ACCESSIBILITY OF ITALIAN HISTORICAL UNIVERSITIES

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SUMMARY
The accessibility of the historic-architectural heritage in complete independence and safety represents one of the necessary conditions for the preservation and exploitation of the heritage itself. In the Italian historical university building panorama, the theme of accessibility is not only a technical aspect, but also an educational integration together with the theme of social participation. Designing the accessibility of historical universities, through conscious and focused interventions, means to contribute concretely to the qualitative and quantitative growth of the Italian socio-cultural system.

The purpose of the study (included in the PhD School of Civil Engineering and Building - Architecture at the University of Pavia) concerns the definition of an investigation method and an assessment tool of the accessibility and usability of buildings with a historical and architectural value, which are Universities sites. Through the establishment of a structured indicators system, organized in a chart divided into physical disabilities (people with a manual wheelchair, people with an electrical wheelchair, people with reduced mobility capacity and families with children) and sensorial disabilities (blind, visually impaired, deaf and hearing impaired people), the accessibility level of different space contexts is investigated, such as the surrounding and the building accesses, the ground floor (often a real urban space open to the public), the vertical connections and the horizontal links. For each type of disability three different levels of accessibility are identified: not accessible, accessible with assistance and completely accessible.

The application of the structured chart as an assessment tool exportable to 6 study cases in the Italian universities scenery (Palazzo Centrale, Palazzo San Felice and Monastero San Tommaso - University of Pavia, Palazzo Poggi - University of Bologna, Monastero Sant’Abbondio - University of Como, Ca’ Granda – University of Milano), allows the identification of accessible and safe contexts near and within the historical universities and lets the resulting definition of the critical issues on which to intervene through a focused program, designed to make buildings accessible through a conscious process with operations that take into the same consideration
both the historical and the architectural value to be preserved and developed, and the enlarged accessibility demands.

The enhancement of the architectural heritage in the specific field of the historical universities, includes not only the functional accessibility of the building, but also the space accessibility of the appurtenant environment, the surrounding and the connection system (horizontal and vertical) that distributes the different functions. The complete accessibility of the university building and that of the related appurtenance contexts, both from the mobility disabled and the sensorial disabled point of view, is designed to ensure equal opportunity for each person, in order to obtain a complete integration.

**Key Words:** Accessibility; Preservation; Enhancement; Cultural Heritage.

**PURPOSE OF THE STUDY**

The disability condition - related not only to people with congenital problems or degenerative diseases, but including all those transitional living conditions as the breaking of a limb, the moments of tiredness, pregnancy and the state of old age - turns out to be closely related to the environment issues and consequently to the physical, material and social context in which the person lives.

Applying this concept to the specific case of the historical and architectural interest sites, it can be immediately understood how the accessibility results to be the central and essential element to obtain the conservation and to ensure their development. This objective is achieved if the demands of conservation and protection of architectural dialogue in a one-to-one relationship with that of the accessibility and the enlarged use. As stated by Amedeo Bellini "Heritage is not such if it is not usable, the mere contemplation of it does not belong to architecture" [Bellini, 1998], it can be concluded that the heritage conservation and enhancement are guaranteed by the material use of the architecture to the larger number of users, including all the users with more difficulties and special needs.

To examine the instance of accessibility in the more general field of the expanded use leads necessarily to the concept of inclusive architecture, which can expand as much as possible the number of people who can use the buildings and spaces in complete independence and safety. In this logic it is included the people with disabilities and elderly people "not as a separate category but as part of a whole." [Picone, 2005].
Fig. 1: The accessibility is a key feature to ensure the conservation, the reuse and the enhancement of the historical and architectural heritage.

The purpose of the research submitted in this paper is therefore to analyze and assess, through an objective and synthetic survey instrument, the accessibility and the expanded use of buildings with a historical and architectural interest, considered, as previously mentioned, the necessary conditions for the conservation and enhancement of the building itself.

In the Italian historical building panorama, the issue of accessibility represents not only a technical and regulatory aspect but also provides an incentive to integration and inclusive participation within the society.

Moreover, in a large-scale vision, to design the accessibility of a historic building with particular architectural value means contributing to the growth of the Italian socio-cultural system and increasing concretely the cultural tourism.

METHODS

The research focuses on the historical university sites as it is believed that the universities are cultural and research places and consequently significant sites for the socio-cultural Italian system; in addition the sites of these universities are often located in historical buildings characterized by the high quality and they are representative of the University tradition.

Therefore the study concerns the specific analysis of the architecture and the technical elements of the university historical buildings, as a university must also be accessible from the architecture and space point of view.

Getting the accessibility of the university building, putting it in relationship with the services provided by service centers (born thanks to the Law 17/99 - "Integration and modification of the Law 5 February 1992 n. 104 for the assistance, the social integration and the rights of disabled people), means providing students with disabilities the opportunity to benefit spaces and areas in complete autonomy and safety, in the same way as all other students.
It is important to emphasize that the assistance centers take charge of the organization of aid and subsidies to the person (support courses, transportation services, computer and technical assistance, tutors and study facilities) and they are often applied to the specific case of the student without an overview of the problems and the integration possibilities.

Acting on the accessibility of buildings from an architectural and spatial point of view means ensuring to all users - not only students, professors and university staff, but also the occasional consumers at conferences, lectures and degrees - the possibility to live the University in all its parts, including public and outdoor areas of the building itself.

Furthermore, if it is considered that the historical sites of the most important Italian universities are an essential goal of the so-called cultural tourism (as in the case of Palazzo Centrale of the University of Pavia) the catchment area, times and needs appear to be larger and constantly evolving.

Fig. 2: The historical universities are a key part of the Italian socio-cultural system and at conferences, exhibitions and ceremonies they attract large flows of people. The images (on the left: the Graduate Ceremony 2010 - University of Pavia; on the right: the Final Ceremony of the International Design Workshop URSD 2011 - University of Pavia) and the diagram that emphasizes the university system centrality in the cultural tourism context.

In order to develop the accessibility investigation method of the Italian universities historical sites, it firstly results necessary the deep knowledge of the disabilities and the differences that they present in the interaction between the person and the environment.

Therefore, it is necessary to consider that an element can be a barrier for a person with a certain disability type, but may "represent a fundamental element to another" [Guidelines for the elimination of architectural barriers in places of cultural interest, 2008] . It is considered for example the case of steps: for a mobility impaired person a step is an obstacle, while for a person with sensorial disabilities it can be an important reference point for orientation.
The first methodology step is the disabilities differentiation into two macro-systems: that of mobility disabilities (including people with a manual wheelchair, with power wheelchair, the old people and in general with reduced mobility capacities and the families with children on strollers) and that of sensorial disabilities (the blind, the visually impaired, the deaf and the hard of hearing people). Once done this important distinction, the research leads to the identification of an accessibility survey tool, structured in an assessment chart.

Fig. 3: The survey tool structured in an assessment chart. On the left: the identification of 3 main areas of investigation (analysis, assessment and synthesis); on the right: the breakdown in 6 fields (areas of investigation, detected items, accessibility for mobility impaired people, accessibility for sensorial impaired people, preliminary synthesis and general data).

In the tool, according to a methodological approach consisting of 3 phases (analysis, assessment and synthesis), are identified 6 different fields:

- Areas of investigation;
- Detected items;
- Accessibility for mobility impaired people;
- Accessibility for sensorial impaired people;
- Preliminary synthesis;
- General data.

The areas of investigation, invariant for each study case, are divided into:

- Surroundings and Entrances (bus stops, parking, paving, entrances to the building);
- Ground Floor (horizontal links, indoor functions, entrances);
- Vertical links (stairs, lifts);
- Upper Floors (horizontal links, indoor functions, entrances).

The detected items are identified for each investigation area and they are variables in relation to the different study cases analyzed.

The accessibility assessment, divided according to the 2 macro-systems of disabilities discussed above (the system of the accessibility for mobility impaired people and the system of the accessibility for sensorial impaired people), is obtained
through a descriptive part, which shows the fundamental characteristics of the detected element (the materials, the difference in level, the presence or absence of particular devices, etc.) and a part of qualitative assessment according to 3 different accessibility levels:

- not accessible;
- accessible with assistance;
- accessible in complete independence.

<table>
<thead>
<tr>
<th>ELEMENTI RILEVANTI</th>
<th>ACCESSIBILITÀ MOTORE</th>
<th>ACCESSIBILITÀ SENSORIALE</th>
</tr>
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<tbody>
<tr>
<td>Palazzo Centrale</td>
<td>Università degli Studi di Pavia</td>
<td>Università degli Studi di Pavia</td>
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Fig. 4: The assessment chart of Palazzo Centrale of the University of Pavia, seat of the Faculty of Law and Political Science and spaces for teaching, research and administrative offices, including the Rector’s one.

There is also a preliminary synthesis for each area of investigation in order to identify a synthetic assessment of the problems detected.

Furthermore, the University general data are collected and organized in order to get a feedback and an immediate comparison between the different study cases analyzed and the specific roles of the historical buildings in the Italian university system.

Finally, in order to understand the relationships between spaces and critical aspects, the more meaningful photographs are collected. It is reported also an orthophotos indicating the place and the number of the entrances; in particular the main entrance is shown with a different graphic to the other, in order to highlight the logic indoor distribution and the articulation of the users main streams.
This survey tool is applied to 6 different historic buildings, sites of Italian important universities:

- University of Pavia: Palazzo Centrale (seat of the faculty of Law and Political Science and administrative and representative offices, including the Rector’s one), Palazzo San Felice (seat of the faculty of Economy) and Monastero San Tommaso (seat of the faculty of Letters and Philosophy);
- University Statale of Milano: Ca’ Granda (seat of the faculty of Law, Letters and Philosophy, Medicine and Surgery and MMFFNN Science);
- University of Bologna: Palazzo Poggi (seat of administrative and representative offices, including the Rector’s one and the university museum system);
- University Insubria of Como: Monastero Sant'Abbondio (seat of the faculty of Law).

RESULTS

Different and unique results are found for each analyzed case. This fact highlights the issue of accessibility from different points of view, emphasizing once again the complexity and actuality of the topic.

- In the case of Palazzo Centrale (University of Pavia) is particularly problematic the entrances articulation. Each entrance has a unique situation and in any case there are aids for overcoming differences in height.
- In the case of Palazzo San Felice (University of Pavia) it is particularly problematic the threshold between the horizontal links and the rooms on the first floor, due to the presence of gaps that exceed 30 cm. The presence of a critical threshold makes inevitably inaccessible also the room and consequently the function. Moreover, the total lack of directional and informative signage system at the different rooms creates difficulties for the fruition.
- Palazzo San Tommaso (University of Pavia) is a significant case regarding the accessibility of the surroundings. They are encountered problems regarding the inadequacy of the public transportation stops near the building, the parking spaces reserved for people with disabilities and the outdoor paving with discontinuous cobblestones and without a dedicated pedestrian site.
- Ca’ Granda (University of Milano) is a relevant case due to the critical nature of vertical links. In fact, problems have emerged for the presence of a height difference (one step) between the horizontal link and the lift, and due to the discontinuous handrail. There are also punctual solutions (the stair-lifts) inadequate from the design point of view.
- Palazzo Poggi (University of Bologna) is a special case due to the solutions adopted to overcome indoor gradients on the ground floor. The ramps put in
place, in fact, are not homogeneous from the architectural point of view and most of all they are not easily detectable in the case of a visually impaired user because of inadequate color and materials choices.

- Monastero Sant’Abbondio (University of Insubria in Como) is particularly significant regarding the signs and information boards in black lettering on a transparent background, which are a barrier for visual impaired users, not less restrictive from steps and gaps.

From the assessment chart application to 6 different study case within the Italian university historical building system, it has reached important results, such as the identification of critical questions (for example 10 out of 29 analyzed entrances are not independently accessible for mobility impaired people and only one is independently accessible for people with visual impairments), and the identification of the most used design solutions in order to find the design errors (on time solutions and without an overall vision of the project).

Finally, it is possible the identification of the unsolved problems (such as the lack of accessible toilets or the absence of adequate information systems along the horizontal links). It is important to underline that the sensibility to the extended users design is often related only to mobility impaired people, because the disabled-type is still identified with the person in wheelchair: one of a major unsolved problems concerns, in fact, the orientation and use in complete independence by people with sensorial disabilities.

DISCUSSION

The application of the accessibility chart, an assessment tool exportable to different study cases in the Italian historical universities panorama, allows the definition of critical issues on which to intervene through a focused program aimed at making the building accessible through an operation conscious process that takes into consideration both the historical and architectural value of the asset to be preserved, and the instances of an enlarged accessibility.

Future developments of this research, starting from the assessment chart and its application as an investigative tool, include:

- The definition of design strategies of intervention, always taking into consideration the relationship between Conservation and Accessibility, Reversibility and Authenticity, Cost and Benefits.
- The detailed analysis of a specific area of investigation (such as the building entrances, or the horizontal and vertical link, etc.), chosen according to the classification of the most common issues emerged from the first survey.
- The develop of the research, using the same progressive study steps, to other buildings with historical and architectural value, including Museums, Libraries, Schools, University boarding schools etc.
CONCLUSION

The architectural heritage enhancement, in the specific area of the historical universities, includes not only the building functional accessibility but also the spatial accessibility of the appurtenance environment (the surroundings and the horizontal and vertical links system) that distributes the different functions. The building and appurtenant areas accessibility, both in terms of mobility and sensorial impaired people, seeks to ensure the same opportunities to everyone, in order to obtain a full integration.

The application of the accessibility assessment chart - objective tool, with an intuitive application and usable in other similar contexts - allows to obtain a specific overview of the issues on which to intervene and, consequently, of the possible solutions to be adopted.

Making objective, simple and practical the architectonical and sensorial barriers survey process of a historical building, means facilitating the identification of organic design solutions and sensitize on the issue of accessibility not only engineers and designers but also the public opinion.

Designing the accessibility through conscious and targeted interventions, means to guarantee the same study rights and social inclusion to all and it also means to contribute to the qualitative and quantitative growth of the socio-cultural Italian system, emphasizing – from the architectural point of view – some of the most significant cultural tourism goal in the country.

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