



**PRESERVATION
OF MONUMENTS
& CULTURE OF
REMEMBRANCE**

**USING THE EXAMPLE
OF LUDWIG MIES
VAN DER ROHE**

**GERDA BREUER
DIETRICH NEUMANN
IVO HAMMER**



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PREFACE

The period between the world wars and the post-war period witnessed massive changes and a turning away from old values and traditions. Not only has it triggered major changes in the national and international architecture, today it is still the foundation on which future architecture and urban development takes place.

But the inheritance of this heyday is becoming older and older! Many buildings are in desperate need of repair or require complete renovation to prevent them falling into disrepair. They are in need of a new lease of life and sometimes also of a new designation.

The present essay booklet shows elements of the most different reminiscent cultures and reminiscent forms, using the example of Ludwig Mies van der Rohe, one of the most important architects of the 20th century. At the same time it reflects on current practices of restoration of modern monuments and the accompanying problems.

Andrea Croé
curator SCHUNCK*





IVO HAMMER



**MODERN MOVEMENT
MATERIALITY**

Remarks to Meaning and Methods
of Preservation



... put Protection in the place of Restoration

William Morris, *The Manifesto, 1877*

The truth is rarely pure, and never simple

Oscar Wilde, *The importance of Being Earnest, 1895*

“The location of the structure, its location in relation to the sun, the layout of the spaces and the construction materials are the essential factors for creating a dwelling house”

Ludwig Mies van der Rohe, 1924, *Archive Dirk Lohan*

The restoration 1981–85 of the Tugendhat House must be described as partial destruction of the monument, although this restoration contributed to the prolongation of the existence of the house.¹

Even in the first decade of this century, the original materials and surfaces of important early works by Ludwig Mies van der Rohe, which were protected as monuments, have been damaged by renovation or destroyed and renewed with incompatible materials.² The current international mainstream of dealing with the matter of modern architecture exemplary showed up at the houses of Riehl (1906–07, renovation 2000), Urbig (1915–17), Mosler (1924–26) and Lemke (1932–33).³ At the same time the meritorious exhibition with the theme: “Ludwig Mies van der Rohe. The Berlin Years 1907 to 1938” celebrated the ingenious invention, the disegno; the materiality of the objects however, its manufacturing technique, the historical changes, their condition - in short, all the aesthetic information that can convey only the original - did not come up.⁴ Even in those projects of buildings of the Modern Movement, in which cautious treatment of the original substance can be recognized, until now the practical procedure is mostly determined by rules of craftsmanship renovation, whereas conservators-restorers were commissioned – if at all – usually only for colour inspection. In a few cases only conservation-science study and interdisciplinary planning had been realized, to carry out the conservation work and to guide the craft repair.⁵ In the case of the restoration of the Tugendhat House in Brno we succeeded indeed to perform a conservation-science investigation⁶, before the start of practical work, which yielded significant insights into the materiality of the building. But the project design of the group of architects who created the basis for the implementation of the restoration largely abstained from linking to the results of conservation-science study.⁷ My following contribution deals with the methodological question of how to deal with the remaining original substance

1. Ivo Hammer, *Surface is interface. History of the Tugendhat House 1938–1997. Criteria for the Preservation*, in: Daniela Hammer-Tugendhat, Ivo Hammer and Wolf Tegethoff, *Tugendhat House. Ludwig Mies van der Rohe, Basel/Berlin/Munich/Boston 2014*, pp. 140–161 (first published in 1998).

2. Ivo Hammer, Rohe - Restaurierung. Zur materiellen Erhaltung des Hauses Tugendhat in Brünn und anderer Denkmale des Neuen Bauens, in: Johannes Cramer und Dorothea Sack (Hrsg.), *Mies van der Rohe. Frühe Bauten. Probleme der Erhaltung. Probleme der Bewertung*, Petersberg 2004, 14-25.

3. Hartwig Schmidt, *Der Umgang mit Bauten der Moderne – ein Überblick*, in: *Konservierung der Moderne? Über den Umgang mit den Zeugnissen der Architekturgeschichte des 20. Jahrhunderts*, ICOMOS, *Hefte des Deutschen Nationalkomitees XXIV*, München 1998, pp. 39–44

4. Terence Riley, Barry Bergdoll (eds.) *Mies in Berlin*, exposition catalogue New York (MoMA) 2001

5. Christine Hoh-Slodczyk, *Die Instandsetzung des Einsteinturm – Behutsamer und ökonomischer Umgang mit historischer Bausubstanz*, in: *Stiftung Bauhaus Dessau (Hrsg.) Umgang mit Bauten der klassischen Moderne 2. Sanierung von Oberflächen, Akten des Kolloquiums am 15.12.2000 in Dessau, Dessau 2001*, p. 35–37 (Befundisierung durch Bauforscher); Arthur Rüegg und Ruggero Tropeano, *Technische Probleme in der Denkmalpflege. Vier Züricher Beispiele des Neuen Bauens*, in: *Architektur-Jahrbuch 1996*, edited by. *Deutsches Architektur-Museum Frankfurt/Main, München/ New York 1996*; J. Christoph Bürkle und Ruggero Tropeano, *Die Rotach-Häuser. Ein Prototyp des neuen Bauens in Zürich*, Zürich 1994, p. 76 zur Wiederherstellung von Ölfarben-Anstrichen; Thomas Danzl, *Rekonstruktion versus Konservierung? Zum restauratorischen Umgang mit historischen Putzen und Farbansätzen an den Bauhausbauten in Dessau*, in: *Denkmalpflege in Sachsen-Anhalt 1999/2*, pp. 101–112. Danzl uses the term „Materialität“.

6. We use this term to define the entire scientific and historic process of investigation and documentation of cultural heritage, including conservators-restorers. Since the ICOM CC conference in Copenhagen 1984 the denomination conservator-restorer is agreed to distinguish the profession from others involved in restoration and repair, as e.g. architects, art historians and specialized artisans, see. Ivo Hammer, *Materiality. History of the Tugendhat House 1997–2012. Conservation-Science Study and Restoration. Appendix*, in: *Hammer-Tugendhat et al. (2014)*, quoted note 1, p. 248

of monuments, not with the quite important question of preserving the utility value by adaptation to modern use and safety requirements, not even with issues of reconstruction of no longer extant structures. I tie on my previous statements on these issues, often paraphrasing, and would like to raise two questions and formulate two theses:⁸

WHAT CONSTITUTES THE MEANING OF MONUMENTS?

Thesis: The materiality of the monument is the very basis for its existence; it is an essential source for the knowledge of the real historical and cultural processes. The assessment of the values of a monument of architecture must be consistently oriented to the material substrate, to the historic substance.

WHO CAN IMPLEMENT THE PRESERVATION OF THE MATERIAL SUBSTRATES OF HISTORY?

Thesis: The profession of conservator-restorer aims at maintaining the historical substance. In the interdisciplinary development of projects for conservation and restoration of monuments of historical architecture, conservators-restorers should be used as equal partners both in the study and planning as well as in the implementation.

NEW CRITERIA?

Monument preservation is first and foremost the preservation of the material substrates of history, where human society ascribes a historical, artistic or other cultural value. Monument preservation as a societal practice only makes sense - and is more than just the conservation of scenery - if, at least, the material authenticity of listed monuments is preserved - irrespective of their medium, age and ascribed cultural value. Monuments are not only sources of historical testimony, commonly referred to as cultural heritage, but also a resource of technical solutions whose materiality incorporates the historical, artistic and cultural characteristics assigned to the (architectural) monument.

Regardless of whether an architectural monument is primarily of use value, whether it is seen as a carrier of historical meaning or as an object of art, the ascribed value is always connected to the physical basis of the object, to the artefact. In his Manifesto from 1877, based on

John Ruskin's *The Seven Lamps of Wisdom*, William Morris pleads for the preservation of the physical authenticity of historic buildings through regular maintenance and repair "... in the unmistakable fashion of the time."⁹ Probably Influenced by William Morris' Manifesto, Alois Riegl presented his famous and still used definition of value categories, which characterize building monuments,¹⁰ thus providing a theoretical foundation for the transition from restoration to conservation.

It is interesting that the confrontation with Riegl's value categories began internationally as late as in the 1980s, after the famous conservationist Adolfo Venturi (1856–1941) had called them "accademiche inutili distinzioni" (useless and academic distinctions). Riegl's definition of the Age Value presupposes respect for the material substance of the monument. The investigation and reservation of the materiality of an artwork - Including architecture - is not merely a secondary aspect.¹¹

Preservation methods always imply – we cannot escape this paradox – changes too. We seek to preserve historical sources by changing them through methods of conservation. We aim to maintain the use value of a building by means of technology and construction, while protecting its authenticity. We want to bring out the artistic quality of a building and at the same time preserve significant traces of natural and anthropogenic changes, i.e. the age value. Although preserving the materiality is not 'everything', without it we cannot speak of an architectural heritage. The difference between a copy of an existing building or of a reconstruction of a building, which is no more existing, and an architectural monument lies in the material authenticity. With the transformation of a building to a monument of cultural heritage, its fabric, its materiality and its appearance also become part of the authenticity that has to be protected.

These contradictions are so to speak, a guiding theme of preservation of historical buildings from all eras, albeit sometimes with different weighting.¹² Dealing with problems of thermal insulation, corrosion of the metal, the sound attenuation, fire safety, durability in historic buildings is inevitable. The difficulty of finding materials appropriate to the historical stock or material formats is not specific to the architecture of the Modern Movement.¹³ So we do not need new criteria of conservation of monuments of modern architecture. In principle, the criteria of conservation formulated in the Venice Charter 1964 are still valid.¹⁴

SURFACE IS INTERFACE

It seems self-evident that the surfaces belong to the original substance. As interface between environment and structure they are particularly vulnerable to aging and weathering. The tangible results of maintenance, repair and the changes to the design are part of historical

7. Ivo Hammer, *Materiality* (2014), quoted note 6, p. 178, note 125

8. see Hammer-Tugendhat et al. (2014), quoted note 1, with further references.

9. www.spab.org.uk

10. Alois Riegl, *Der moderne Denkmalkultus, Wien 1903*. Riegl names the following value categories: 1. Memory value (intended memory value, historical value, age value), 2. Present-day value (use value, newness value, relative artistic value); see Ivo Hammer, *Attitudini discordanti. Zur Aktualität von Alois Riegl und Cesare Brandi in der Theorie und Praxis der Restaurierung von Wandmalerei/Architekturoberfläche in Österreich*, in: Giuseppe Basile (ed.), *Il pensiero di Cesare Brandi dalla teoria alla pratica / Cesare Brandi's thought from theory to practice*, Saonara 2008, pp. 63–68.

11. In his article "Materiality and Mythology" (in Hammer/Černá Iveta Černá und Ivo Hammer (Hrsg.), *Materiality Proceedings of the International Symposium on the Preservation of Modern Movement Architecture Brno 27.–29.04.2006*), Brno and Hildesheim 2008, pp. 50–56) John Allan rightfully argues for a holistic approach and a balance between the categories, while also stating that materiality is only of fundamental significance in individual cases and is often superposed by categories indicative of (social) practical value. What he neglects to consider is that this is not about historic architecture in general, but about preserving the authenticity of monuments as historical documents in material form.

12. See e.g. Eberhard Grunsky, *Ist die Moderne konservierbar? in: Konservierung der Moderne? quoted note 3*. pp. 27–37

13. Winfried Brenne, *Materialien an Bauten der Moderne*, in: *Umgang mit Bauten der klassischen Moderne 2. Sanierung von Oberflächen*, Bauhaus Dessau 2001, pp. 15–24.

14. See www.icomos.org

15. See Monika Wagner, *Das Material der Kunst. Eine andere Geschichte der Moderne*, Munich 2001.

16. Karin Harrasser, Helmuth Lethen, Elisabeth Timm (eds.), *Sehnsucht nach der Evidenz*, in: *Zeitschrift für Kulturwissenschaften 1/2009* (Bielefeld, transcript), see especially the interview by Helmuth Lethen conducted with Ludwig Jäger, pp. 89–94.

17. See: <http://www.incca.nl/resources/links/78-theory/173-archive-for-the-research-of-material-iconography>;

processes that are embodied in the original substance. The finding of a colour hue alone does not define the surface. The original materials, their chemo-physical properties, their application technology and also their aging behaviour are based on the mode of surface, even its shade and its colour character.

HISTORIC SUBSTANCE AND MATERIALITY

Materials are not merely carriers of meaning; they also produce meaning, not only in a symbolic sense, but also as the source of the sensory experience induced by an aesthetic medium.¹⁵

But our western culture still pays little attention to the building materials used, to the physical substance – both in a philosophical and practical sense – while focusing primarily on the idea or the inherent concept. Not even the growing interest of cultural studies in the evidence or the emergence of the 'material turn' has produced much impetus for a scientific and cultural-historical discourse on the material based on concrete evidence, on the physical basis – at least not in regards to architecture and its surfaces.¹⁶ Aesthetic theory has long regarded material as the medium of form and not something meant to be consciously perceived as part of the meaning of the artwork.¹⁷

The term historical substance, therefore, describes the whole body of the material of the cultural monument, the material substrate in which the historical, artistic, scientific or otherwise cultural values of the monument are embodied. Compared to the older term 'original', still commonly used as a synonym, the term historical substance (or original substance) emphasizes more the materiality of a cultural monument and is aimed at defining the historical relevance of the material changes. The question, which material elements belong to the original and what elements belong to disturbing changes, must be decided in specific instances on the basis of historical and technological criteria.

As we know, it is not only the original stock we call 'original'. The later changes, defined as historically relevant, are part of the original as well. Material per se is irrelevant. Material differentiations are loaded with meaning only when they are placed in relation to their cultural connotations. This understanding of authenticity of a monument is not only true for products that are known as artistic, but – and this is in relation to the architectural conservation particularly important – also for items which have been produced by hand without artistic pretensions. Even if the monument (in principle) is technically reproducible or is a serial product, the concept of authenticity of a monument remains valuable.



Dessau, master house
Kandisky/Klee
detail of facade, damages
caused by incompatible
coating materials from
2000
Photo: Ivo Hammer 2006

18. Ivo Hammer, The Tugendhat House: between artisan tradition and technological innovation. Preservation as sustainable building policy, in: *Modern and Sustainable. Do-comomo International Journal* 44, 2011/1, p. 48–57.

19. See Michael Müller et al., *Autonomie der Kunst. Zur Genese und Kritik einer bürgerlichen Kategorie*, Frankfurt/M 1972.

20. The Faculty of Conservation and Restoration of Works of Art, founded at the Academy of Fine Arts in Cracow in 1950, offered internationally the first university course of its kind, while restricting its focus to 'Mural and Architectural Sculpture' (<http://www.asp.krakow.pl/index.php/en/academy/structure/faculties-structure-36/faculty-of-conservation-and-restoration-of-works-of-art>); university courses for building restoration are primarily tailored to architects who wish to gain insight into practical conservation methods, e.g. the 'Historic Preservation' course at the Philadelphia University / Pennsylvania / USA: <http://www.philau.edu/environdesign/Concentrations/HisPreservation.html>, or the recently established 'Architectural Conservation' course in Tallinn/Reval (Estonia), which is offered in addition to 'Conservation of Artefacts'. http://www.artun.ee/index.php?lang=eng&main_id=365). A similar trend can be observed for recently established courses in modern architecture, e.g. one offered by the University of Cagliari (2007/08) <http://www.unica.it/pub/print.jsp?id=4631&iso=583&is=7>.

ERA OF PLASTIC¹⁸

In the second half of the 20th century the traditional techniques of repair have been abandoned internationally. In the Sixties, the international economic trend has enforced the use of modern materials developed in the laboratory, instead of using traditional materials. Traditional craft intelligence was replaced by 'intelligent design' of laboratory products that are easy to use following standardized procedures and that satisfy the warranty standards and their short-term durability requirements. Long-term considerations, such as the ability for future repairs, were not considered. The era of plastics in architecture began, including the use of synthetic resins and corresponding composites in the construction of floors, ceilings, windows, tile, wall coatings, thermal insulation, etc. The damages caused by the use of materials that are not repairable and are not compatible with the chemical and physical properties of the historic architecture, are not only an enormous waste of resources – they also generate losses of irreplaceable historical fabric of our cultural heritage.

KINDS OF HERITAGE?

The separation of autonomous art and applied art began in the 15th century. Institutionalised in the form of art academies and universities of applied arts, this separation coincided with industrialisation in the 19th century and is still prevalent in heritage conservation and its affiliated institutions.¹⁹ Internationally, a distinction is made between traditional art restoration and building restoration. This distinction is even reflected in international training courses for restorers – be they in Krakow, Philadelphia or Tallinn – leading to different career paths: Building restoration is primarily geared to architects²⁰. The broad concept of culture formulated in the Charter of Venice has not yet arrived in the socially prevailing mind-set.

THE WHITE CUBES HAVEN'T BEEN WHITE

The awareness of materials and the techniques applied, and their importance in the aesthetic concept of architecture of the Bauhaus pioneers is well known. Nevertheless, modern art historical discourse does not refer much – if at all – to materials and colours of architectural surfaces in their interpretation of historical architecture.²¹ Nowadays it is understood that conservators/restorers in traditional professional roles, such as working with canvas paintings, first employ scientific study

methods before applying any conservation techniques. However, in architecture, especially in the tradition of Modern Movement, an awareness of the necessity of such conservation-science studies is still not very widespread. Architects responsible for the planning only consult with conservators/restorers, if at all, to examine paint layers. The international practice of conserving the artefacts of Modern Movement still focuses mainly on the *disegno*, to that which is held to be the 'original intention' or 'concept' of the architect²² and neglects the materiality of the architecture and its surfaces.

The stereotype of the "white cubes" created in the landmark 1932 MoMA exhibition of Hitchcock and Johnson is somewhat devoid of the material reality. An example: the investigations of the facade of the Bauhaus master house Muche-Schlemmer of 1925 – executed by conservators-restorers in 2001/02 – have proved that it was decorated with a very fine and varied polychrome paint.²³ In the course of the previous renovation of the other master houses of the Bauhaus in 1992 (master house Feininger) and in 1997–2000 (master house Klee/Kandinsky) much less emphasis was placed on the investigations of the architectural surfaces and their finishes. Finally these facades were renewed with white lime paint, surely influenced by the stereotype of what Modern Movement architecture should look like. On the basis of our knowledge of the polychrome of the facade of the master house Muche/Schlemmer today, we can only assume that the evidence of polychrome strata was lost with the renewal of the facades of master houses Feininger and Klee/Kandinsky.

CONSERVATION-SCIENCE STUDY: METHODS

In the frame of conservation-science study, conservators-restorers apply trans-disciplinary methods: they are in the same time (art) historical, phenomenological and organoleptic, technological and metrological, scientific-analytical and do not exclude intuitive-artistic perception; in short: investigation with all senses.

The conservation-science studies can only claim a scientific nature, if they are clearly documented. However, the aesthetic effect of authentic surfaces can be documented by means of visual and written documentation only approximately, the scientific documentation cannot replace the original. Photos with different scales, different sources and directions of light, mapping with varying degrees of abstraction, accuracy levels, themes, classification, highlighting and various graphs of measured data visualize the observations and measurements and are at the same time means of knowledge and interpretation.

21. See Ruchniewitz, S., 2008, *Zur Theorie des Materials in der Klassischen Moderne. Überlegungen anhand der Architektur von Ludwig Mies van der Rohe*, diploma dissertation HAWK University of Applied Arts and Sciences, examiners: Ivo Hammer and Thomas Danzl.

22. See the typical statement of Reinink, W., 1995, "Altern und ewige Jugend – Restaurierung und Authentizität", *Daidalos*, 56. Jg., 25; Reinink asks for "new criteria" and points out, that "... the general criteria of the World Heritage Program (UNESCO), which emphasizes the authenticity of material, cannot directly applied to Modern Movement Architecture. The new hierarchy of criteria is as follows: 1. the authenticity of the concept. 2. the form; and only then 3. the authenticity of material (translation I.H.). But see also e.g. Wessel de Jonge, *Historic Survey of Modern Movement Buildings*, in: *Modern Architecture as Heritage*, *Journal of architectural and town-planning theory ROČNÍK*, VOL. XLIV, 2010, Number 3–4, pp. 250–261; Wessel de Jonge and Hubert-Jan Henket, *Historic Building Survey on Modern Movement Buildings*, in: Paul Meurs and MarieTherèse van Thoor (ed.), *Sanatorium Zonnestraal. History and Restoration of a Modern Monument*, Amsterdam 2010, pp. 101–109.

23. Gebessler, A. (ed.), 2003, „Gropius. Meisterhaus Muche/Schlemmer. Die Geschichte einer Instandsetzung“, Ludwigsburg/Stuttgart/Zürich; and my review: Ivo Hammer, *Instandsetzung der Geschichte?*, in: *Restauratorenblätter 28 (Dokumentation in der Baurestaurierung)*, 2009, pp. 228–230.



Brno, Tugendhat House
upper terrace, east
facade, probe paint layers;
left: original surface,
middle: two weathered
lime washes, right: paint
of 1985 containing resin

TUGENDHAT HOUSE

The conservation-science study, carried out between 2003 and 2010, – for the first time led to evidence of the materiality of the surfaces in a Mies van der Rohe building and the obviously conscious aesthetic performance. Mies van der Rohe told his client in June 1928 in Berlin – as Grete Tugendhat reported in 1969 – “how important it was to use precious materials in, so to speak, plain and unadorned modern building and how this had been neglected for example by Le Corbusier too.”²⁴ Mies van der Rohe and his partner Lilly Reich abstained from polychrome architectural surface and produced a chord of “natural” material colours even in those areas that were painted. The colour and surface effect of the paint of the exterior metal parts corresponded to the oxidized tone of lead cover of the windowsills. The painting of metals and wood parts, but also the stucco lustro of the interior walls took on the hue of the stone parts of travertine. The living room got colourful accents through the “ruby” velvet chaise longue and the “emerald” leather covers of the Barcelona chair (and also by decorative flower arrangements). All surfaces were carried out with highest precision. We recognize an ambiguity in the presentation of materials: On the one hand, the emphasis of the material by the iconic, ornamental presentation of the cross section of the natural process in the walls and doors of onyx marble, Makassar ebony, Zebrano and Brazilian rosewood, by the shadow effect of the natural lacunae and crystal druses of travertine and by the stone-based colour of the interior coating of metal and wood. On the façade also, the character of the material is emphasized by the rough grated surface of the plaster and linked to the hue of the travertine. At the same time we see the artificiality of the finish, polished and more or less glossy surfaces of materials, glasses, metals, the precious woods, the travertine and stucco lustro whose mirroring effect produces an image of the environment and de-materializes the support of the reflection. Studying the façade plaster and its surface we can see that stereotypes like those of the ‘white cubes’, often formatted by photographic black and white reproductions such as those presented in the MoMA exhibition from 1932, do not match the physical reality. The ‘white cube’ of the Tugendhat House was not simply whitewashed, but showed a slightly yellowish tint, according to the travertine.

Formal innovation does not necessarily mean that the underlying basis of craft tradition is abandoned. The Tugendhat House may serve as an example of good, valuable architecture, which represents not only *innovative spatial and aesthetic concepts that aim to satisfy new lifestyle needs*²⁵, but has also been implemented materially in a careful and perfect manner. This material realization using traditional methods and materials was a long-term success, at least as long as the building was used and maintained. The tradition of small-scale repairs was alive

24. See Hammer-Tugendhat et al. (2014), quoted note 1, p. 20.

25. www.whc.unesco.org



Brno, Tugendhat House
travertine covering the parapet of the upper terrace; left: after chemical cleaning, right: cleaned with steam jet only.
Photo: Ivo Hammer 2011

up to the 1960s. The plastered and painted façade e.g. was maintained several times with lime wash. We found up to 5 layers of paint. Not until the 1981–85 renovation were the traditional repair techniques abandoned and was the façade painted with a cement slurry and a colour containing artificial resin, not compatible with the physics of the existing system in terms of porosity.

SAME OBJECT-DIFFERENT TASK: WHO IS DOING WHAT?

The construction and coating technology of the 19th and 20th century generally has abandoned the artisan traditions of manufacture and repair and has gradually replaced traditional materials, applied with technical experience by products designed in company laboratories. However, regarding the architectural surface of the Modern Movement, traditional materials and methods of coating are prevailing.²⁶

Conserving original substance of historic plaster and its craft repair with infills and lime wash taking up historical tradition of repair (i.e. to restore the physical quality of plaster) are not different ways of conservation, but belong together.

No informed person today would come up with the idea to entrust a valuable painting to a layman's conservation work. It is a lack of awareness of values that the surface of architectural monuments is still renovated without regard to the historical substance and that the renewal of a historic plaster is described as "small change".

To avoid misunderstanding: It's not about criticism of artisanal working methods. It is rather a clarification of objectives. The aim of a craftsman is the restoration of the physical and aesthetic function of the surface, the production of a novelty value, regardless of whether he is working with a historic technique or a modern one.

By contrast, the objective of the modern conservator-restorer (who therefore in English rightly is called conservator) is the preservation, thus the conservation of the historical substance, preserving the material substratum of cultural values embodied in the monument. It is not the primary objective of artisans to preserve. An example: If a facade plaster has lost its cohesion and its adhesion to the wall (if it "crumbles" and has "voids"), an artisan properly working must detach the damaged plaster and replace it. The artisan is interested in the materiality from a technical viewpoint. At this point the objective of the conservator-restorer is different to the objective of the craftsman: his task is to preserve the historical substance even if it is damaged. The conservator-restorer carries out a conservation-science study of the materials and techniques in the various historical phases and provides

26. Thomas Danzl, *Konservierung, Restaurierung und Rekonstruktion von Architekturoberflächen am Meisterhaus Muche/Schlemmer*, in: August Gebessler (ed.) (2003), quoted note 24, pp. 152–181.

27. See Thomas Danzl, *The „Bauhaus Experiment“ 1998–2006: Paint Research and Conservation Strategies Critically Revisited*, in: Docomomo International, *Journal* 47, 2012/2, pp. 21–27.

bases for the assessment of cultural values. So if the plaster is recognized as an integral, indispensable part of the monument, the conservator-restorer studies methods of conservation and executes them. Together with the artisan and with the support of scientific analysis and of historic knowledge including historic technology, the conservator-restorer develops methods of artisanal repair based on the found and defined historical technology. In order to prepare the restoration of larger objects, the conservator-restorer together with the artisan will carry out a pilot working for practising the repair method, to determine the necessary amount of work and clarify the desired aesthetic result.

HOW TO PROCEED? DECISION MAKING PROCESS²⁷

In order to solve the complicated balance of social, technical and artistic needs on the one hand and the respect for the historic values, a real interdisciplinary approach is necessary.

This includes that conservators-restorers are involved in the concept making from the very beginning of a project, from the first survey of stability, security, energy, functionality adaption needs, financial resources and also conservation science study. Conservator-restorers are specialists in interdisciplinary work; their transdisciplinary working methods provide useful links between different specialists. The issues of conservation-science study can be described as follows:

- Materials, technology, surface:
original and later alterations;
- State of conservation, damages,
- Causes of decay, decay factors and their importance.
- Proposals of further study and of intervention,
- Pilot work (together with all technical services involved)
- Project formulation and approval by investors, owners and authorities
- Selection of service providers on the basis of the pilot work
- Execution: stability, conservation-restoration, adaption, repair (supervision by conservators-restorers, reconstruction)
- Documentation
- Monitoring
- Maintenance, repair and preventive conservation



Brno, Tugendhat House
upper terrace, south-west
facade, artisan painting
a lime wash prepared by
conservators-restorers.
Photo: Ivo Hammer 2011

28. The recycling rate of an old traditional building is about 95%, of a modern building about 4%, see: Nikolaus Kohler, Ökobilanzierung von Gebäuden und Gebäudebeständen, in: Berichte zur Denkmalpflege in Niedersachsen 3/1998, pp. 112–116

29. Ivo Hammer, The Tugendhat House: Between Craftmanship and Technological Innovation. Preservation as Sustainable Building Policy, in: Docomomo Journal 44, 2011/1, pp.48–57

30. Hubert Jan Henket, When the Oppressive New and the Vulnerable Old Meet; a Plea for Sustainable Modernity, in: Docomomo International, Journal 52, 2015/1, pp. 14–19.

ENVIRONMENT POLICY

Modern preservation is not limited to the presentation of the artistic idea, but sees the monument as a comprehensive resource of cultural activities and their material expression. Generally, the preservation of monuments can be seen as a paradigmatic form of a sustainable building policy, regarding

- Intelligent use (cultural needs, not financial greed and speculation)
- Efficient maintenance compatible with the historic fabric, i.e. historical tradition of repair
- Avoidance of energy consumption (instead of new construction adaption to new uses)
- Repair capacity of old building materials and techniques used²⁸
- Reuse of materials in the reconstruction and adaption (recycling)
- Separability and harmless disposability of materials no longer used
- Lifespan of structures and surfaces that are periodically maintained (not accelerated obsolescence like e.g. thermal insulation.²⁹)

Environment policy in preservation of historic monuments can be applied also to new buildings.³⁰

It's not just about strategies to preserve cultural values. It is also about avoiding an unnecessary expenditure of energy, not only on one aspect such as the thermal insulation, but in the overall view of the ecological balance. Preservation of buildings by means of intensive maintenance and optimum use of existing buildings as a vision for a sustainable building policy that benefits the environment, are also strategic goals of monument care. A society-sensitive monument care provides not only for the protection of individual objects, but also addresses well-understood social needs, and can thus contribute with ideas to realize these larger ecological goals.

Even where a new building is inevitable, monuments do offer suggestions for solutions to technical, aesthetic, and overall social problems. In these monuments the experience of many years or even millennia are accumulated, that have passed weathering tests and have already proved their cultural appropriateness. Why shouldn't we use these resources of knowledge?



Brno, Tugendhat House
entrance area, after recon-
struction of the glass wall
and restoration.
Photo: Jong Soung Kimm
2012



AUTHORS

GERDA BREUER (*1948 IN AACHEN) art and design historian. In 1980 she received a PhD in Art History on American Romantic Art from the RWTH Aachen. She worked at museums and was professor of art history and design history at the Bergische Universität of Wuppertal. From 2005 to 2012 she was chairperson of the academic advisory council of the foundation of the Bauhaus Dessau. She has published on art and design history of the 19th and 20th century.

DIETRICH NEUMANN (*1956 IN GÖTTINGEN) architect and architectural historian. Since 1991 professor of History of Modern Architecture and Urbanism at Brown University, concentrating on European and American architectural production from the late 19th and early 20th century, the history of film-set design and architectural illumination. Currently Neumann is working on a critical biography of Mies which aims to situate Mies' designs in their social, intellectual, and material contexts.

IVO HAMMER (*1944 IN ULM) conservator-restorer and art historian, 1976–97 head of conservation of mural painting/architectural surface of the Austrian Federal Office for the Protection of Monuments and Sites, up to 2008 professor at HAWK University of Applied Sciences and Arts in Hildesheim, 2010–2012 chair of the International Advisory Commission of Experts THICOM for the restoration of the Tugendhat House, Brno.



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