The building is present.
The 1:5 model as a tool for research, design and communication

Mandias, S.S.

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“The project (...) shows how the act of largescale modelling can foster the skill to design precise, small scale interventions.”

Sereh Mandias

Sereh Mandias *is a lecturer and researcher at the Chair of Interiors Buildings Cities at TU Delft. She also works as a visiting lecturer at the Rotterdam Academy of Architecture and as editor at platform for city culture De Dépendance. She was a co-editor of the 13th Archi- tectural Review Flanders and of the publication The New Craft School. She is a member of the editorial board of OASE and co-founder of architecture podcast Windoog.*

The Building is present. The 1:5 Model as a Tool for Research, Design and Communication

As the transformation of existing buildings is an ever-larger part of the architect’s portfolio, the research into the value and quality of existing structures gains importance. This research has long been the domain of art historians, who, in their cultural-historical investigations, evaluate (mostly monumental) buildings by positioning them within their time. Because these investigations only give a limited understanding of the qualities of a building, this paper discusses the largescale physical model as a tool for the architect to understand the architectural qualities of a building, the relevance of using this knowledge as a basis for architectural transformations, and the value of the large-scale model in communicating the results of such a research to a wider audience.

This paper is based on a research project into the architecture of the Museum Boijmans van Beuningen in Rotterdam, the Netherlands. The original museum of 1935 was extended three times over the past century, making the ensemble an architectural collection that represents the changing insights into museum building over time. The museum is currently planning an overhaul that includes the demolition of its latest two extensions in favour of a new wing. The project’s hypothesis was that a study using 1:5 models as an analytical tool could enable an intimate understanding of the qualities of the museum. This could then lead to the design of a series of small-scale interventions, as an alternative to the unsustainable and expensive logic of demolition and new construction.

Based on visit to the building, a series of six fragments were chosen that represent key architectural moments within the ensemble, such as a fragment of a façade or a threshold between two galleries. Together with a group of master students, these fragments were built at scale 1:5, either mimicking the act of building by pouring concrete and staining wood, or imitating the appearance of the fragment. Based on the architectural themes present within the fragments, a series of six transformation proposals for the museum were developed, varying from the adding of a staircase to reorganise the circulation through the museum to the introduction of a window to improve the relation between inside and outside.

Through the act of building the fragments of the museum in the studio, it was possible to acquire a refined understanding of the haptic qualities of the building’s architecture. In doing so, the models introduced a specific way of understanding architecture, one that locates the quality of the existing architecture in its details and its physical, material presence. This clearly influenced the transformation proposals, which reinforced specific existing qualities of the building and acquired a similar precision and material quality as the 1:5 models itself. The project therefore shows how the act of largescale modelling can foster the skill to design precise, small scale interventions. In doing so, it shows the potential of the 1:5 model as a valuable addition to the tools of the architect when engaging in transformation projects.

A Fragment of Museum Boijmans van Beuningen, Model by Sam Stalker and Riccardo Garrone, photograph Bas Leemans