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Designing inclusive urban spaces

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Overcoming architectural barriers in public cultural places

Maurizio Francesco Errigo, Irene Poli

Abstract

This paper presents reflections resulting from research and experimentation activities on the theme of cultural accessibility, with a particular focus on accessibility in public services such as museums, galleries, and exhibition spaces. Accessibility is considered in its various dimensions, including social and economic aspects, with particular attention to digital communication, which often constitutes a significant barrier to accessing services. Museums must be accessible and usable in all their public areas by all visitors. This includes ensuring that individuals with various disabilities can fully enjoy the visit and its services, with special attention to sensory disabilities in the design of exhibitions (Mallgrave, 2015). The main objective of this study is to demonstrate how a well-designed project, developed within the domains of architecture and urban planning, can address universal accessibility issues by applying innovative regulatory requirements, analyzing national and international case studies, and fostering effective collaboration between the local authority managing the property and the university as the hub of the design activity. The paper supports this reflection by illustrating proposals submitted to the 2022 Call for Projects by the Ministry of Culture's General Directorate of Museums, aimed at eliminating physical, sensory, and cognitive barriers in cultural spaces. The projects focus on three museums in the city of Viterbo: two public institutions (Museo dei Portici and Museo Civico) and one private museum (Museo Colle del Duomo). The proposals were developed according to the principles of Universal Accessible Design, targeting a broader audience and recognizing individuals with disabilities as active members of society. A key outcome of the research is the rapid development of a universal accessibility project with a planned three-year implementation timeline. This initiative includes workshops designed to disseminate results, enhance cultural heritage, and raise awareness of accessibility issues among schools and urban associations (Leveratto, 2015). The study also highlights the significant partnership between academic research and design projects in response to institutional Calls for Projects. This collaboration underscores the potential for integrating academic knowledge into practical solutions to improve accessibility in cultural spaces. Interesting and innovative is also the experimentation of Laboratory of Permanent Accessibility that engage a lot of participants in the design principals and goals.

KEYWORDS:

Accessibility, Cultural Heritage, Urban Design

Superare le barriere architettoniche negli spazi pubblici culturali pubblici

Abstract

Questo documento presenta le riflessioni scaturite dalle attività di ricerca e sperimentazione sul tema dell'accessibilità culturale, con particolare attenzione all'accessibilità nei servizi pubblici come musei, gallerie e spazi espositivi. L'accessibilità è considerata nelle sue varie dimensioni, compresi gli aspetti sociali ed economici, con particolare attenzione alla comunicazione digitale, che spesso costituisce una barriera significativa all'accesso ai servizi. I musei devono essere accessibili e utilizzabili da tutti i visitatori in tutte le loro aree pubbliche. Ciò include la garanzia che gli individui con diverse disabilità possano godere appieno della visita e dei suoi servizi, con particolare attenzione alle disabilità sensoriali nella progettazione delle mostre (Mallgrave, 2015). L'obiettivo principale di questo studio è dimostrare come un progetto ben concepito, sviluppato nell'ambito dell'architettura e dell'urbanistica, possa affrontare le problematiche dell'accessibilità universale applicando requisiti normativi innovativi, analizzando casi di studio nazionali e internazionali e promuovendo una collaborazione efficace tra l'ente locale che gestisce la proprietà e l'università come fulcro dell'attività di progettazione. Il documento supporta questa riflessione illustrando le proposte presentate al Bando 2022 della Direzione Generale Musei del Ministero della Cultura, finalizzate all'eliminazione delle barriere fisiche, sensoriali e cognitive negli spazi culturali. I progetti riguardano tre musei della città di Viterbo: due istituzioni pubbliche (Museo dei Portici e Museo Civico) e un museo privato (Museo Colle del Duomo). Le proposte sono state sviluppate secondo i principi dell'Universal Accessible Design, rivolgendosi a un pubblico più ampio e riconoscendo le persone con disabilità come membri attivi della società. Uno dei risultati principali della ricerca è il rapido sviluppo di un progetto di accessibilità universale con una tempistica di attuazione prevista di tre anni. L'iniziativa comprende workshop progettati per diffondere i risultati, valorizzare il patrimonio culturale e sensibilizzare le scuole e le associazioni cittadine sui temi dell'accessibilità (Leveratto, 2015). Lo studio evidenzia anche l'importante collaborazione tra ricerca accademica e progetti di design in risposta ai bandi istituzionali. Questa collaborazione sottolinea il potenziale di integrazione delle conoscenze accademiche in soluzioni pratiche per migliorare l'accessibilità degli spazi culturali. Interessante e innovativa è anche la sperimentazione del Laboratorio di Accessibilità Permanente che coinvolge molti partecipanti nei principi e negli obiettivi della progettazione.

PAROLE CHIAVE:

Accessibilità, patrimonio culturale, progettazione urbana

Overcoming architectural barriers in public cultural places

Maurizio Francesco Errigo, Irene Poli

1. Introduction. Public city and Cultural heritage accessibility

The paper presents the reflections resulting from research and experimentation activities on the theme of cultural heritage accessibility, with reference to accessibility aimed at public services such as museums, galleries, exhibition spaces.

Aware that public services must be accessible and usable by all in all their public areas, visitors with different types of disabilities must also be able to fully enjoy the visit and the services, considering sensory disabilities in the design of the facilities. In fact, accessibility must be understood in a plural sense, from the social to the economic, including digital communication, which is often a real barrier (Focault, 2001).

The paper is divided into four parts: the first part defines the scientific introduction and the state of the art of cultural heritage accessibility in the different approaches; the second part illustrates the three projects' experimental methodology, and the design criteria; the third part explains innovations goals and main results and the final part describes the discussions and the conclusions derived from the realization of one of the projects.

The paper supports the reflection with the application of some projects proposed for participation in the call for projects of the Italian Ministry of Culture, General Directorate of Museums, for the elimination of physical, sensory and cognitive barriers in cultural places, developed in 2022. The projects concern three museums in the Italian city of Viterbo, a medium-sized city in the Lazio region. Two museums are public, the *Museo dei Portici* and the *Museo Civico*, and one is private, the *Museo Colle del Duomo*. The projects have been designed according to the Universal Accessible Design approach, considering a wider audience and people with disabilities as an active part of society.

Urban planning has always had "strong and precise responsibilities" in providing concrete answers to the claims of rights emerging from the territory, and in contemporary times the Right to accessibility emerges as a primary social instance within the broader Right to the city. The marginal connotations of the contemporary city (Ricci, 2017) highlight, in fact, the social and territorial disparities and imbalances and have amplified, over time, the framework of pre-existing deficiencies. This "new urban question" (Ricci, 2017) requires the implementation of a new urban welfare aimed at guaranteeing all the local communities settled, through a widespread territorial presence and endowment of the public city, all the fundamental rights and to respond to the changed demands of an increasingly heterogeneous population (Secchi, 2013).

However, the provision, although necessary, is not sufficient to guarantee the right to accessibility. If on the one hand, urban planning has among its prerogatives that of making the public city accessible from an urban point of view, of flows and travel methods,

having to increasingly move towards ethical and sustainable models of infrastructures and transport services, public and collective, non-polluting, economic and eco-compatible, on the other hand it must go beyond its boundaries by integrating more specifically design, technological and social references to guarantee such accessibility to all types of population and city users in the field, in the awareness that "the place that can truly be said to belong to everyone, the non-discriminatory, non-selective, non-alienating place is accessible" (De Rubertis, 1994). This requires the implementation of an integrated and interscalar process that activates actions of social inclusion through a regeneration strategy based on identity peculiarities to connect the "space of flows" and the "space of places" (Castells, 2014).

In particular, special attention and sensitivity must be paid where the public city concerns contexts of ancient structure and cultural heritage assets, which constitute the common goods of identity and which must be considered as such so that they are open and inclusive, so that "the spaces of all can also be the spaces of each" (Van Eyck, 2002). Social inclusion actions are therefore understood as "services" that bring about systemic changes in the way of making and living cultural heritage, helping to rebuild in a sense of identity and community and ensuring better social infrastructure for the territory (Dantini, 2012). Accessibility to cultural heritage is understood, as explained in paragraph 2.1, in physical, sensorial, cognitive, economic terms, starting from the awareness of the profound connection between the valorization of historical-cultural identity, quality and sustainability of urban contexts and opportunities for socio-economic development, recalling in this case the broad debate on the topic of the economic valorization of cultural assets (Casini, 2020).

It therefore also implies the removal of barriers that hinder the enjoyment of museums, historical sites, and monuments for people with disabilities, the elderly, and other vulnerable categories, overcoming inequalities and re-establishing physical and social cohesion, as cultural heritage plays a significant role in the construction of personal and collective identity, and inclusive access to such spaces is crucial to avoid social exclusion and discrimination. Cultural heritage, in its identity dimension, produces meaning and its "broadened" enjoyment is directly linked to the concept of social inclusion, as a place where equality is guaranteed, and for this reason it is necessary to ensure the best conditions of accessibility and enjoyment, fulfilling the emancipatory function of culture (MiBACT, 2021). In this sense, in the legal sphere, many European countries have enacted their own legislation that recognizes the equal rights of persons with disabilities, in accordance with the International Convention on the Rights of Persons with Disabilities, approved in 2008 by the United Nations.

2. Experimental methodology between project and research. Design Criteria

The methodology is based on the axiom that "the project is the creative synthesis of the different needs, where what is done to remove barriers assumes, like many

other functional needs, the role of normal providence intended to ensure, for all, the best use of the good” (Carbonara, 2002). It follows what is contained in the Guidelines for overcoming architectural barriers in places of cultural interest (Italian Ministry, 2008) which take into account the new disability model identified in the United Nations Convention on the Rights of Persons with Disabilities (UN, 2008), the meaning of which also becomes the key to define the concept of “architectural barrier” including, therefore, elements of the most varied nature, which can be the cause of perceptive, as well as physical, limitations or particular conformations of objects and places that can be a source of disorientation, fatigue, discomfort or danger (Irace, 2024). The methodology is that of Universal Design, an inclusive and multidisciplinary methodology capable of building a museum project accessible in multiple forms and entry systems, which allows choosing the ways of enjoying the same contents without creating social differences between users, without or with disabilities.

The study was conducted to effectively respond to the accessibility problems of cultural heritage by exploiting the possibility of finding the necessary financial resources through a call for proposals from the Italian Ministry of Culture. The methodology is that of Universal Design, an inclusive and multidisciplinary methodology capable of building an accessible museum project in multiple forms and access systems, which allows choosing the ways of enjoying the same contents without creating social differences between users, with or without disabilities. The method of conducting the studies is participation since in the implementation of the various phases of analysis and study the actions were agreed between universities, municipal administration, schools and third sector associations demonstrating how a robust listening phase can lead to useful and shared design phases. English: The results are very interesting because they have allowed both to completely review the museum exhibition adapting it to all disabilities, and to work on technological aids capable of expanding accessibility and promoting cultural promotion, and above all to experiment with some cultural and scientific innovations, such as the creation of the Permanent Accessibility Laboratory (LAP), which is a three-year project that will end in June 2026, an interactive laboratory that allows schools and third sector associations to be aware of crucial issues of accessibility to cultural heritage. The research question has been significantly expanded during the implementation of the project and has been integrated with scientific contributions from other disciplines that have allowed the objectives and goals of the project to be strengthened. The study, the design carried out and the innovations in progress are particularly important because they expand the very concept of accessibility to cultural heritage, extending it from the merely physical to the sensorial and cognitive and allowing a constant expansion of awareness on the topic through the three-year activity of the LAP.

The paper illustrates some projects object of the participation in the Call of the Italian Ministry of Culture (MIC), General Directorate of Museums, for the removal

of physical, sensory and cognitive barriers of places of culture. The design intervention for the elimination of architectural barriers (physical, sensory and cognitive) starts from a multidisciplinary approach and inter-institutional cooperation. The proposals were promoted by the Municipality of Viterbo (ref. Department of Quality of Urban Spaces - Arch. Emanuele Aronne) and by the Department of Planning, Design and Technology of Architecture of the Sapienza University of Rome (Prof. Maurizio Francesco Errigo, Prof. Laura Ricci, Prof. Carlo Martino, Prof. Irene Poli, Prof. Luca Ruzza); with Alessio Patalocco Atelier. The proposals were also conceived with the collaboration of the Italian Multiple Sclerosis Association (AISM) and with the psychiatry group of the BIOMORF Department of the University of Messina. This cooperation network has already been collaborating for some years on the research “Psycho Urbanism. City, care of space and social interaction” project financed by Sapienza University with funds from the National Research Program and aimed at improving accessibility in the historic center of Viterbo. It has already developed through several training courses (University of Enna Kore 2018, International training course “Universal and Inclusive Design for better human environments”, University of Rijeka March-May 2021) and some workshops.

The projects concern three museums in the city of Viterbo, two public: the Museo dei Portici admitted to funding and the Museo Civico, and one private: the Museo Colle del Duomo. The projects were drawn up following the Universal Accessible Design approach, taking into account a wider audience and considering people with disabilities as an active part of society (Council of Europe, 2009).

The theme of disability has also been extended to users with temporary impediments, as this is no longer considered as a single permanent clinical condition, also including people with food intolerances, the elderly and families with children; accessibility is understood with different meanings, from the social to the economic one and with particular attention to digital communication which often constitutes a real barrier to the accessibility of a service. They are aimed at five user profiles: 1. Able-bodied people 2. Heart patients, pregnant women, people with strollers, convalescents or people with plaster casts, obese, elderly, children, etc. 3. People with reduced or impaired ability to move, 4. Persons in wheelchairs. 5. People with sensory disabilities, i.e. individuals unable to use one or more senses (visually impaired, blind, deaf, autistic...), who show difficulty or to move independently in unstructured open spaces or without perceptive clues, or identify obstacles along the way, or identify objects useful for mobility (e.g. lift buttons) or identify acoustic signals or and which show a feeling of isolation from the external environment (Francucci, 2016).

Cultural Heritage and accessibility. The redesigned Museums to solve structure, use, access and services problems

The museums participating in the Call of the MIC were: 1) the Museo dei Portici; 2)

Museo Civico di Viterbo, 3) Colle del Duomo Diocesan Museum, all three located in the historic center of the city of Viterbo, a municipality in the Lazio region of Italy, the capital of the main province. It is approximately 100 kilometres north of Rome, on the Via Cassia, and it is surrounded by the Monti Cimini and Monti Volsini. The City, in its early history, conquered and absorbed the neighboring roman town of Ferento, and during the 11th and 12th centuries was surrounded by medieval walls, still intact. The entrance to the walled historic city center is to date through ancient gates.

In the evaluation of the case studies on which to carry out accessible design, it was decided to select some museums that showed tangible suffering in relation to the different forms of accessibility envisaged by the MIC Call for proposals, namely the physical disability of the Museo Civico and the Museo Colle del Duomo and the cognitive disability of the Museo dei Portici. The funded project, that of the Museo dei Portici, therefore, mainly intervenes on physical, sensorial and cognitive accessibility using case studies that have become best practices at a national level. The selected case studies were the Museo Tattile Statale Omero in Ancona which developed a universal design with particular attention to the tactile reproduction of the cultural heritage present in the museum and to the use of the Braille method for the description of the contents, the Museo Nazionale Romano which developed museum knowledge paths carried out in collaboration with some pediatric hospitals; the Museo del '900 in Naples which also developed a strong connotation of tactile experience, the Pinacoteca di Brera which instead developed forms of olfactory accessibility to the paintings.

The Museo dei Portici, recently inaugurated (2021), is housed inside the valuable Palazzo dei Priori, a monument symbol of the civic power of the city of Viterbo, initially conceived as the residence of the Governor of the heritage of San Pietro in Tuscia, only in 1510 it became the seat of the Priory (Gimma, 2001). In addition to the main floor of the building, with some rooms that can be visited, there is the exhibition itinerary of the Museo dei Portici, a branch of the Luigi Rossi Danielli Civic Museum. Inside the Museum are two admirable works by Sebastiano del Piombo, a pupil of Giorgione: the Flagellation (1525), originally in the Church of Santa Maria del Paradiso and the Pietà (1512-1516), destined for the Botonti Chapel in the Church of San Francesco alla Rocca, both in Viterbo. The Pietà is considered the painter's masterpiece, testimony to the fruitful collaboration with Michelangelo Buonarroti.

The Museo Civico di Viterbo, named to Luigi Rossi Danielli, an archaeologist from Viterbo since 2011, is located in the former convent annexed to the Church of Santa Maria della Verità, dating back to the 12th century. The Museum, inaugurated in 1912, transferred to these spaces in 1955 and renovated in 1994, houses find from archaeological sites in the area and an art gallery. The exhibition itinerary is spread over three floors, with works and collections specifically connected to the territory and the history of Viterbo, according to a chronological scan in two large phases, on the ground floor and in the cloister the Ancient Ages, on the upper floors the Middle Ages and the Modern age (Marson, Pogliani, 2022).

The Museo Colle del Duomo was created in some spaces, originally in disuse, of the Cathedral of S. Lorenzo, in the jubilee year 2000 by will of the Episcopal Curia, with the aim of preserving and enhancing the significant heritage of the diocese of Viterbo. The museum itinerary is organized into three Sections: 1) the Archaeological Section which allows you to retrace the history of the hill of the Cathedral and therefore of the city of Viterbo since ancient times, houses artefacts from the Villanovan and medieval periods; 2) the historical-artistic section; 3) the sacred art section which enhances the importance of the diocese of Viterbo over the centuries, houses three types of artefacts: the sacred vestments (of the Bishops of Viterbo and some Popes, even very ancient, such as the robe of San Bonifacio from the 12th century), reliquaries, chalices and objects used for religious functions made of precious metals between the 15th and 20th centuries.

The three Museums, valuable architectural complexes and custodians of testimonies, paintings and sculptures, from medieval and renaissance times of national and international importance, localized into the historic center of Viterbo, present however problems specific to the places of cultural heritage, although diversified, related to accessibility, in terms of structure, use, access and services (Errigo et al., 2024).

The Museo dei Portici was fully accessible for physical disabilities while it had not developed any project over the years to overcome cognitive and sensorial barriers, the Museo Civico and Colle del Duomo, which are developed on different levels, also showed important problems in physically overcoming architectural barriers. The wayfinding system, digital accessibility and remote enhancement were design practices completely neglected in the three museums.



Fig. 1 - On the left, the non-accessible exhibition of the Civic Museum (Photo edited by Maurizio F. Errigo)

Fig. 2 - On the right, the physical accessibility of the Museo dei Portici (Photo edited by Maurizio F. Errigo)

3. Innovations, goals and main results

The projects are based on a concept of Universal Accessible Design taking into account an expanded user base and considering people with disabilities as an active integral part of society (Steinfeld, Maisel, 2012). The theme of disability has also been extended to users with temporary impediments, as this is no longer considered as a permanent clinical condition only, also including people with food intolerances, the elderly and families with children; accessibility is understood with different meanings, from the social to the economic one and with particular attention to digital communication which often constitutes a real barrier to the accessibility of a service. The museum “must be accessible and usable in all its public parts to all visitors” (AA.VV, 1995), visitors with various types of disadvantages must be able to fully enjoy the visit and the services, with attention to sensory disabilities in the design of the installation (UN, 2008).

The Guidelines for overcoming architectural barriers in places of cultural interest take into account the new model of disability identified in the United Nations Convention on the Rights of Persons with Disabilities, the meaning of which also becomes the key to defining - in a broad and articulated way - the concept of architectural barrier including elements of the most varied nature, which can be the cause of perceptual limitations, as well as physical ones, or particular conformations of objects and places that can be a source of disorientation, fatigue, discomfort or danger (Ciaccheri, Fornasari, 2022).

The goal is to arrive at a unique museum path, passable and perceptible in multiple co-present modes; it must guarantee the public easy use and a pleasant stay; accessibility, in addition to creating environments free of architectural, cognitive and sensory barriers, must allow environmental comfort, creating a situation of safety and autonomy and paying attention to the qualitative aspect of the design, even more central if it relates to cultural heritage. The transformation of protected buildings into museums must take place in compliance with their intrinsic characteristics; an approach of conscious temporariness to avoid invasive actions and ensure the reversibility of the interventions of functional adaptation of the structures. (Accolla, 2009).

In compliance with the MIC Ministerial Guidelines on museum planning, the interventions, for all the three museums, have been divided into macro-areas aimed at improving accessibility from the outside, reachability and access to itineraries and services, the improvement of horizontal and vertical itineraries, staff training and museum enhancement.

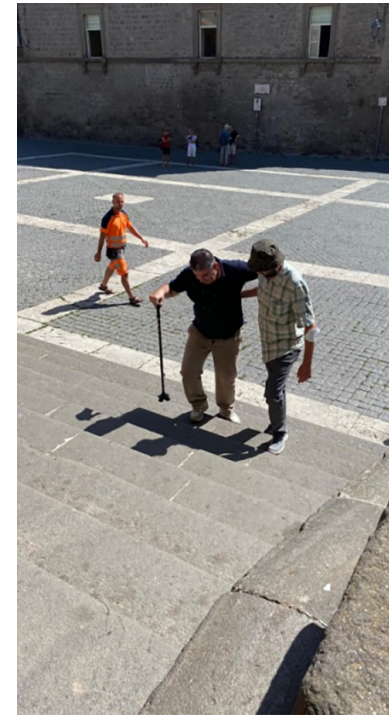
The fulfillment of the accessibility requirement, even in the context of historical value in which the museums are inserted, must in any case be achieved through temporary works or, alternatively, with auxiliary equipment and mobile equipment that is not permanently anchored to the building structures. The reversibility of the works guarantees the protection of the asset itself, because it allows the original condition to be restored at any time, without any damage. For accessibility from the outside, in

MUSEO PORTICI - PLANIMETRIA PIANO TERRA

Fig. 3 - The Museum Project Plan



Fig. 4 - Non-accessible external entrance and accessible internal entrance of the Colle del Duomo Museum (Photo edited by Maurizio F. Errigo)



agreement with the Municipality, the creation of a connection between the three Museums is envisaged via a system of electric shuttles which will leave from the parking area outside Porta Faul and stops at the Valle Faul lift (for access to Colle del Duomo), Piazza Crispi (for access to the Museo Civico) and Piazza del Plebiscito (for access to Museo dei Portici). The shuttles will be designed for easy ascent and descent for people with disabilities and will be connected to tactile, sound and visual paths that will lead the visitor to the entrance door to the museums.

With reference to the design of the signage (wayfinding), it should be noted that redundant information that can cause confusion and anxiety will be avoided, in fact the signage will be designed in order to put the visitor at ease, be decipherable by the greatest number of people, as well as be consistent, in terms of images and meaning, with all forms of communication present. Attention will also be paid to graphics (messages and signals must be short, legible and understandable, attention to colors, creation of visible signals even 10 meters away), to the placement of signs (they must not be hidden, they must not be an obstacle to mobility, attention must be paid to the height and the right lighting), also through the pictograms, i.e. easily recognizable graphic signs. Entrance to the museums will be suitably marked, with visible and recognizable elements, albeit coherent and non-invasive with respect to the urban context of reference, which unambiguously indicate their location and direct the visitor towards the start of the museum itinerary.

Clarity of communication must be privileged, unnecessary complexity eliminated to maximize the readability of essential information. In order to enhance multi-sensory perceptions, three-dimensional scale reproductions of the main exhibits are

envisaged, relief reproductions of pictorial works, audio-guides video, open wi-fi to download applications and access cultural content in a digital environment (virtual reality, augmented use) which will be implemented and made available (even remotely: podcasts, brochures). Where possible, the works will be relocated at an adequate height for greater visibility, even for children.

The LAP Laboratory of Permanent Accessibility will be implemented, in collaboration with the Department of Social Policies of the Municipality of Viterbo, the Planning, Design, Technology of Architecture Department of Sapienza University of Rome, and with the various associations of disabled people present in the area together with the associations.

The LAP, located in special rooms accessible from the outside, therefore through independent access routes to the museums, is an accessibility laboratory, a place where inclusive training courses are tested for the five user profiles defined in the design; particular attention will be dedicated to some categories of users with special difficulties in accessing museum areas (Cetorelli, Guido, 2021; Cetorelli, Guido, 2017).

The LAP, whose activities have been going on for about a year, is an inclusive cultural project/process, within which the following laboratory activities are envi-



Fig. 5 - LAP- Lesson on urban accessibility for primary school (Photo edited by Maurizio F. Errigo)

saged:

- Tactile knowledge, through the construction of tactile tools and through the decoding of the tactile language used in museum spaces;
- Chromatic knowledge, through appropriate color laboratories connected to the emphasis on information;
- Simple knowledge, through a decoding and simplification of the language curated in the various museum displays;
- Knowledge and/or training, with the creation of learning places based on educational seminars and conferences or on techniques for setting up or restoring finds or canvases;
- Intuitive knowledge, i.e. training courses for children and users with sensory disabilities;
- Open knowledge, study and knowledge days for prison inmates.

The LAP therefore provides training and knowledge opportunities on three different user profiles: 1 School children 2. Users with sensory disabilities (visually impaired, blind, deaf, autistic...) 3. Prisoners. For each of these categories, cognitive paths of experimentation of the museum experience will be created.

This in the awareness that the museum as an institution at the service of society and its development can build its own credibility and authority, to relate with the governing bodies of its territory and with the community, also on the issue of cultural accessibility. This makes it possible to initiate projects capable of operating in a system of relationships to help grow the culture of accessibility and inclusive design (Vanolo, 2024).

Some slogans summarize the specificity of the LAP: an accessible museum is a learning environment; an accessible Museum creates innovation; an accessible Museum interprets the city that contains it; an accessible Museum is a place of participation.

Fig. 6 - The enjoyment of the tactile works installed at the Portici Museum. (Photo edited by Maurizio F. Errigo)



4. Discussions and Conclusions

The projects presented, conceived in an integrated and inter-institutional way, as well as the various moments of inclusive planning and management envisaged, make it possible to forcefully demonstrate the importance of developing interventions having first defined together listening, discussion, management and monitoring strategies: the quality of the urban lies not only in the endowment of services and spaces, but in the quality of the experience that makes them accessible.

This is why “the issue of accessibility cannot be dealt with only at the building scale but, in order to make our cities and territories places accessible to all, it is necessary that the operations of adaptation of the individual spaces are framed within a planned process, as components of a coherent and larger-scale strategy” (INU, 2019).

The United Nation Convention on the Rights of Persons with Disabilities, ratified by the Italian Parliament in 2009 (UN, 2008), precisely identifies disability as “the result of the interaction between persons with impairments and attitudinal and environmental barriers, which prevents their full and effective participation in society on a basis of equality with others”. According to a definition by Roberto De Rubertis “the place that can truly be said to belong to everyone is accessible, the non-discriminatory, non-selective, non-alienating place” (De Rubertis, 1994) while that place can be characterized as psychotropic which induces sensations on the individual who is experiencing it of conscious or unconscious discomfort and discomfort in its crossing. Studies carried out have shown that living and growing up in the city, while on the one hand results in greater benefits from a purely physical point of view, on the other hand makes individuals more vulnerable to certain alterations of the psychic framework. This happens mainly because the city produces a high amount of stress dictated by various factors such as the urban habitat, the sense of isolation and alienation, the continuous exposure and proximity to unfamiliar faces. All this causes the so-called “psycho-social stress”, which can have different effects in relation to the individual who experiences it (minor in the able-bodied, while instead they can become very pronounced in those with previous psychiatric pathologies).

The dimension of city life has been studied in a timely manner by the social psychologist Stanley Milgram who, in an article published in 1970 in the journal *Science* (Milgram, 1970), explains the result of his research through the concept of “Urban Overload”, i.e. the incapacity of a system to interpret external inputs either because they are too many or because they are too fast. Milgram’s studies were forerunners of the research carried out between 1980 and 2000 in which the relationship between the individual and the qualities of the space that surrounds him is analysed.

The sensoriality in particular, as understood in the terms of the research, ap-

appears to be fundamental for subjects with psychiatric pathologies and in particular for subjects with autism spectrum disorder. It therefore requires a study, a cataloguing, a proposal for improvement to transform these psychotropic places into truly more accessible places, from various points of view. Understanding Milgram's overload, as well as from the point of view of psychosocial inputs also with purely physical, aesthetic inputs: seeking and living in beauty must be the primary objective of the accessible city.

These considerations take on additional significance when dealing with cultural heritage, such as museums in this case, within the historic centre. Historic centres, "true historical, environmental and productive ecosystems that have contributed to building the wealth and beauty of our country" (Galuzzi et al. 2019), are guardians of the culture of communities and, for this reason, necessarily usable and accessible by all (Poli, 2023). Recent studies highlight, in these contexts, the coexistence of divergent trends, which take on specific characteristics depending on the physical and socio-economic connotations to which they refer, such as touristisation, squatting and gentrification, as opposed to musealisation, degradation and depopulation: "pitfalls of old and new types, in the face of which existing regulations show their weakness and inability to offer adequate solutions" (Ancsa-Cresme, 2017), and which require new and more up-to-date skills of interpretation, planning and financing (Poli, 2023). The projects funded by the Ministry, focused on museum complexes and specifically on accessibility, move in precisely this direction, in the awareness that the regeneration of historic centres and the livability of the city in general, necessarily passes through the strengthening of inclusiveness, and so of the accessibility (Cetorelli, Papi, 2024).

This project has given rise to a series of parallel activities: some meetings are planned to present the activities that will involve the communities involved in the project and that will include the presentation of the results by the teachers belonging to the PDTA; a series of conferences on the topics of accessibility have been held in municipal volunteer days or in cultural festivals organized in the city of Viterbo; several publications have been produced on the case studies of the research, published in scientific and class A Anvur journals; the results of the research have been presented in some national and international conferences and further forms of dissemination of the initiative are planned; approximately 620 children from nursery school, 300 children from primary school, 40 children from secondary school, approximately 140 educators and approximately 900 members of third sector associations have been involved in the educational activities.

The proposed interventions, in fact, have proven to be highly significant, capable of generating a tangible improvement in the conditions of physical, sensorial, and cognitive accessibility in relation to the objective of expanded fruition, as a strategically relevant theme of the museum's mission (Talu, Tola, 2018).

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REFERENCES

- AA.VV., *Building Sight*, a handbook of building and interior design solutions to include the needs of visually impaired people, RNIB, London, 1995.
- Accolla A., (2009), *Design for all. Il progetto per l'individuo reale*, FramcoAngeli, Milano.
- Ancsa-Cresme (2017), *Centri storici e futuro del Paese. Indagine nazionale sulla situazione dei Centri Storici*.
- Carbonara G. (2008), *Text of the lesson held at the X edition of the post-graduate course "Designing for all without architectural barriers"*, Rome.
- Casini L. (2020), "Valorizzazione e gestione", in Barbatì C., Cammelli M., Casini L., Piperata G., Sciallo G., *Diritto del patrimonio culturale*, Il Mulino, Bologna.
- Castells M. (2014), *Il potere delle identità*, Università Bocconi Editore, Milano.
- Cetorelli G., Guidoni M., (a cura), "Il patrimonio culturale per tutti. Fruibilità, riconoscibilità, accessibilità. Proposte, interventi, itinerari per l'accoglienza ai beni storico-artistici e alle strutture turistiche" in *Quaderni della Valorizzazione NS 4*, Ministero dei beni e delle attività culturali e del turismo (MiBACT), 2017.
- Cetorelli G., Guidoni M., (a cura), "Accessibilità e patrimonio culturale. Linee guida al piano strategico-operativo, buone pratiche e indagine conoscitiva" in *Quaderni della Valorizzazione NS 7*, Ministero dei beni e delle attività culturali e del turismo (MiBACT), 2021.
- Cetorelli G., e Papi L., (a cura), *Manuale di progettazione per l'accessibilità e la fruizione ampliata del patrimonio culturale. Dai funzionamenti della persona ai funzionamenti dei luoghi della cultura*, Consiglio Nazionale delle Ricerche Dipartimento Scienze Umane e Sociali, Patrimonio Culturale (DSU) © CNR Edizioni, 2024, ISBN 978-88-8080-610-3
- Ciaccheri M.C., Fornasari F., (2022), *Il museo per tutti. Buone pratiche di accessibilità*, Edizioni La Meridiana, Bari.
- Council of Europe (2009), *Access to rights for people with disabilities and their full and active participation in society*, Resolution no. 1642/2009.
- Dantini M. (2012), *Arte contemporanea, ecologia, sfera pubblica. Scritti scelti (2007-2011)*, Aracne, Aprilia.
- De Rubertis R. (1994), "The problems of accessibility", in AA.VV., *The pedestrian space in the design of the city*, Proceedings of the Conference Perugia 15th March 1994.
- Errigo M.F., Mento C., Muscatello M.R.A., Paolucci R., Pizzio R. (2024), "Psyco Urbanism. Città, cura dello spazio e inclusion sociale. Viterbo", in Ricci et alii *Patrimonio culturale e Welfare urbano. Strategie, Piani e Progetti per la rigenerazione della città contemporanea*, Altralinea, Firenze, pp. 80-89.
- Focault M., (2001), *Spazi altri. I luoghi delle eterotopie*, Mimesis, Milano.
- Francucci C., (2016), *Museo come territorio di esperienza*, Corraini editore.
- Galuzzi P., Oliva F., Vitillo P. (2019), "Tra metropolizzazione e shrinking. Forme di prelievo della rendita urbana e costruzione della città pubblica", in C. Giaimo (a cura di), *Dopo 50 anni di standard urbanistici in Italia. Percorsi di riforma*, INU Edizioni, Roma.

- Gimma M.G., (2001), Il centro storico di Viterbo, Betagamma editrice, Viterbo.
- Italian Ministry (2008), Museum Guidelines, Decree of the Ministry of Cultural Heritage and Activities of 28 March 2008.
- INU (2019), Guidelines for cities accessible, available at <http://atlantecittaccessibili.inu.it/>
- Irace F. (a cura di) (2024), Musei possibili. Storia, sfide, sperimentazioni, Carocci editore, Bologna
- Leveratto J., (2015), Città personali, Lettera Ventidue, Siracusa
- Mallgrave H.F., (2015), L'empatia degli spazi. Architettura e neuroscienze. Raffaello Cortina editore, Milano
- Marson S., Pogliani P., (2022), Franco Minissi: il museografo, l'architetto e gli allestimenti del Museo Civico di Viterbo, Edifir Edizioni Firenze, 2022
- MiBACT (2021), "Piano nazionale per l'educazione al patrimonio culturale" Direzione generale Educazione, ricerca e istituti culturali.
- Milgram S. (1970), "The experience of living in cities", in Science no. 167, pp. 1461-1468.
- Poli I. (2023), "La rivitalizzazione dei centri storici minori nel Lazio. Esperienze di pianificazione e progettazione", in Urbanistica Informazioni, no. 306, pp. 75-78.
- Ricci L. (2017), "Governare la Città contemporanea. Riforme e strumenti per la rigenerazione urbana/Governing contemporary cities: reform and measures promoting urban regeneration", in Urbanistica n. 160.
- Secchi B. (2013), La città dei ricchi e la città dei poveri, Laterza, Roma-Bari.
- Steinfeld E., Maisel J., (2012), Universal Design: Creating Inclusive Environments, Wiley editor United Kingdom.
- Talu V., Tola G., (2018), La città per immagini. Verso la definizione di un insieme di requisiti spaziali per la progettazione di città autism friendly, Listlab, Barcellona
- UN (2008), The United Nations Convention on rights of persons with disabilities. Optional Protocol.
- Van Eyck A., (2002), The playgrounds and the city, NAI Publisher, Rotterdam
- Vanolo A., (2024), La città autistica, Giulio Einaudi editore, Torino.

Maurizio Francesco Errigo

Department of Planning, Design and Technology of Architecture - Sapienza Università di Roma
 maurizio.errigo@uniroma1.it

Arch. PhD, Associate Professor in Urban Planning at the Department of Planning, Design, Architectural Technology of the Sapienza University of Rome. He teaches Urban Planning II in the Degree Course in Architecture. He taught Socio-Spatial Processes in the City and Analysis and Design of Urban Form at the MSc in Urbanism AR1U100 R&D of the Delft University of Technology (TUDelft), Visiting Professor at the Escola Tècnica Superior d'Arquitectura del Vallès (ETSAV), Universitat Politècnica de Catalunya and at the Faculty of Engineering of the University of Rijeka in Croatia. He is currently involved as Scientific Manager for the PDTA Department of Sapienza in some projects of cultural accessibility, and tourism enhancement.

Irene Poli

Department of Planning, Design and Technology of Architecture - Sapienza Università di Roma
 irene.poli@uniroma1.it

Arch. PhD, Associate Professor in Urban Planning at the Department of Planning, Design, Architectural Technology of the Sapienza University of Rome. She teaches Urban regeneration and Territorial Planning in the Degree Course in Architecture, and Housing policies in the Architecture-Urban Regeneration Master's Degree. Lecturer at the post-degree Master in Natural Capital and Protected Areas and member of the PDTA Doctorate teaching board, she coordinates Sapienza University research projects "Green and Blue Networks as matrices of urban and territorial regeneration" (2019) and "Contemporary city and Archaeological areas: towards an integrated regeneration urban planning project" (2023) and participates in scientific collaborations partly carried out within executive protocols of inter-university agreements and bilateral scientific cooperation programs.