



Brno, Tugendhat House, 1928-1930, Ludwig Mies van der Rohe. The lush vegetation on the facades is part of the artistic conception of Mies van der Rohe, aiming to a visual continuum between interior and exterior space. Photo Fritz Tugendhat, arr. 1934.

The white cubes haven't been white.

Conservators of the HAWK University of Applied Sciences and Arts in Hildesheim are investigating the facades of the Tugendhat House in Brno

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The famous Tugendhat House in Brno, Czech Republic, planned and built by Ludwig Mies van der Rohe from 1928-1930, one of the most outstanding buildings of European modernism, was included in the List of the UNESCO World Cultural Heritage since 2001. The legendary pavilion of Barcelona, planned in the same time, has been dismantled in 1930 and is existing today only as a modern copy of its original as it has been rebuilt. Other early works of Mies van der Rohe have been reconstructed as well to a great extent. It is therefore of special value, that the historical fabric of the Tugendhat House is still preserved in substantial parts.

The value of architectural surface as an interface

The examination and preservation of paintings e.g. the frescoes of Michelangelo in the Sistine

Chapel in Rome is generally accepted as a task of conservators-restores. In contrast to that there is a lack of consciousness in the field of architecture as far as the materiality of the surface is concerned. Originally rendered surfaces are still destroyed and renovated with materials not compatible to the historic materials. The situation is even more obvious in the case of modernist architecture. The original surfaces of important early works of Mies van der Rohe e.g. are not investigated, and are damaged or destroyed in the process of renovation.

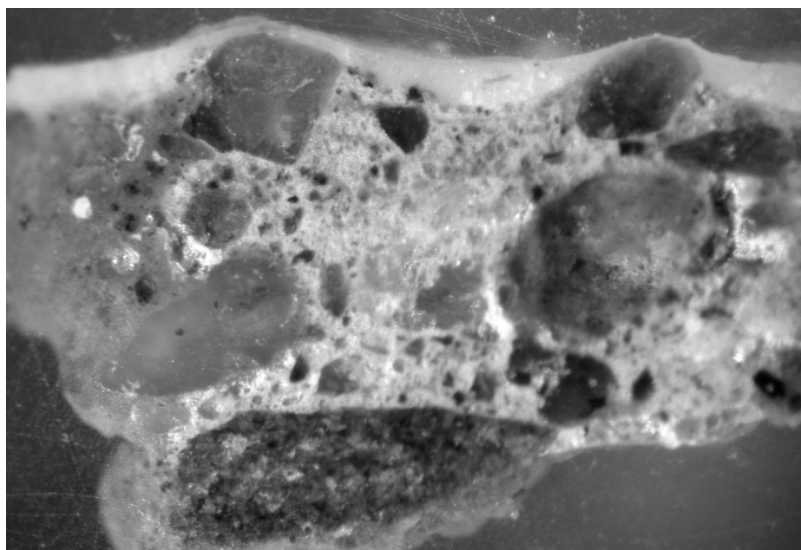
The architectural surface is not a mere part of the monument, but the substrate of the real appearance of the architecture, the transmittal level, the interface between architecture as design on the one hand and the viewer on the other. The importance of the materiality of the surface is well known in the work of Mies van der Rohe.

Investigations made by HAWK University of Applied Sciences and Arts, international co-operation

Sponsored by a lime producer in Salzburg, Dullinger Kalk, the HAWK University of Applied Sciences and Arts in Hildesheim is investigating the facades of the Tugendhat House (the author together with his students of conservation-restoration of Wall Painting/Architectural Surface).

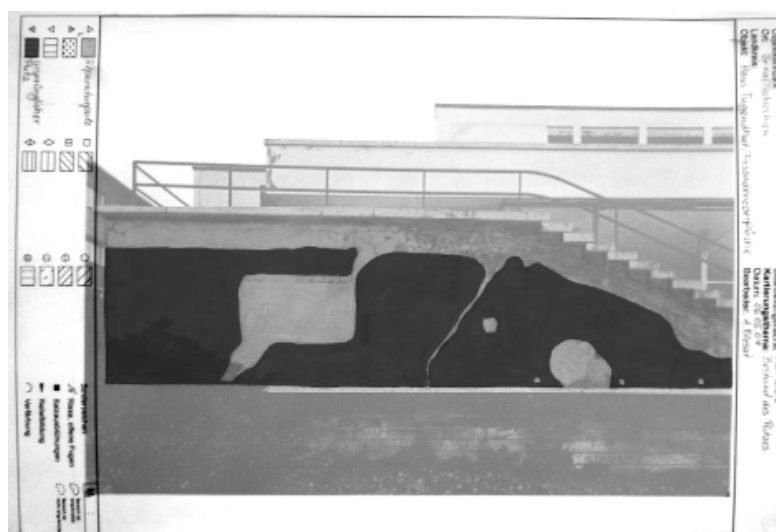
The Tugendhat House is part of the Museum of the Town of Brno. Dipl. Ing. Iveta Cerna, the head of management of the Tugendhat House, arranged the construction of scaffolding on all facades of the house for the two weeks campaign of the HAWK from May 3-14, 2004. The scaffolding is sponsored by the Brno construction company Tocháček.

The investigations are aiming to the definition of the original surface of the facade of the Tugendhat



Brno, Tugendhat House, 1928-1930, Ludwig Mies van der Rohe. Cross section of the render of the facade dating from 1930. Photo HAWK, Christine Hitzler 2003.

Brno, Tugendhat House, 1928-1930, Ludwig Mies van der Rohe. Map of the southern wall of the staircase. The historical fabric of the rendering of the facade (symbolized in red) is still preserved in substantial parts. Photo HAWK, Anneli Ellesat 2004.



House, the description of the later alterations, the damages and their causes and, finally, the development and elaboration of a concept design, which leads to the conservation of the original surface and to the sustainable maintenance of the facade. It is self-evident that the investigations are executed with the agreement of the Office for the Protection of Monuments in Prague and its responsible representative, Karel Ksandr Bc. and the director of the Museum of the Town of Brno, Dr. Pavel Ciprian. The investigations have been undertaken since October 2003. Several of the laboratories in Czech Republic (e.g. Ing. Schlesinger, Prof. Ing. Pavla Rovnanikova, Technical University Brno) and in Germany (e.g. Prof. Dr. Erwin Stadlbauer, NLD; Dr. Dietrich Rehbaum, ProDenkmal) were involved. Written and visual sources of the history of the Tugendhat House and of other buildings of the European modernism have been surveyed, and especially the comprehensive historical research directed by

Karel Ksandr Bc. Practical help was provided by Ing. Karol Bayer and his assistants, University of Litomyšl, Institute of Conservation and by Dr. Petr Dvorak, representative of the enterprise Deffner und Johann, Brno.

Materiality and polychrome of the facades

The results of the investigations undertaken so far demonstrate, that the surfaces of the rendered facade of the Tugendhat House has never been white, but a stone like colour, only a little bit brighter than the Travertine stone used for dados, parapets, floors and stairs. The render was smoothed with a wooden board, and the paint consisting of lime with a small addition of potassium silicate and some organic addition was applied in such a manner, that the grains of the sand in the mortar appeared at the surface and were part of the polychrome. The materiality

of the polychrome is also of main importance in the case of the rendering, according to the aesthetic principles Mies van der Rohe pursued in this house. The thin paint contributed to the refining of the materiality of the surface. In the time from 1931 to 1970 the repairs of the facade have been executed with traditional materials. However, the recent coating, dating from 1985 was – as usual in this time – executed with a cement mortar and with a paint containing artificial resins. This coating is harmful for the original surface, as it produces high thermal dilatation and also accelerates weathering because of the filmogen character of the paint.

Aims and methods of the investigations

After the first exemplary investigation of the historical fabric and its state of conservation, the HAWK is documenting all the facades, around



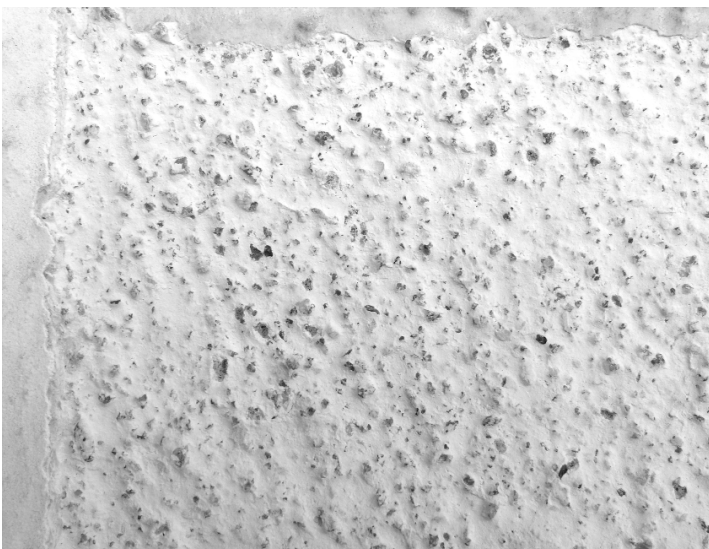
Brno, Tugendhat House, the author with assistant Dipl. Rest. Anneli Ellesat, HAWK University of Applied Sciences and Arts and students of the specialism mural painting/architectural surface, project campaign in May 3th-14th 2004. Photo HAWK, Ivo Hammer.

2000 m² aiming to get a statistic survey of the whole surface.

At the same time technical methods of cleaning and conservation are tested, as are methods of sustainable maintenance. The methods applied do not differ from methods of conservation of wall paintings. To treat the sulphate crust procedures are used which have been developed and tested in Florence, e.g. in the conservation for the famous wall paintings of Masaccio (1426-1428) in the Brancacci chapel of the church del Carmine.

Perspectives

The investigations executed by the HAWK are understood as a first step of a future series of interdisciplinary investigations executed by conservators, which will investigate all materials and surfaces of the Tugendhat House. It is self-evident that an object of such an outstanding cultural importance needs a broad international and interdisciplinary co-operation of specialists in the protection and conservation of monuments, including conservators-restorers. The results of the investigations will be discussed also on an international level, before any intervention will be started.



Brno, Tugendhat House, 1928-1930, Ludwig Mies van der Rohe, southwest facade, upper terrace, wall of boys sleeping room, detail, after cleaning 2004. The surface appears in a stone like colour. The rendering consisting of hydraulic lime mortar is smoothed with a wooden board. The yellowish lime paint is applied in such a manner, that the grains of the sand in the mortar appeared at the surface and were part of the polychrome. The thin paint contributed to the refining of the materiality of the surface.



Brno, Tugendhat House, 1928-30, Ludwig Mies van der Rohe, northwest facade, parapet, southeast side, May 2004: Chemical conversion of the sulphated original surface of the rendering and compresses to diminish the soluble salts concentrated at the surface. Photo HAWK, Ivo Hammer.



Brno, Tugendhat House, 1828-30, Ludwig Mies van der Rohe, northwest facade, parapet, south-east side, May 2004: First tests using pneumatic scissile to a careful detachment of the harmful coating consisting of cement grout and paint with artificial resin dating from 1985. Photo HAWK, Christine Hitzler.

The primary focus is the preservation of the remaining irreplaceable original substance. Then, the next step will be the investigation into which materials and methods should be implemented to best technically and aesthetically recreate Mies' original architecture and its appearance. The traces of history are also part of the historical monument.

Acknowledgement

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The cooperating team of the HAWK included:

Dr. Dott. Thomas Danzl (LDA Sachsen-Anhalt), Dipl. Rest. Anneli Ellesat, Dipl. Rest. Christel Meyer-Wilmes, Dipl. Designer Clemens Kappen, Prof. Dr. Karin Petersen, Prof. Dr. Ursula Schädler-Saub, Prof. akad. Rest. Jan Schubert, Prof. Dr. Henrik Schulz, Dipl. Chem. Martina Schulz, Prof. Dr. Erwin Stadlbauer, Dr. Angela Weyer, Dipl. Rest. Barbara Hentschel.

The students of the HAWK involved so far in the investigations are Christine Hitzler, Stefanie

Dannenfeldt, Vanessa Knappe, Nicole Knobloch, Josephine Rösler, Natalie Schaack, Bruno Piek und Malaika Scheer.

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Brno, Tugendhat House, 1828-30, Ludwig Mies van der Rohe, northwest facade, parapet, southeast side, May 2004: Effect of chemical cleaning. After the conversion of the gypsum the appearance of the surface is much brighter, but not white. Photo HAWK, Ivo Hammer.



Brno, Tugendhat House, 1828-1830, Ludwig Mies van der Rohe, northwest facade, parapet, southeast side, May 2004: First test of a thin lime wash coloured with fine suspension of local sand. This coloured lime wash takes over the original technique of surface coating and may be seen not only as protection of the original surface but also as a technique of sustainable maintenance. Photo HAWK, Ivo Hammer.