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The Neue Nationalgalerie by Mies van der Rohe between Preservation and Minimal Improvement

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Abstract: The Neue Nationalgalerie (1968) is considered an icon of the 20th century and part of the legacy of Mies van der Rohe. Almost 50 years after its construction the building showed some physiological decay; however, it has been considered obsolete due to the changing standards of use and comfort of an international art gallery affected also by a growing flux of visitors. The paper investigates the future of such an icon of modern architecture moving from some open issues of the intervention carried out by David Chipperfield started up in 2015 and now in an advanced stage. The refurbishment is pursuing the modernization of the building, but trying to match the historical values with the requirements of climate control and safety. The binomials memories/requirements and authenticity/form are at the base of the investigation. Although the intervention confirms the continuity of original use and it is aimed at keeping the image of the icon, it imposes transformations that belong to very different strategies, sometimes incompatible with the preservation of material meanings and values. The restoration work on modern heritage outlines how new cultural and socio-economic needs confront themselves with respecting/reproducing the appearance of the monument.

Key words: Neue Nationalgalerie, Mies van der Rohe, modern architecture, heritage, authenticity, obsolescence, preservation, improvement.

1. Introduction

The Neue Nationalgalerie (1968) is considered an icon of the 20th century and part of the legacy of Mies van der Rohe[1].

Five decades after the inauguration, the Neue Nationalgalerie still provokes our way of experiencing a modern art museum, and, besides that, it offers us in the very moment of its restoration, currently ongoing, further and newer critical issues:

- the power of the idea against the changing needs of museums and museography, as well as against the twenty-first century necessities of comfort;
- the intrinsic fragility of the building, emerged over the years, due to the deterioration of materials and to malfunctioning elements;
- the typical need of the image persistency, common to all the iconic masterpieces of modern architecture, has imposed itself as touchstone for the restoration work.

These issues, together with the analysis of the strategy of "minimal improvement", carried out to reduce the conservation/re-appropriation side effects on the image and on the material identity of the monument, are the subject of the paper. The binomials memories/requirements and authenticity/form are at the base of the investigation.

2. Method and Materials

The study analyzes the first outcomes of the current conservation/enhancement works of the building, started up in 2015, drawn up by David Chipperfield office under the supervision of the Federal Office for Building and Regional Planning (BBR), and now in an advanced stage.

Mies' legacy spans different scales, from the towering Seagram Building to the small-scale of the Barcelona Pavilion, bearing witness to the modernity

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of his message up to our days. Such works, compared with their current state of conservation, or in relation to different interventions, show the great extent and richness of this heritage.

Many interventions dedicated to the Mies' iconic works show how the power of the image forces the conservation/restoration design to keep first the visual integrity of the monument.

In the Neue Nationalgalerie, like in many other cultural heritage assets, the fascination of the site generates processes of modification, determining the need for intervention to confirm the persistence of a precise image.

The project draws its sustenance from the will to upgrade this modern temple in order to meet the most recent standards: the aim is to repair and give back the same building provided with better performances. The principle declared by the designers, according to the slogan "As much Mies as possible" chosen for this operation [2], is the need to strike a balance between an upgrading of the building's performance standards and the safeguarding of its image/identity [3].

Martijn Jaspers—heading the restoration and conservation sector of Chipperfield's office in Berlin—lists three factors that led the design choices [4]:

- the extensive deterioration of industrially produced materials (i.e. the insufficient waterproofing capacity of the glazing, oxidation of the metal structures, and decay of the reinforced concrete);
- the obsolescence of the technical systems components;
- the inadequacy of the museum spaces in respect of the changed functional needs of the client.

The two former factors concern the body of the architectural work, while the third factor raises various issues regarding modification that comes from users' new greater demands placed upon the museum, which is not merely a container for artwork but it is, in itself, "the key exhibit" [5].

2.1 The Gallery and the City

Mies's idea, as is known, is derived from an office building for Bacardi in Santiago de Cuba (1957-58). The project, abandoned in the wake of the Cuban revolution, was nevertheless a model for later works. Indeed, in 1959, when Georg Schafer commissioned a museum at Schweinfurt (Germany) for his artworks collection, Mies proposed the Bacardi building scaled down. The project was abandoned at an advanced stage, when Mies received the commission for a more ambitious gallery project: the Neue Nationalgalerie.

Starting out from the project Museum for a Small City (1941-43), Mies inaugurated an antithesis of the consolidated museographical approach [6], by striking out against the idea of galleries as a series of pre-determined spaces constituting a constraint imposed upon art. Indeed, he proposed neutral spaces visually open to the exterior, in which paintings and sculptures—that could be viewed even from afar—assumed the new dimension of elements capable of endowing order upon the context.

In the architect's vision, the Neue Nationalgalerie could have been able to foster new experiences on perception, founded upon a deep relationship with society and with evolution of levels of communication, becoming a temple dedicated simultaneously to art and technique.

Its transparency was decidedly not of secondary importance in the relationship with the urban space. The lot that was to host the Gallery was located in West Berlin, about 500 metres from the Wall, stretching from Potsdamer Platz to Stresemann Straße. The 75 million cubic metres of debris and rubble that the war had left on this urban territory [7] formed a *tabula rasa*, with the only exception of St. Matthäus-Kirche, erected by Stüler in 1855 (Fig.1).

The image conveyed by the magazine *Casabella-Continuità* in 1964 (the year in which the building site of the Neue Nationalgalerie began) is that of a "provisional" city [8], which still had as unique reference the plan for a unified Berlin, submitted in

Fig. 1 Berlin, aerial view, 1963. The building lot of the Neue Nationalgalerie is located to the right of the church of St. Matthew (letter M), in correspondence with the piles of rubbles (*Casabella-Continuità* 288, 1964).

1946 by the planning collective headed by Hans Scharoun, at that time Urban Planning Councillor. The plan foresaw an array of cultural facilities sited along the river culminating at the lot assigned to a new national gallery.

Together with Sharoun's philharmonic concert hall, Mies's Gallery applied to this borderline zone the rationale of a system with outreach toward the spaces beyond the wall—spaces which could not be accessed in those years. The Gallery dominates and vivifies that place, figuring as an architecture of conciliation in a ruined city—in Ihlenfeld's words, "an object for future archaeologists" [9]. Neue Nationalgalerie is a field of experimentation that aspires to be the embodiment of proposals for the city of the future [10].

2.2 A Modern Inflexible Space

The Neue Nationalgalerie restoration works raise key questions concerning transmission to future generations of a building that brought inventiveness and experimentation into the field of artworks display, which has become an undiscussed icon of modern architecture, as well as one of the icons of the reconstruction of the entire city of Berlin.

Mies's cultural legacy consists also in the idea of space conveyed by the Gallery—a vision eagerly pursued even when hardly meeting certain functional needs. To attain the architectonic effect that he desired, the underground spaces assume a tone of understatement that contrasted with the opulence of the upper gallery. Furthermore, "the temple itself, an absolutely inflexible space, remained, with the agreement of all, an inhospitable arena in which only very large objects would be exhibited" [5]. Mies was conscious of the compromise embodied by his gallery—a building that expressed the relations that art had established with the evolving concept of modernity [11]: "It is such an immense hall bringing it with considerable problems for art exhibitions. I am perfectly aware of that. But it has such potential that I simply cannot take these difficulties into account" [12]. Glynn points out that, in order to safeguard the relationship between volumes, Mies explicitly refused to enlarge the gallery's functional spaces: "Mies also refused to go along with the New National gallery's request to extend the underground part of the building to provide much-needed extra space, because the extension—though invisible because beneath the ground—would have compromised the perfect cubic proportions of the building" [13]. [AC]

2.3 A Monument as a Timeless Legacy

To provide a solution for the problem of the lack of adequate repository spaces for storage and conservation of artworks, Chipperfield chose to excavate. While having no impact on the external appearance of the monument, excavation altered the dimensions of the basement (Fig.2), thus including an element of *hybris* contradicting Mies's refusal to betray the museum idea in the name of the efficiency of the *machine*.

Such an intervention calls into question, the entirely self-referential problem of the relationship between the basement and the temple.

The process that got underway for the underground extension reflects the choice to clearly differentiate

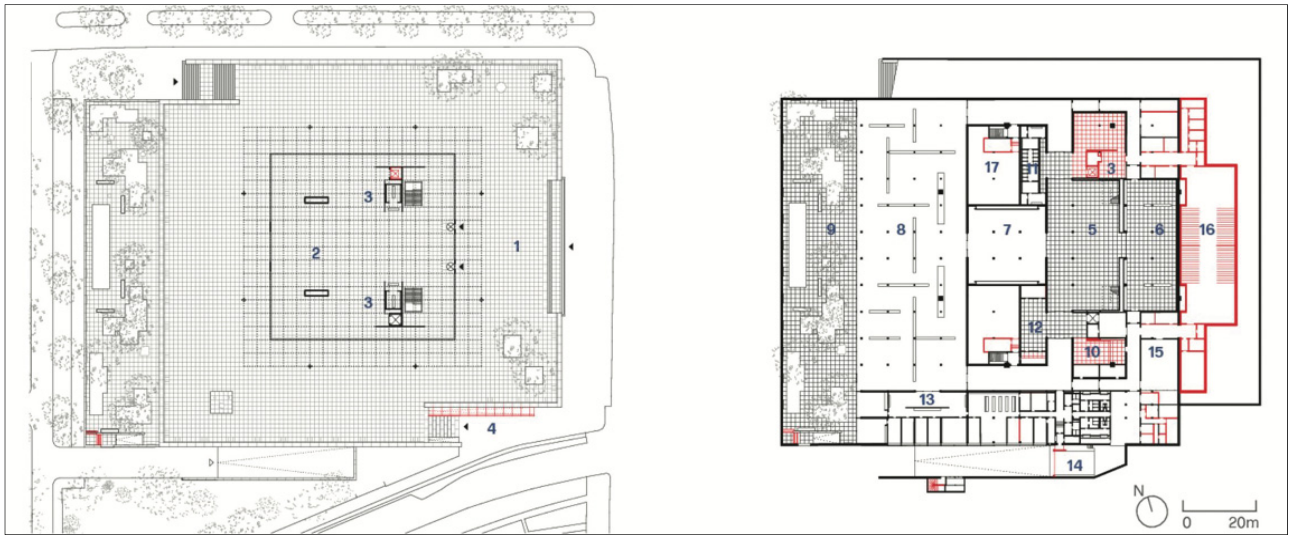

Fig. 2 Extension of the functional spaces of the basement, first floor and ground floor (D. Chipperfield Architects).

between the monumental and non-monumental parts of the building. Extension work below the ground level therefore provided opportunities for arranging other spaces considered of little architectonic value, namely the cloakroom, bookshop, and areas dedicated to exhibition management and workshop activities (places that, in accordance with the original idea, should have been humble, but not irrelevant).

The intervention was founded upon an approach according to which not all the building's materials and elements that have survived to this day were to be conserved. If the process of upgrading the Gallery in order to meet contemporary needs may be seen as a way of ensuring ongoing use, on the other hand, the designers concluded that, in certain ambits, loss of materials is inevitable.

Certain elements (modular false ceilings, fitted carpets, curtaining, ceramic elements) appear to have stood the test of time less satisfactorily than the stonework, the steel of the horizontal structures and the fine woodwork of the partitions. The former elements were considered singly on their own merits; in some cases, they were replaced, in other, they were fully restored in their original condition. We see this in the fitted carpets in certain basement areas and in the reproduction of many visible elements, like the toilets, for example, and the false ceilings. As opposed to the idea of a "timelessly modern" architecture, we find techniques and materials that constitute "time-bound elements" [4]: elements of limited durability that have been repeatedly replaced over time, or removed, as it happened for the curtains of the main hall. These elements had been replaced repeatedly over time and were finally removed in 2002.

The plan includes now a return to curtain for the upper gallery. As a solution to the problem of overexposure to sunlight, the fabrics are made up of enhanced performance materials whose appearance nevertheless matches that of the original curtaining solutions.

The Neue Nationalgalerie story entailed, over time, also the repair of the upper gallery's glazing elements (systems both pioneering and frail): among the most significant ones, the repeated replacement of the fracturing panes. Due to the high fabrication costs of such large items (3.6 m width for more than 5.0 m height), the production of the glazing for the Gallery was stopped in 1972, fact that caused the replacement of the large panes with a greater number of smaller ones.

The studies conducted in order to enhance the performances of the involucre indicated three different solutions corresponding to three states of repair of

Fig. 3 Restoration site of the Neue Nationalgalerie, external view (Di Resta 2019).

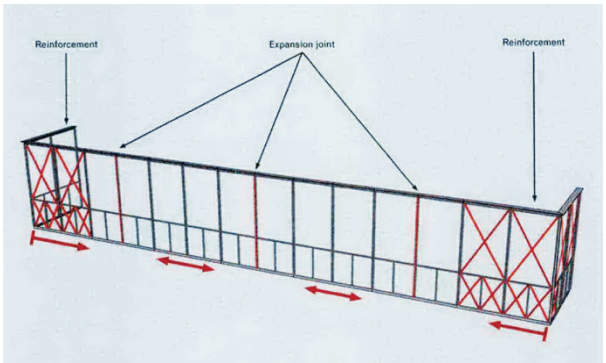

Fig. 4 Introduction of vertical expansion posts and shear-resistant design of the corner areas (D. Chipperfield Architects).

Fig. 5 Restoration site of the Neue Nationalgalerie, cross-bracing reinforcements to reduce deformation of steel components (Di Resta 2019).

the materials. The solution adopted was that of replacement of the panes with security glass panes provided according to the original size specifications, while maintaining both the pre-existing structural sections and the frames of the fixtures (Figs. 3-5). The addition to the involucre of three new vertical elements in steel—designed to enable dilatation of the components—prevents fracturing. It also enables resistance not only to the action of wind but also to thermal-stress deformation. The strategy of addition was adopted also at each corner of the building, where wind-bracing systems were adopted, contributing to the structure's rigidity.

The operation therefore mitigates the façade's criticalities and no attempt was made to attain full thermal insulation. The "minimal improvement" solution accords with the decision not to meet contemporary standards but to achieve more meticulous conservation of the monument's materiality. The need to strike a balance between conservation and requirements was expressly acknowledged by the design. The non-insulated façade easily affected by condensation is not considered as a deficit, but as a time-bound characteristic of the building of which the negative impact must be reduced.

These operations, as described, reflect an evolving poetics of intervention for conservation of Mies's works. Indeed, in 2005, the work conducted by Krueck+Sexton Architects and Gunny Harboe on Crown Hall in Chicago deeply impacted the material authenticity of the involucre, through full replacement of the panes and inclusion of new, thicker single-layer glazing [14]. In order to support the new loads and enhance the waterproofing capacity of the system, the intervention adopts controversial criteria of analogy, entailing replacement of the window beadings with other solutions geometrically similar to the original ones. The search for an image as close to the original as possible prevailed over all other conservation requirements.

3. Results and Discussions

Restoration of the Neue Nationalgalerie is part of Berlin's efforts to reconstruct its history by imposing and controversial rebuilding operations of dubious worth (Stadtschloss, Bauakademie, Garnisonkirche)

and by other equally important interventions that, instead, preserve traces of the history of the city: the new cupola of the Reichstag, under which the writings of the invading Russian soldiers have been conserved, and the Neues Museum, where traces and lacunae of the war can still be found on the walls. Mies's work falls into this latter category of interventions, which do not foresee a new use but which in any case provide an image of cultural heritage that must remain (or resemble) itself.

For the architectural office that managed such a work as the Neues Museum—noted for its great abundance and complexity—design responsibility should consist in displaying sensitivity in managing the functional needs, respecting at the same time the plurality of different periods of history. However, the task in this case is yet more demanding, given the bounds imposed by Mies's work and the awe due to an artwork acknowledged as a Modern monument.

All aspects of this intervention indicate how the designers tried to adopt a principle of invisibility, offered up as a safeguard for Mies's legacy, but indicate also the contradictions that raise from the aim of preserving a timeless idea of architecture.

However, three distinct approaches to the said principle do emerge:

(1) the effort to recoup the original configuration by disassembling and reassembling existing elements, challenging various norms and regulatory provisions;

(2) the task of replacing those elements that have disappeared. From this point of view, the intervention on the basement is of particular significance. Here, the aim of reviving a museum of the 1960s (the designers consider it a "candlelight" gallery) poses once more the challenge of contemporary functional needs that were to be met within the certainty that nothing else could be added to the Mies's work. According to the designers' vision, the only option open to them consisted in a return to that unique moment in the history of the building when it had its full completeness. From their viewpoint, the operation

Fig. 6 Restoration site of the Neue Nationalgalerie, concrete structures of the basement with new pipes and the mock-up of false ceiling (Di Resta 2019).

does not consist in re-presenting an image; it is instead the result of choices belonging to an absolutely contemporary approach;

(3) the interventions having no impact on the visible appearance of the monument were not the focus of attention. An example of this approach is the work realized on the ribbed reinforced-concrete floor separating the gallery's two levels (Fig. 6): the repair works of the concrete covers entailed technical operations carried out for the mere purposes of compliance with norms. Since the false ceilings would then be reassembled, this structure would be hidden from view and it should have no need to establish any relationship with other building elements that were instead accurately restored or reproduced. [SDR]

4. Conclusions

Although the intervention confirms the continuity of original use and it is aimed at keeping the image of the icon, it imposes transformations that belong at the same time to very different strategies, sometimes compatible with the preservation of material meanings and values, sometimes not.

The main strategy, the "minimal improvement" carried out to reduce the conservation/re-appropriation side effects on the image and on the material identity of the monument, is successful when challenging norms made for new constructions and not really

useful for heritage, tested by time and use, and when working on the expectations of clients and users.

The strategy behind the principle of invisibility constitutes instead a return to the idea of the Modern as unmodifiable heritage. In this case, the historical value of the building could have fostered and accepted the presence of a new layer represented by contemporary visible insertions.

The main issue emerging from preservation of this heritage is precisely the need to stress the intrinsic dualism of the concept of obsolescence: due to the deterioration/malfunction of building materials or technologies, but also due to the changes of our contemporary needs. Both need to be addressed and their requirements need to be mitigated. The preservation design of such a Modern icon deals with the legacy of a utopia which cannot culturally be emptied by current marker of obsolescence.

A rift remains between the idea of "timeless" and "time-bound" elements. Even if Mies himself claimed that "Our buildings will last for many hundreds of years. What will deteriorate will be the elevators, or the heating system etc., but the structure shall never deteriorate" [15], we must instead tackle precisely that deterioration. Lacks, obsolescence, need of new spaces, they all represent new design occasions, something that encourages a dialog with our heritage, able to improve the research on the relationship between Modern and Time which is still awaiting a convincing outcome.

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