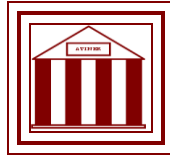


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**Ancient Material and Steel: Project
Strategies on the Content and the
Container of the Museums in the
Period of the Italian Reconstruction**

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**Ancient Material and Steel:
Project Strategies on the Content and the Container of the
Museums in the Period of the Italian Reconstruction**

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Abstract

The post-war reconstruction is an opportunity for Italy with which establish the characters of its identity, opening debates also on the conservation of existing assets. The recovery of the old buildings finds in the museum function the opportunity to re-establish a connection with history both in content (such as memory place) and in the container (as an object to be transmitted to the future). The evolution of use of steel in the museums of the post-war period is in line with this double interpretation, acting first only on the artworks supports, and later on the same construction.

From the contents to the container, steel is expressed by different formal and linguistic values, giving to the context a specific semantic sense; acting on the contents, it becomes functional to the creation of a space architected according to the tones of harmony (as in Palazzo Bianco museum) or contrast respect to the existing (see Castello Sforzesco); acting, instead, on the container, the metal material takes part of the architectural object, both if it operates according to the logic of the fragment (Castelvecchio museum is an example) that according to adding new volumes (as in Convento di Sant'Agostino in Genoa).

This paper, which is a part of a broader research¹, intends to analyze different project strategies that use steel in the Italian museums of the period of reconstruction, in order to provide a tool for the interpretation of the contemporary language in the revitalization processes of the built heritage.

Keywords:

Corresponding Author:

¹ The research is carried out inside PhD studies in "Recovery, design and protection in urban settlements and territorial contexts of high environmental and landscape value". The title of the thesis is "Refurbishment and steel technology in Italy"

Introduction

The post-war reconstruction for Europe is an opportunity for debate and experimentation, especially focused in Italy on the theme of the residence and the city in an attempt to find a compromise between the rationalist assumptions and the recovery of the values of the national architectural tradition.

The reconstruction process makes necessary to talk about the future of the historic city, considering as a central theme the recovery and conservation of the built heritage. The operating reference is represented by the Charter of the Italian restoration of 1932, which, adopting the principles of the Charter of Athens, shared at an international level, admits the use of all 'modern media', when the traditional ones do not achieve the desired objective. The Charters explicitly refer to concrete, but, talking about the media of modernity, the reference can also be extended to steel, as materials capable of operating on existing structures and preserve them. The material value, however, is rejected, asking, if the new materials are used, for their dissimulation as not to distort the image of the historic fabric on which the project operates. Steel, therefore, is initially placed in the context of structural consolidation within the historic building, being capable of achieving integrated structural systems, able to work with the existing as an unique resistant organism.

After the war, the expressive potentialities of steel are revalued: the experiments of the metal material on the historical fabric mainly take place in buildings used as museum, seen as the most natural and consistent function able to ensure the survival of the existing. In particular, steel becomes part of the artworks supports, participating with the works exhibited in the construction of space and routes. Only at a later time, it becomes the protagonist of the transformation operating directly on the stone container, taking part of the building already from the creative moment. Form and structure meet in this situation, making steel a material for the built architecture.

The Project Strategies in the Italian Museums of the Post-War Period: From the Contents to the Containers

The need to adapt steel to the constructive rules of the historic fabric, implies the design of different components and a particular attention to the project of the construction detail. The crafted dimension of design, which verifies the intrinsic and extrinsic compatibility and consistency of the added components, defines the linguistic and semantic value of the metal material, on which, in fact, is established the relationship with the ancient walls. In the case of the exhibition, operating on the contents, and then on the design of the artworks supports, steel takes different forms, searching an assonance between the parties, as in Palazzo Bianco Museum in Genoa (Franco Albini, 1949 -

1951), or a dissonance, as in Castello Sforzesco Museum in Milan (BBPR¹, 1954).

In both these examples, the steel components refuse any interference with the ancient material, placing themselves in a detached position with it; the outcomes, however, are absolutely different, both for the different nature of the existing fabric in which the new project is inserted, both for the different interpretation of the formal value of the metallic material.

In the first case, in fact, the metallic supports are designed with very slight steel profiles thesis towards a neutralization of the space. The technique of suspension confines to the minimum the contacts with the existing building, which with steel establishes a dialogue with harmonic and moderate tones: the paintings are hanging on thread, like elements that run inside iron guides, set at the beginning of the arches, or are suspended to tubular uprights, also in steel, inserted in drums of ancient columns. This way to operate never changes the boundary conditions, allowing a parallel reading of the architecture of the building, displayed in its integrated completeness.

In the Castello Sforzesco Museum, instead, the steel defines the artworks supports with an expressive vehemence, visible in the unusual profiles and in the support plates of stone works: the architects decide to act for contrasts, operating on the artworks with a 'violent, critic and unilateral interpretation'². The metallic elements are designed with the consciousness to get expressive effects by combination of contrasting forms, rather than by an inert stylistic affinity.

In the harmony sought in the museum of Genoa, or in the contrast of the modern text, rich of interlinear comments and captions, and the older one of Castello Sforzesco³, steel contributes to the creation of that link which guarantees the preservation of the building: however, it participates to build a different space, working on a dimension that is external to the old construction, as added element rather than integrated.

Overcoming the project dimension that operates firstly on the content to change the container, steel enters into the historic fabric as a material that can operate directly on the stone architecture, in dialogue with the existing building according to the logic of fragment or to the addition one.

The poetic of fragment lives in Castelvecchio Museum in Verona (Carlo Scarpa, 1956-1964): reformulating some items of the construction, steel reassembles, through fragments, the ruins of the existing building.

¹The B.B.P.R. group was established in 1932 and formed by G.L. Banfi (1910-1945), L. Barbiano Belgiojoso (1908-2004), E. Peressutti (1908-1976) and E. N. Rogers (1909-1969).

²Cf. Editorial notes on Castello Sforzesco Museum. In 'Debate on Museo di Castello Sforzesco in Milan,' *Architettura, cronache e storia* 33: 157

³Manfredo Tafuri compares Palazzo Bianco Museum with Castello Sforzesco, highlighting in the first an attitude that he defines "according to times" in order to seek harmony with the existing, in the second an approach that is "against the times", almost turned to subvert the order of times. Cf. Tafuri M.(1984), 'The fragment, the "figure", the game. Carlo Scarpa and Italian architectural culture'. In: Dal Co F., Mazzariol G., *Carlo Scarpa. Complete works*, 1984 Milan, Electa publishing, pp.72-95

The long iron beam that passes continues along the entire building, tries to overcome the stiffness of the original spatial system, reconnecting the rooms from the cubic volume in a single body. The focus is on the design of the coupled beam, which rejects the use of standardized components, but proposes once again the C-profile with steel plates bolted, to the top and bottom ends, to an angular profile. Moreover, Carlo Scarpa designs the detail of intersection of the beam with the partition walls: the first one reduces its resistant section near the walls, the second ones adapt their profile subtracting material in the contact point.

In the last span of the castle, steel defines the roof, cropped according to orthogonal lines who follow an irregular profile. Metal profiles stick out from the top of the wall to support two massive steel beams that cross the space: from these, two metal beams - cart hold up the existing profiles of the ridge of the roof. The tiled roof, clad in copper, is supported by wooden trusses whose struts are held in tension by steel rods.

Metal structures with double T profiles, which support concrete slabs of irregular sizes, define the walkway below, enclosed in a metal railing where every detail, from the riser to the handrail, are designed with care.

In the experience made in Castelvechio, steel becomes definitely material for architecture, implementing the connection between the multiplicity of historical times through the meeting of different elements, designed to sew the fragments of different periods of construction. This attitude is then enhanced, so that the steel structure appear not only a discrete presence within the architectural complex, but it is used with expressive value in the restoration project. The logic of fragment is overcome by volumes, added in respect of the existing historical stratification.

This happens, for example, in the project for the museum of Convento di Sant'Agostino in Genoa (Franco Albini and Franca Helg, 1978-1985): steel operates directly on the formal redefinition of the complex, completed in the volume with metallic structures that are visible in the whole and evident in the detail elements. Above the masonry base, a steel structure with a great light is set, with walls almost close in the facing outwards and transparent in the elevation towards the arcade. In the cloister, there is realized a new basement that once again proposes the theme of the court, toward which it is opened with a continuous window. The four-sided arcade of the existing , however, completely rebuilt by anastylosis, is released from the vertical closing windows, which stand back from it, while a metal full strip re-designs the crowning of the facade. A metal roof, with exposed trusses, characterizes the environment of the last level.

Other experiences, such as the Convento degli Eremitani in Padua (Franco Albini and Franca Helg, 1969-1979), confirm the validity of this approach that uses steel as a material that can build new volumes on the existing fabric, defining a different form.

Conclusions

In the period of reconstruction, the quest for continuity with history, and how it has translated into constructive heritage, permits to read with a critical and conscious approach, the new and different possibilities, potential and hidden, of the historic fabric, activated through a functional transformation.

The steel embodies the contemporary interpretation of the ancient artifact, where the intention is not limited to revive but to reinvent the existing: the metallic elements penetrate the historic building as accessory items into become the means of transformation, through the use of expressive and technologic terms that best can be adapted to the contemporary language.

The use of steel in the historic buildings allows, working with different project strategies, to add to the layers of the centuries, the one that belongs to the culture of the modern age, without hiding, and even enhancing, the reading of tradition.

Continuity is in change:

‘The sense of continuity of history is nought but a constant change and it is not hard to see that we have changed drastically: it is with these changes that we have established our position as perpetrators of history’¹

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¹Quote from William Morris, cf. Huber A. (1997), *The Italian museum*, Milan, Lybra Immagine Edition, p. 15

Figures 1-2. *Steel in the artworks supports in Palazzo Bianco Museum and in Castello Sforzesco Museum*



Figures 3-4. *Steel fragments in Castelveccchio Museum: architectural detail of the metal beam and the walkway*



Figures 5-6. *The added volume of Convento di Sant'Agostino*

