Architecture
between Technique and Materiality

“Where technique is overcome, architecture begins.”
(Ludwig Mies Van Der Rohe)

The annual meeting of Ar.Tec. Association took place in 2016 in Matera, a UNESCO World Heritage Site since 1993, which is designated European Capital of Culture for the year 2019.

These periodic meetings called Colloqui.AT.e are an opportunity for our scientific community to grasp enthusiastically the academic dialectics of research topics, entailing an important motive for growth and comparison.

The city of Matera, proving the evolution of man from the Neolithic to present day, still retains the formal, typological and material characteristics needed to read and re-identify those places and spaces of mankind that define that heritage to be recovered. It is therefore possible to intervene and interpret the two different but related characters of the architectural tradition of such a context: constructed and excavated.

In addition, the city of Matera, in its nature as a historical incubator of knowledge and identity, shares in turn with the scientific community the targets and goals of a city on the way to a central role in European cultural scenarios. The topics are aimed at defining application areas in the field of construction industry, with particular reference to technical and technological innovation related to construction. Memory, Materiality and Design merge into the increasingly contemporary conjugation of “designing the renovation of the past”, with the integration and contamination of innovative and experimental processes and products of the contemporary construction.

“The revolution of the artistic spirit has given us the elementary knowledge, the technical revolution has given us the tool for the new form.”
(Walter Gropius, 1926)
This issue of the journal is based on the scientific dissertations derived from this scientific confrontation, typical of Architecture and Engineering congresses. A knowledge gathering of a scientific community that is concerned with topics such as Building Performance, Building Design and Techniques, Building Heritage, with the further declaration of “MATER(i)A” (Materials, Architecture, Technology, Energy/Environment, Reuse, Interdisciplinarity, Adaptability). These topics are intended as a trace to better characterize the interests of the construction industry and as a tool for defining innovative areas of research, for the revaluation of architectural heritage.

“New industrial products, in particular iron, reinforced concrete and terracotta, imply a more plastic art, in which the coating for the structure will be like muscle to our bones, but capable of expressing more than ever truth and beauty.”

(F. L. Wright, 1908)

Preserving and enhancing the identity of an architecture is no longer relevant as an abstract need, but it becomes a real interest due to its uniqueness, its history and the culture that underlies it and it adds value to the purposes for which it is “used” or “reused”.

The survey methodology is based on the assumption of data about the complexity and un-typicality of the constructive elements, and it detects the cataloging of typo-morphological relationships, materials and constructive technologies, historical-bibliographic documentation.

The role of building renovation is now consolidated in the field of research into Technical Architecture, although a profound social and cultural revolution has imposed significant changes also in the approach to “built heritage” and in particular towards those areas subjected to abandonment during the last decades. Therefore, during the design process of the restoration interventions, it is important to pay attention to the preservation of the architectural and technical-material-constructive values of the building organism: in such an operation it is particularly evident the difficulty of reconciling these values with regulations and standards regulating the existing buildings.

Hence the need for a critical research action regarding the normative tools of control and management of the traditional architectural heritage. This operation can be based on a demanding-performance approach that more easily relates to existing building.

This aspect generates a twofold approach to the problem: on one side it
highlights the unnecessary distinction between the definition of rules for new buildings and refurbishment, on the other side it gives the awareness that the preservation and restoration of an asset cannot be identified starting from norms regarding new buildings. New standards must be linked to the architectural-environmental context in which the asset is inserted and to the morphological characteristics expressed by itself.

It is about shifting from a generic and generalized development model, which applies slavishly and indiscriminately the same parameters to all urban and/or building systems – and erases all relationships between individual systems - to a more “flexible” normative system. This system should be capable of interpreting the specific features of the territory, guiding the transformations needed to achieve a quality-performance level that meets the needs that contemporary living imposes.

From this point of view, the performance normative model appears to be the most suitable for ensuring high levels of quality in building restoration interventions. It allows to determine solutions that can offer performance standards (in terms of safety, comfort and usability) of the same level offered by new constructions but, at the same time, respectful of the historical and architectural features of existing building assets without having to respect strict prescriptive norms often destined to be overturned.

Therefore such a way of proceeding, through greater flexibility and a lower imposition, allows the exploitation of traditional architectural heritage and the recovery of its typo-technological qualities for an integrated and overall preservation of the asset.

Hence we could say that the performance approach allows releasing the restoration intervention from the rigidity of the fulfillment of the parameters imposed by the current norms, becoming a tool for controlling and guiding the design quality. The value of preservation of the building heritage must necessarily pass through requalification, refurbishment and enhancement, with all due respect to the same principles of the value of the “asset” that has to be safeguarded.

In other words, the aim is to provide the tools for defining a system that, by determining the technological and functional elements, should be able to minimize the risks of compromising historical buildings and to guarantee not only the formal and morphological conservation but, at the same time, the philological one of the asset itself.

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