of built and communication barriers, suitable for all users, with guidelines and examples of good practice also for members of the blind and partially sighted group (Albreht et al., 2010: 27-31).

The essence of universal design is to design and plan the built environment, products, and systems without creating barriers and, consequently, to enable the inclusion of different groups of people in social life. Vovkova stated that “the problems of the functionally handicapped or people with various disabilities in integrating into the living environment are mainly manifested in the inaccessibility and uselessness of the built environment; in other words, integration into everyday life, into society, is very difficult or even impossible for these people” (Vovk, 2000). By creating spaces that are adapted to different groups and the needs of people, social integration and inclusion are supported (Rodi, 2020). Therefore, designing spaces for different groups of people is a key element in the design process. An accessible physical environment has a significant impact on the accessibility of public spaces for persons with disabilities, and enables a change in the social environment, particularly in terms of society's behaviour and attitudes towards persons with disabilities (Butler & Bowlby, 1997). If persons with disabilities are given access to public spaces, their presence increases, thus strengthening their sense of independence and autonomy, while also fostering a more positive understanding of society. The inclusion of persons with disabilities in society also leads to destigmatization and awareness among professionals and the general public of the need to adapt the environment and services so that they can be used by all users on equal terms.

4 ENHANCING ACCESSIBILITY AND INCLUSIVE DESIGN IN ARCHITECTURE

Architects, planners and designers need to be aware of the needs and difficulties faced by persons with disabilities to plan and design a barrier-free built environment (Vovk, 2000), and this statement is often unfortunately not the case. In contemporary architectural practice, it has been repeatedly shown that architects do not consider the needs of persons with disabilities when designing architecture. Research shows that architects often stereotype disabled individuals as wheelchair users only, without considering the needs of persons with cognitive or sensory impairments (Imrie & Hall, 2001; 97). Furthermore, universal design

¹ Načrtovanje in prilagajanje grajenega okolja v korist funkcionalno oviranim ljudem, Vovk, M., 2000.

guidelines and examples are based on standardized criteria and narrowly linked to legislation and regulations (Ahmer, 2014; Boys, 2014; Vermeersch & Heylighen, 2015; Kajita, 2020), which leads to a sense of creative limitation and an inability for designers to develop inventive solutions. The challenge for contemporary architecture in designing spaces for persons with disabilities lies in designing buildings and built environments that do not simply meet the requirements of regulations. Such a design requires creative thinking and a change in perspective, which will ultimately offer progressive and thoughtful solutions (Ahmer, 2021; Steinfeld & Maisel, 2012).

4.1 Embracing Inclusivity: The Impact of Inclusive Architecture

Inclusive design, which aims to make objects and spaces accessible to a wide range of people, including those with physical, visual, or cognitive impairments, is a direct response to the problems of inadequate design practices and marginalization. While some individuals might raise doubts about the importance of considering the needs of perceived 'minority' groups, such as persons with disabilities, in architecture, it is crucial to recognize and address potential challenges and concerns that might hinder the adoption of inclusive design solutions. One of the common concerns is that designing for accessibility might compromise the aesthetics or architectural integrity of a building or space. Some architects may fear that accommodating accessibility features could lead to a perceived loss of creativity or will impair their artistic vision. Concerns about the cost and viability of including inclusive design components, particularly in pre-existing structures, may also arise. It may appear that retrofitting older buildings to meet accessibility standards is a difficult and costly task.

Furthermore, resistance may result from a lack of understanding or awareness of the diverse needs of persons with disabilities and other marginalised groups. Architects and designers may not fully comprehend the variety of challenges encountered by various users, resulting in the inadvertent omission of certain accessibility requirements (Imrie & Hall, 2001). Outdated attitudes and stereotypes about disability may also contribute to a lack of willingness to embrace inclusive design principles.

Nevertheless, it is critical to recognise that inclusive solutions benefit a much larger community than just those believed to be 'minority'. Designing accessible ramps and entrances not only improves mobility for people with impairments, but also helps the elderly, parents with strollers, and anybody with temporary ailments or mobility issues. Similarly, features such as tactile walking surface markers at crossroads, which were originally designed to assist visually impaired individuals, now serve as useful cues for everyone, signalling changes in the surface and improving general pedestrian safety and direction.

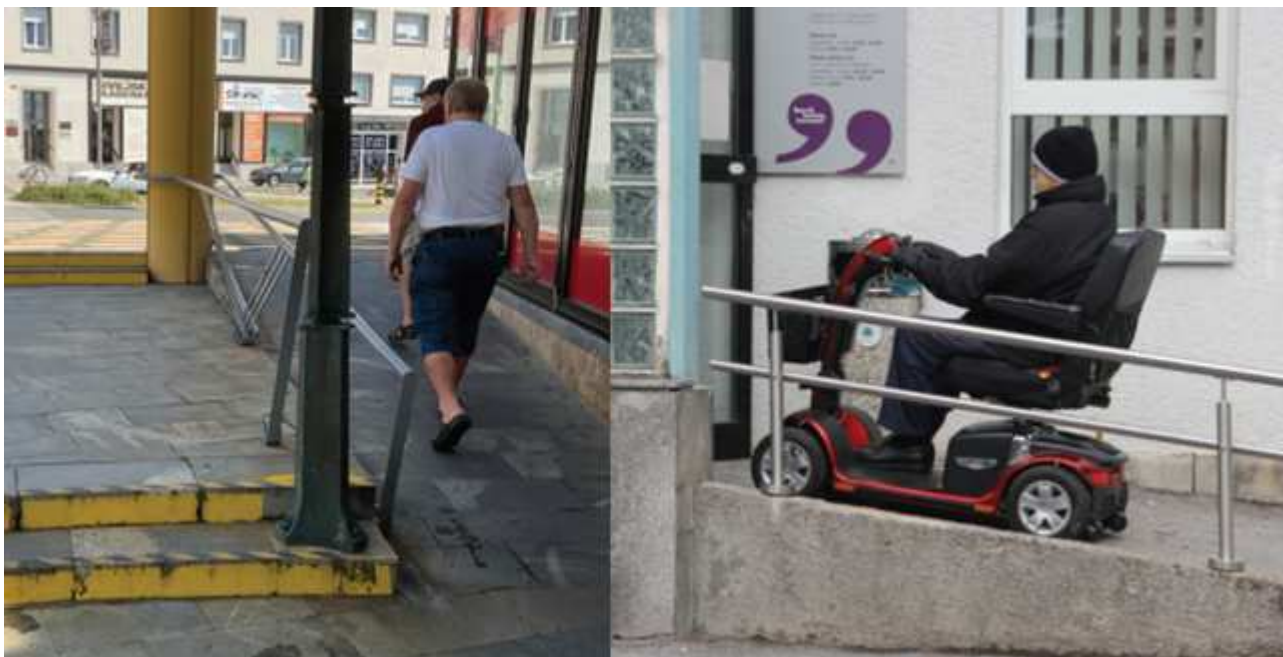


Figure 1: The ramps are also used by elderly people and elderly people on mobility scooters to make it easier to overcome the height difference. Source: Geodetic Institute of Slovenia

4.2 Shifting Perspectives: Designing for Inclusion

A good example of forward thinking in contemporary architecture is the Guggenheim Museum designed by Frank Lloyd Wright. The museum represents one of the first examples of the use of universal design. In this context, a ramp that runs through an entire building represents a space that is more than just a place for movement, an element to overcome the height difference. The ramp's meaning goes beyond its primary function of communication and becomes a space that allows equal and unobstructed use by all people regardless of their physical abilities.

Maison Bordeaux, designed by Rem Koolhaas for a person in a wheelchair, confirms the thesis that it is possible to design facilities that are accessible to functionally disabled people and at the same time offer technologically advanced and aesthetically perfect solutions. Koolhaas designed the concept of a house according to the needs of the user and outside the framework of the regulations' guidelines, which prescribe only the minimum technical requirements for the dimensions of doors, widths of corridors, ramps, etc. The house consists of three volumes with different programs connected vertically by a lifting platform. The lifting platform creates a spatial dynamic that always changes and redefines the space in which it stops (Ahmer, 2021). The house represents an innovative approach and an architectural achievement that manifests Le Corbusier's concept of the house as a 'machine for living'.

4.3 User participation and collaboration between architects and persons with disabilities

Accessibility should not be a constraint on quality architectural design. As Davis and Lifchez state, architects must actively seek out persons with disabilities to help them understand their needs. However, when designing, they should be careful not to stigmatize the client concerning possible functional impairments (David & Lifchez, 1987). In architectural practice, the embodied experiences of disabled people are rarely used as an important source for planning because they appreciate different spatial qualities than architects from different perspectives in their daily interaction with the built environment. (Vermeersch & Heylighen, 2015, Heylighen & Nijs, 2011).

Studies (Vermeersch & Heylighen, 2015; Heylighen et al., 2013; Heylighen et al., 2016; Heylighen & Nijs, 2011; Schijlen et al. 2015) conducted by architect Heylighen and colleagues show that collaboration between architects and persons with disabilities has been a positive experience for both parties. This study aimed to explore the potential of employing a disabled consultant who would experience their own space to advise architectural designers on how to improve architectural solutions. The findings of these studies suggest that such a service could add value to architectural design. However, additional efforts should be made to convince stakeholders of this added value, and alternatives for initiating innovative ideas should be further explored (Schijlen et al. 2015). This study also considered the social aspects and social value of employing a disabled person can bring. The presence of persons with disabilities in the workplace promotes awareness and acceptance of differences within the organization, which can have an impact on wider society. Employing a person with disability also has a positive impact on the disabled person, as they are affirmed as full members of society through employment.

Luck's study followed the work of designers who worked with persons with disabilities to create bespoke and tailored solutions to enable them to live more independently. An important conclusion that emerges from the results of this study is that people will respond positively to designer's products (this can also include architectural objects) if they are offered the opportunity to actively participate in the design process (Luck, 2018).

A notable example of collaboration with disabled persons is a project „Enabling multimodal mobility of persons with various disabilities” which is led by the Geodetic Institute of Slovenia and financed by the Ministry of Infrastructure of the Republic of Slovenia. The project's main goal is to improve the mobility of blind and partially sighted people, people with limited mobility, older people, and schoolchildren who may be at greater risk while navigating traffic. This can be achieved through innovative technologies, quality spatial data, useful information, and education for more independent and safer mobility of target groups. The project follows the principle of "Nothing about us without us" which is the motto of the European Disability Forum (EDF). Persons with disabilities were involved in all phases of the project, from the development of the data model to fieldwork and the promotion and transfer of knowledge. Engaging with representatives of different vulnerable groups is essential, as it provides insight into their needs and experiences of moving in space. (Renner et al., 2021).



Figure 2: Figure 2 shows the field capture training and the sharing of previous experiences among the capturers. Source: Geodetic Institut of Slovenia.

However, architects Davis and Lifchez warn that “participation will be unsuccessful if the architect is not genuinely committed to the idea of consultation by lay people in general or by lay persons with disabilities in particular, or if the architect considers such participation to be a waste of time that diminishes professionalism or compromises the aesthetic integrity of the project” (Lifchez & Davis, 1987). The negative stance against the participation of this kind can only stem from ignorance or fear of something that is not close to us or is completely unknown (Butler & Bowlby, 1997; 420). Furthermore, Boys (2014; 34) argues that user participation in architectural practice is often treated as an add-on, similar to how disability is considered an add-on to “normal” architecture.

In the process of architectural planning, considerations regarding accessibility in a building are typically addressed towards the end of the process. Accessibility and disability are equated solely to adherence to technical and functional requirements. Consequently, architects tend to neglect the consideration of disability as an integral part of their design activities, except in specific cases. Instead, they tend to rely on pre-existing off-the-shelf solutions that lack creative engagement. (Boys, 2014). Imrie suggested that universal design principles should be included to achieve high aesthetic requirements. Accessibility elements thus become part of the whole, not just an addition to architecture (Imrie, 2012). Elements, such as ramps and lifts are often seen as a functional addition to the architecture, which must be built to meet regulations and are devoid of any aesthetic considerations. They are most often placed where they will do the least harm to the aesthetic perfection of a building’s architecture, hidden from the eyes of the majority.

Such practices are most often observed in historically protected existing buildings, where a solution must be found to allow access to persons with disabilities. In such cases, various half-solutions are used, such as a separate entrance for persons with disabilities, through the technical areas of the building away from the main entrance. In this way, we deny the non-discriminatory principle of inclusive design, as we marginalize a group of people, hide them, and thus promote stigmatization.



Figure 3: Figure 3 shows the location of the accessible entrance for people with reduced mobility away from the main entrance to the building. Source: Geodetic Institute of Slovenia.

4.4 Inadequate solutions and Marginalization

As an example of contemporary architecture that does not consider accessibility in its design process, we can mention the work of architect Peter Eisenman, specifically the Memorial to the Holocaust in Berlin. The memorial is situated in a city block and consists of stone volumes. These volumes are placed on an orthogonal grid intersected by pathways running in north–south and east–west directions. The varying heights of the volumes created an undulating relief that was also reflected in the ground, forming a dynamic topography of alternating valleys and hillocks. During the design process, the minimum technical requirements regarding pathway widths and slopes that would enable independent wheelchair access were not considered. Consequently, individuals using wheelchairs were deprived of the experiential aspect of the memorial. Following criticism from the Swiss Center for the Disabled, 13 out of 130 pathways were subsequently modified to comply with the accessibility regulations. The justification for not considering technical requirements during design was that it was an artistic work not bound by accessibility legislation (Fitzsimons, 2012). This raises the question of whether persons with disabilities are not allowed to appreciate art?

4.5 The Multisensory Experience of Space

The relationship between people and space and how people use and experience them is fundamental to architectural practice. Davis and Lifchez, in their 'Open Letter to Architects', point out that “accessibility is more than a question of access or logistics, it is also about the quality of the experience. How one feels in a space, how one interprets it, or even whether one can interpret it adequately - these are all less quantifiable but crucially important aspects of accessibility” (Davis & Lifchez, 1987). We experience space with all of our senses. “The senses, touch and taste as well as sight and hearing, have aesthetic qualities. They do not have them alone, but rather in connection; as interactive rather than as simple and separate entities.” (Dewey in Pallasmaa, 2005). When addressing architectural quality, encompassing functional characteristics, appeal, suitability, and aesthetic worth, we frequently utilise an unimpeded user with fully functional senses as the primary metric of success. If we take away the sight of our user, we can no longer evaluate a certain

architectural quality. The criteria for evaluating architectural qualities change if the user is a wheelchair user (Fitzsimons, 2012).

If a person loses any of their senses, they start to rely more on the remaining senses. The experience of space, their use, and spatial orientation varies between different disability groups. People without disabilities first perceive the space as a whole and then individual elements; for blind people, the process of perceiving space is the opposite - they first perceive individual elements and then form an overall picture from the interconnected individual elements (Ahmer, 2021).

As part of their study at the University of Leuven, researchers not only investigated physical obstacles but also examined the sensory characteristics of objects. The results of this research highlight the key role played by sensory perception in the evaluation and experience of a space. Functionally impaired individuals rely on their senses of smell, sight, hearing, and touch to assist them in understanding and navigating the object more easily, and their senses also influence the way they experience space. Examples from this study illustrate that the extent to which a building was experienced as accessible depended not only on its physical accessibility but also on how the space was felt and experienced by these individuals, who may have a unique perspective differing from most architects. Persons in wheelchairs are more attentive to visual quality from a lower perspective. Individuals with visual impairments possess both acoustic and tactile qualities. Persons with low vision are able to pinpoint poor lighting conditions. Individuals with autism are strong at identifying the general atmosphere of spaces, providing insight into the legibility of a building; for example, whether a public passageway is also experienced as public (Vermeersch & Heylighen, 2015).

5 CONCLUSION

Co-creation and community involvement are essential components in establishing accessible and inclusive public spaces for individuals with disabilities. Creating an accessible and useful environment for a diverse group of people, such as those with impairments, is a huge challenge. Various approaches and concepts have arisen around the world in response to the accessibility challenge, with the common goal of improving accessibility and ensuring inclusion for all individuals. The concept of universal design, the most well-known concept of accessibility, is a relatively new concept, first appearing 60 years ago. As our understanding of diverse abilities and user needs continues to evolve, there is plenty of room to upgrade and enhance the principles and practices of universal design. Based on the research examples provided, it becomes evident that the experience of space for persons with disabilities is desirable but often undervalued. Despite its importance, it is not fully acknowledged as an essential and valuable aspect of the architectural design process.

Architecture, as a direct and unavoidable medium, carries the responsibility for social relevance and plays a vital role in creating an inclusive society. Contemporary architecture has, to some extent, lost touch with the holistic dimensions and emotional proportions of individuals, irrespective of their physical abilities or limitations. Pallasmaa also concluded that „the inhumanity of contemporary architecture and modern cities can result in the neglect of the body and senses and the imbalance of our sensory system“ (Pallasmaa, 2005). However, it is critical to consider architecture not in isolation, but rather as part of a larger interdisciplinary framework.

With interdisciplinary cooperation, we could bring out the potential for more inclusive and successful design solutions by implementing the principles of co-creation and community involvement. By combining the expertise and viewpoints of various fields, such as sociology, psychology, and urban planning, architects are able to move beyond the constraints of a purely architectural approach and develop a deeper understanding of the holistic dimensions and emotional proportions of people. Understanding societal dynamics and the social effects of built environments requires sociological insights. Psychological perspectives on design serve to clarify the complex relationship between individuals and the built environment around them by focusing on the emotional and sensory components of design. Urban planning expertise ensures that accessibility and inclusivity are integrated into the planning of the wider built environment. Using this interdisciplinary approach, architects may create environments that promote emotional and sensory stimulation for all persons, going beyond simply physical accessibility. Recognising the significance of inclusive design and actively including specialists and persons with disabilities in the design process can lead to places that are not just physically accessible but also emotionally and sensory stimulating.

Regardless, when it comes to applying inclusive design practises, there may be certain restrictions and problems. To overcome these obstacles, a proactive strategy is required. Cooperation among specialists, stakeholders, and the community is vital for overcoming potential difficulties. It entails cultivating an inclusive mindset, raising awareness, and removing barriers to the construction of truly inclusive places on physical, social, and psychological levels. We may go closer to building a more inclusive society by acknowledging and actively trying to address these problems.

As society continues to evolve, the importance of designing for diverse needs has become increasingly evident. Architects can leverage knowledge from multiple disciplines to develop environments that reflect society's aspirations for a more inclusive environment by embracing multidisciplinary collaboration. The thought of architects Davis and Lifchez in a meaningful way summarizes the important role of architecture in the inclusive society we are striving for, as architecture must be socially responsible given its direct and inevitable nature.

“The architect as visionary must remind others that architecture reflects society's relationship to itself, that creating an environment is a dynamic process, and that architecture must express society's highest aspirations and ideals.” (Davis and Lifchez, 1987)

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