

idea

investigating
design in
architecture
2023 edition

edited by
Gaia Leandri

foreword by
Angelo Schenone



Conference Proceedings
IDEA – Investigating Design in Architecture
2023 Edition
April 17, 2023
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This meeting stemmed out from studies, investigations and PhD lectures, in particular:

- 2022, Departamento de Expresión Gráfica Arquitectónica, Universitat Politècnica de València (UPV) and Dipartimento di Neuroscienze, Riabilitazione, Oftalmologia, Genetica e Scienze Materno Infantili (DINOEMI), Università degli Studi di Genova (UNIGE): Gaia Leandri, PhD thesis *Freehand digital drawing: a boost to creative design the observer's eye and the draftsman's brain*;
- 2022, Dipartimento Architettura e Design (DAD), Università degli Studi di Genova (UNIGE), lectures to PhD students in Architecture, Design, Digital Humanities and Neuroscience;
- 2023, Post Doc Consolidator Scholarship: *Ideazione dell'immagine e neurofisiologia: l'apporto creativo e gli strumenti per la comunicazione visiva*, Dipartimento Architettura e Design (DAD), Project Supervisor: Prof. Ruggero Torti; Research Fellow: Dr. Gaia Leandri.

The promoting committee is composed by professors, lecturers, PhD students and researchers from Italy, Spain, the US and the UK:

Angelo Schenone, Marco Testa (DINOEMI, Unige); Maria Linda Falcidieno, Andrea Giachetta, Gaia Leandri, Linda Buondonno, Elisabetta Canepa (DAD, Unige); Francisco Juan-Vidal, Susana Iñarra Abad (UPV); David Sunnucks (Queen Mary University of London).

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è il marchio editoriale dell'Università di Genova



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Foreword

This book is a collection of papers presented at the first workshop on Investigating Design in Architecture (IDEA '23). Aim of the event is to promote an interchange of ideas and expertise from several sources to tackle the issue of architecture and design on one side and neuroscience and psychology on the other. This meeting is a unique opportunity to define scientifically sound experimental bases to the mental process of design, craft creation and the perception of architectural spaces and forms. Different from the unilateral approach of neuroarchitecture, where the object of investigation is the well-being of the user, in IDEA '23 the main interest shifts towards the relationship between the author, architect or designer, and the project, a notion well expressed in the words “Investigating design”, suggesting that it is the design process itself that is the object of investigation. This is a prospective project based on a joint PhD program awarded by the Department of Graphic Expression in Architecture University of València, and the departments of Neurosciences, Rehabilitation, Ophthalmology, Genetic and Maternal and Infantile Sciences (DiNOGMI) and Architecture and Design (dAD), University of Genova.

The topic of the program, conducted by Dr. Gaia Leandri, was focused on the cerebral activity of the designer according to the method used to lay down the project. At the end of the doctoral path, Dr. Leandri presented a thesis entitled “Freehand digital drawing: a boost to creative design. The observer’s eye and the draftsman’s brain”. Since then, further research has been carried out, and is still being developed, with the essential and very active collaboration of the dAD, University of Genova, where lectures have been held to students and seminars organized for discussing and planning future interdisciplinary projects. In the course of these meetings, a rather widespread interest was discovered from various sources which went from local and international Ph.D. students in architecture and neuroscience to academics of both fields. Therefore, a promoting committee was established, formed by professors, lecturers, PhD students and researchers from Italy, Spain, the US and the UK (A. Schenone, M. Testa (DINO GMI, Unige); N. Casiddu, E. Bistagnino, M.L. Falcidieno, A. Giachetta, G. Leandri, L. Buondonno, E. Canepa (dAD, Unige); F. Juan-Vidal, S. Iñarra Abad (UPV); D. Sunnucks (Queen Mary University of London)), and it was decided to send a call to present papers for this first symposium.

The response has been encouraging, since more than 20 papers have been accepted for publication, a token of the interest arisen by this topic. We may now foresee that the future meetings, that hopefully will be planned, may further increase the number of scientific contributions to this interesting subject.

A. Schenone

Inclusion of "Made in Italy". The role of accessibility for the valorization of cultural heritage¹

Isabel Leggiero, Claudia Porfirione

Università degli Studi della Campania "Luigi Vanvitelli"
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1. Cultural heritage and the key role of accessibility in its valorization

Cultural heritage has always been understood as a significant element of the economic, environmental and social system, but it is with the Faro Convention (2005) that its importance as a common good - tangible or intangible - is emphasized. This heritage acquires true relevance the moment humanity is empowered to attribute meanings, uses and values to it; in this respect, therefore, it needs to be accessible to the majority of the community.

The extension of the concept of cultural heritage to intangible culture implies that the meaning of inclusion cannot therefore be limited to the accessibility of physical places but must also include access to cultural informations. Majewski and Bunch say full accessibility of a cultural asset goes beyond ramps, bathroom grab bars and access to all floors of the museum, but considers the diversity of people in a wider sense.

¹ The article is the result of a joint reflection by Isabel Leggiero and Professor Claudia Porfirione. The "Cultural heritage and the key role of accessibility in its valorization" and "Conclusions" paragraphs have to be attributed to Claudia Porfirione, "The value of accessibility and human diversity in creating an inclusive cultural model", "Design for All and Cultural Heritage" and "Digital humanities and the disintermediation of the designer's role" to Isabel Leggiero.

In this vision, the socio-cultural component becomes central in the design of a space dedicated to human well-being in order to ensure access to knowledge and public participation, despite the fact that this requires long-term visions for institutions. On the other hand, we speak of cultural heritage, instead of patrimony, to indicate a collective identity and diversity. Heritage made up of knowledge, values, symbols, patterns of behavior, "a set of resources inherited from the past that some people identify, regardless of who owns them, as reflecting and expressing their constantly evolving values, beliefs, knowledge, and traditions. It includes all aspects of the environment derived from the interaction over time between people and places (Faro Art. 2) (Lupo,2019). The result of this new reflection on cultural heritage highlights the prominent role assigned to people, who become active in identifying these resources.

Accessibility acquires a key role in the enhancement of heritage, not only in terms of artistic and cultural relevance, but also from the perspective of increasing and differentiating audiences by opening up to new types of users, whose demands and needs we aim to investigate in order to ensure their inclusion.

The totality of the repercussions of rethinking in this direction would make it possible to position cultural heritage as a strategic system for the country's development. In fact, already after the Second World War, the idea of a public, democratic, inclusive, accessible and participatory space arises in the debate about museums, with cultural welfare actions that make local cultural identities stand out (Longo, 2017).

2. The value of accessibility and human diversity in creating an inclusive cultural model

The concept of diversity has been representative of an intrinsic characteristic of a person, but today we look at diversity as a quality that manifests itself in interaction with the environment, objects, or people. According to Sen (1993), a new concept of well-being is understood as what people can be or do in relation to available resources and their potential capabilities.

Generally, the ways in which accessibility is implemented are of two types: physical and cognitive. However, this clear distinction is not sufficient to represent contemporary complexity, in which people's cultural practices are diverse and intersectional, often related to physical and cognitive condition, but even more often related to social factors.

We need to trigger a virtuous circle whereby an inclusive cultural model generates spaces and places that are accessible to all, where people can come together and create opportunities for mutual knowledge and

exchange, fostering the growth of an increasingly inclusive culture.

Designing from the perspective of diversity means keeping people's needs in mind, trying to solve complexity and ongoing changes.

One of these is related to the longevity of the population and its aging. As data show (United Nations Department of Economic and Social Affairs), people today are living longer, active and healthier lives with good technology education through the use of devices. This can translate into a very powerful tool for inclusion in many aspects of life - for recreation, leisure, sports and cultural activities.

Just think, for example, of what could be done to facilitate the usability of entertainment venues such as cinemas for all people with hearing impairments.

It becomes immediately apparent that accessibility is a factor for all members of society; this thought that on the one hand might seem obvious and trivial, on the other hand, is certainly innovative in scope.

The idea of creating designs that are usable by the greatest number of people, regardless of their physical, cognitive and social condition, is not new to the field of design, which has always thought holistically about contemporary challenges. In fact, as early as 1993, the European Institute for Design and Disability (EIDD) aims to improve the quality of life by applying Design for All. Similar concepts are being developed in other places, such as Universal Design in the United States (thanks to the Americans with Disabilities Act) and Inclusive Design in the United Kingdom. Even today it is possible to find this line within proactive strategies for sustainable development.

Specifically, the definition of Design for All coined by EIDD in 2004 during the Annual Assembly held in Stockholm on May 9, 2004, defines precisely that "Design for All is design for human diversity, social inclusion and equality." (EIDD Stockholm Declaration, 2004). Over the past two decades, efforts have been made to move beyond the Fordist -standard-based-model of approaching products and services with the goal of enabling all people to have equal opportunity and dignity through participation in every aspect of society, with accessible and affordable objects, services, culture, and information for use by different types of people.

To give an example, in practice, after 20 years we have reached the point where at a concert the person in a wheelchair has a reserved seat but has to separate himself from the community of friends to see the performance, which is still an achievement compared to the past, but in the future it will be necessary to design usable and accessible spaces for all where the meeting and exchange between people is encouraged.

Therefore, applying this approach makes use of the analysis of human needs and aspirations through the involvement of the population in the different stages of design. In this way, it becomes possible to develop

solutions that do not discriminate against specific diversities, but represent a wide-ranging solution. This is also because, the focus of development cannot be only on functionality, but must address more important issues, such as understanding the user, how they want to feel, on what occasions they will use the tool, etc. Similarly, thinking of solving a problem without considering likability demonstrates another design error, as a 'ghettoizing' product is not appreciated by anyone.

3. Design for All and Cultural Heritage

Le città future non sono quelle invisibili di Italo Calvino né quelle visionarie di Fritz Lang. Sono quelle attuali, viste e abitate con una prospettiva più efficiente, al contempo tecnologica e creativa, soprattutto partecipata (Mattei, 2013, p.9).

Considering this new design paradigm when developing new ideas in the cultural sphere would make it possible to achieve some of the goals set by the various global development programs, such as that of social inclusion, an essential imperative for a democratic, advanced and diverse society such as ours. Applying to cultural heritage what Maria Grazia Mattei calls the smart city paradigm, i.e., "where the material hardware of urban territories works in symbiosis with the immaterial software of digital technologies and social networks for the improvement of people's lives," means proposing a different way of reading cultural heritage and designing new systems that are both sensing, i.e., able to collect information, and acting, i.e., able to process this information and produce responses (Ratti, 2014). This approach involves bringing together different disciplines, namely those traditionally related to space (architecture, planning, design) and those related to technology (engineering, computer science, electronics).

Another focus of DfA is to include people in the creative processes in order to understand needs and desires. This is even more relevant when considering the field of Cultural Heritage since, as we have seen, it is closely linked to the past of places, objects and people, who are active participants in identifying value and preserving history. By now it is clear how the figure of the designer cannot be an expert in everything, as was the case in the Fordist model, but today it is essential to respond to the social and cultural diversity in which we live through the involvement of experiencers.

The international trend to democratize museums and other cultural places, with a view to making them more accessible and more open to the needs of the users and potential users, comes from their being connected

to the community in which they are embedded and whose values and ideologies they reflect. This proposes the creation of spaces in which all actors in society can interact, opening up to new ways to experience cultural heritages (Delgado, 2009).

In fact, rethinking museums as places of integration and intercultural dialogue increases awareness of multiple identities in the surrounding reality, helping to break down dangerous stereotypes and build a more tolerant and open environment even outside the museum walls. Therefore, museums have an obligation to guarantee democratic participation by ensuring access to all, regardless of age, ability, religion, preferences, etc., also because through knowledge of the past we can interpret the present and act consciously for a better future.

Applying DfA to CH design means committing to recognizing people's diverse identities and reversing inclusion policies based on social models of disability, which often view people with disabilities as a homogeneous community with the same needs and similar perspectives.

4. Digital humanities and the disintermediation of the designer's role

At the end of the 20th century, with the digital revolution, we learned to create greater data structures than any previous era. This computational power and ease of storage began to be used during the century in the field of cultural heritage as well. At first with the purpose of cataloging data, later with the goal of digitizing processes, enabling new ways of working, opportunities for study and forms of enjoyment (Longo, 2017). Indeed, the use of tools such as extended reality, artificial intelligence, and big data change both the approach of cultural heritage users and the work of experts. With innovations in Computer Science, a branch called "Digital Humanities" has developed, representing the intersection of ICT (Information and Communication Technologies) and the humanities (Bellotti et al., 2013). The scientific community has adopted it in the field of cultural heritage, giving rise to new definitions such as "Virtual Heritage" or "Digital Cultural Heritage" (Addison, 2001), which include those solutions addressed to recordation, documentation and visualization (Ruffino, 2018).

The director of Harvard University's metaLAB, Jeffrey Schnapp, speaks of digital humanities as an area of research that studies the impacts of the digital on various aspects of culture. Through the definition of new collective and bottom-up models, it addresses the contemporary scenario of images, information, and sensoriality, activating a process of disintermediation of the role of the designer, understood today as part

of a complex process of dialogue between practices and thought (Longo, 2017). The development of digital technologies and the definition of design related to experience design, has contributed to changing the Cultural Heritage scenario through the introduction of material, immaterial and digital practices that allow access to information in a differentiated way that meets different needs. Some well-established technologies are, for example, the cameras of smartphones, which today allow recognizing buildings and works of art and receiving information, videos, interactive materials about it. Similarly, the support of augmented and virtual reality makes it possible to create 3D copies of objects, documents, buildings, to allow reaching those cultural goods inaccessible for different reasons.

The use can be extended to professionals who, thanks to the use of Machine Learning can delegate those complex or repetitive actions, as in the case of research in archaeology that involves many comparisons and consultations of data (Longo, 2017).



Figure 1 - Image made through artificial intelligence "Midjourney" with the prompt: "Modern cultural heritage inclusive and accessible for all kind of people".

5. Conclusions

It is imperative to educate the new generation of designers on the issues of inclusion in relation to the perspectives and problems related to the accessibility scenario of cultural heritage, where technologies play an emerging role.

Accessibility is an indispensable key to the enhancement of cultural places. To implement it, it is necessary to radically change the concepts of museums and cultural heritage: they are no longer just places of "conservation" but dynamic elements in which a dialogue with the user is triggered. Fundamental places for cultural growth, where usability does not represent the right of the disabled person, but an added value for the community, capable of triggering virtuous pathways that amplify the understanding of the importance of tangible and intangible cultural assets.

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The first IDEA symposium created the opportunity to compare hypotheses, procedures and proposals to evaluate and understand the potentiality in creativity, visuality and perception. This volume highlights the interest in these aspects and the subdivision into the three macro areas: *Body, Mind and Emotions*; *Technology and Human Perception*; *Modelling and Living Spaces*, shows that the research path is full of possible insights and new interpretations of only apparently consolidated and acquired topics.

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