

# Foreword — Exploring architectural knowledge by making and reconstructing historical artefacts

Fredrik Nilsson

The Stockholm Exhibition 1930 has an aura of something mythical, iconic to many people, not only architects. It can be considered as a milestone in the development of Swedish modern architecture — and influential for international modernism and architecture — but was also a specific step in the development of the Swedish welfare state at large. Part of the mythical character has of course to do with the fact that it soon after its appearance in the summer months of 1930 was taken down and disappeared, and there are now very few actual physical traces on the site to see and visit. The Stockholm Exhibition has been described as a summer tale, and that the temporary character that differed from many of the other contemporaneous international exhibitions of modern architecture gave greater freedom and possibilities that the chief architect GUNNAR ASPLUND skilfully used.<sup>1</sup> Its short life in the physical world led to that there since long only have been photographs, drawings, writings and other kinds of documents to study and ›visit‹ to get impressions of the specific architecture.

The project behind this book is interesting in relation to this, but also from several other perspectives. I would especially like to bring forward three aspects of interest.

First, and perhaps most obviously, the work in this book tries to in a new way reconstruct the material architecture that is since long gone, to give more insight and knowledge about the exhibition and its architecture. Even though the Stockholm Exhibition has become iconic and canonical in many ways, it constantly connects the more highbrow architectural discourse with the commonplace and a wish to engage in and make the everyday life for people easier and full of straightforward qualities. By studying more in detail also the more mundane housing and projects of the exhibition, this project brings some of the ideas about the practice of everyday life again into the discussion.

<sup>1</sup> EVA RUDBERG, *The Stockholm Exhibition 1930. Modernism's breakthrough in Swedish architecture*, Stockholm 1999, p. 11.

← Fig. 1 Exhibition »Reconstructing the Stockholm Exhibition 1930«, Chalmers University of Technology, 6–20 February 2015.

2 For a discussion of designers' non-verbal thinking and use of »object languages«, see NIGEL CROSS, *Designerly Ways of Knowing*, Basel 2007, pp. 26–29.

Another interesting aspect is the method used: to in architectural research use the making of models and architects' design tools to get and communicate this specific knowledge. There has since the last decades been a broad discussion on concepts like research-by-design, and here is not the place to go in to that sprawling discussion. But in my view, this project can be seen as a clearly practice-based and design-based kind of research, where knowledge is gained and transferred not only through words but also through the means that architects use in their material practice to read and write in the specific architectural language of objects and artefacts.<sup>2</sup> One of the interesting things with this project is that it does so in the realm of architectural history, both in educational situations together with students and as a method for research in the history of architecture.

This leads to a third interesting aspect, namely a specific view on and the role of architectural history. This specific view sees history as central for contemporary architectural knowledge and architectural practice, and where architectural history is explored through concrete, material methods and through material, physical objects.

These three aspects can be seen as important characteristics of the education and research in architecture at Chalmers since long time. Chalmers Architecture has a tradition of a strong interest for and engagement in the everyday life, of the close interaction and exchange with practice and especially its material aspects leading to what we often discuss as the »material culture« of architecture, and of a view on history as an essential part of how to understand contemporary practice and to be able to create architecture for today and the future. Architectural history is central in how we transfer architectural knowledge, and if there can be said to be basic research in architecture, architectural history is certainly part of that basic research of high relevance for architectural practice.

I will in this short introduction to this book dwell a little on the two last aspects; on the specific method of making models, and on the view on history.



## Model making in architectural explorations and research

The role and history of making architectural models is discussed later in this book, in the chapter »Model knowledge«, but I would like to briefly bring forward some aspects of its importance also here. Models and model making in architecture and architectural design can play various roles, and it has been discussed from several different perspectives during the last years, not least in relation to digital technologies and their impact on architects' working methods.<sup>3</sup> To be able to discuss why the method of using models, and especially the actual making of them, is interesting and important in an investigation of a historical project like this, we have to relate it to how architectural knowledge is communicated and produced. There is no clear or established definition of this, and the discussion about what constitutes architectural knowledge can be said to form a quite contested field. But let us try to delineate some characteristics as they have been described in relation to the making of architecture and architectural models.

Architectural knowledge can not only be described in words, but has a broader language or way to communicate and store its specific knowledge. For instance, ANDREA DEPLAZES has stated that »Architecture, like language, is a system. Rather than in words and sounds, it is expressed in physical elements: walls, partitions, ceilings, columns, supports, balconies, etc., and their omission, the opening.«<sup>4</sup> DEPLAZES also argues that it is not primarily the elements, per se, that are at issue, but rather how they are joined and put together, their assembling, connection, and composition. Even though this might many times lead to a focus on technical material construction, architecture is not only the construction, but also its relation to the architectural space whose creation and development is its actual purpose. Following this, DEPLAZES argues that one could claim that for all engineers, the physical construct is the goal as he or she is a physicist specialized in mechanics and statics, but the architect, however, concentrates on the architectonic space, which he or she is paradoxically only able to create via a detour through the physical construct. While mechanics and statics to a large extent have

3 See e.g. MEGAN WERNER, *Model Making*, New York 2011; NICK DUNN, *The Ecology of the Architectural Model*, Oxford and New York 2007; PETER BERTRAM (ed.), *The Makings of an Architectural Model*, Copenhagen 2012; PETER DOWNTON et al. (eds.), *Homo Faber: Modelling Architecture. The Role of Models in the Architectural Design Process*, Sydney 2007; ALBENA YANEVA, *The Making of a Building. A Pragmatist Approach to Architecture*, Bern 2009; BEN VAN BERKEL and CAROLINE BOS, *UN Studio: Design Models*, London 2006; JANE BURRY and MARK BURRY, *The New Mathematics of Architecture*, London 2010; MARK BURRY, *Scripting Cultures: Architectural Design and Programming*, Chichester 2011.

4 ANDREA DEPLAZES, *Making Architecture*, Zürich 2010, p. 5.

their clearly defined language to deal with its type of knowledge, architectural space is far more multifaceted and needs a broader language to be able to grasp and form it.

During the last decades we have seen many examples of attempts to deal with the broad means of architectural making and spatial notation also in relation to research, not least in relation to the debates around design research and research-by-design. Many scholars as well as architects and designers have discussed how the practices of architectural design, including its means and methods like drawing, modelling, prototyping, but also writing, embody a particular knowledge type that informs architectural thinking. For instance, ANNE BEIM and METTE RAMSGARD THOMSEN write, »Architectural thinking is fundamentally about how ideas are embodied. This inherent focus on the material and the practice of making permeates architectural thinking, its concepts and its language. The drawing, the model and the prototype are part of a materially manifest reflection that allows the emergence of spatial understanding.«<sup>5</sup> Architectural understanding and reflection involves a constant oscillation between different kinds of media, not least material ones including physical models and objects.

Also PETER BERTRAM has in the book *The Makings of an Architectural Model* emphasised the productive relationship between words and things, and where the model objects are parts of an architectural language that carry and exchange information in another way than that of written language.<sup>6</sup> But to be able to communicate that information and the knowledge embedded in the objects efficiently and to a broader audience, we still need to combine with the most inter-subjective means we have, namely spoken or written words. »Most architectural model objects would lose a substantial part of their agency if they were not accompanied by language in some form.«<sup>7</sup>

Another example of attempts to inquire into the means of architectural thinking and knowledge is PETER DOWNTON'S making of models of what he calls epistemological pavilions.<sup>8</sup> DOWNTON describes this experimental model making as personal explorations of architectural knowledge through the production of form. Underlying this is also the assertion that knowledge is not *only* discursive, and that we especially in architecture and architectural research have to recognise the knowledge that needs other means than words to be expressed. DOWNTON

5 ANNE BEIM and METTE RAMSGARD THOMSEN, »Introduction«, Anne Beim and Mette Ramsgard Thomsen (eds.), *The Role of Material Evidence in Architectural Research*, Copenhagen 2011, p. 9.

6 PETER BERTRAM, »Introduction. Model as Diagram«, Peter Bertram (ed.), *The Makings of an Architectural Model*, Copenhagen 2012.

7 PETER BERTRAM, *The Makings of an Architectural Model*, p. 11.

8 PETER DOWNTON, *Studies in Design Research: Ten Epistemological Pavilions*, Melbourne 2004.

argues that the central core knowledge is knowledge of architecture. »Fundamentally, architects know about architecture. They know how to design and produce architecture and this knowing has a context composed of knowledge of (usually prior) works of architecture and the discussion and debate that surround them.«<sup>9</sup> The discourse on and around the works is of importance for the making of architecture, and DOWNTON goes as far as stating that this idea of a canon even is unavoidable if form is to be attained. This emphasises the importance of knowing the history of one's discipline and profession, and leads us to the aspect of architectural history.

### Remarks on architectural history

In the context of this book, I would like to go to what REYNER BANHAM has remarked on architectural history and that ADRIAN FORTY has elaborated further. FORTY referred in his inaugural lecture for the professorship in architectural history at the Bartlett, UCL, in 2000 to BANHAM'S inaugural lecture for the same position at the Bartlett thirty years earlier, and to three general remarks BANHAM made about architectural history as a discipline. FORTY states that it would be worth considering these remarks again, and I agree, not least in relation to the works presented in this book.

The first of the remarks BANHAM made was that architectural historians spent too much time looking at photographs of works of architecture, and not enough time crawling about on, in or under the built works themselves. »Works of architecture, BANHAM pointed out, are fixed to the ground, and this fixity is a necessary feature of their property as works — but a feature that photographs always obliterate.«<sup>10</sup> But even though FORTY to a large extent agrees with BANHAM on the importance of visiting the built architecture, he also sees that a growing familiarity with for instance semiotics and structuralism during the last decades has allowed us to see that the reality of an object always extends into each representation of it. There are both the works and the photographs, and other representations which are rather another facet of the work's being. The work is never ›finished‹ and as long as images of it are produced, it will always still be in development, FORTY argues. »Now to consider the building *without* these images would be absurd — they have

10 ADRIAN FORTY, »Future Imperfect«, in Iain Borden, Murray Fraser and Barbara Penner (eds.), *Forty Ways to Think about Architecture: Architectural History and Theory Today*, Chichester 2014, pp. 17–18.

become part of the work; and I think I can say that architectural history has become reasonably sophisticated at dealing with built objects *and* their representations without confusing one with the other. It is no longer so necessary to make the distinction that BANHAM emphasised between the ›hands-on‹ historian and the library-bound scholar who only experienced the work through images.«<sup>11</sup>

11 Ibid., p. 18.

The second remark was that architectural historians spent too much time looking at ›canonic‹ works, at acknowledged masterpieces, and not enough time looking at what was there staring them in the face or directly under their noses — in other words, the everyday and the ordinary. FORTY again nuances this distinction between the canonic and the ordinary, and that one should have to stay in one or the other. He would rather prefer to see »the two ponds not as two but just as one big one«, and argues that there is something to be gained by thinking about each in terms of the other. There is an advantage in trying to see and grasp the significance of any particular object, and from there think of the entire system in which it belongs. »So again, I'd like to suggest that we can be more relaxed about the rather categorical distinction that BANHAM made between the study of high architecture and ›ordinary‹ stuff that he felt able to be in 1970.«<sup>12</sup>

12 Ibid., p. 19.

The third remark of BANHAM's was a distinction between historians who got their material from investigating built works, and those who got their material from other sources, from ›theory‹. FORTY states that BANHAM was very blunt about this, and quotes: »The strength of architectural history is that it is fundamentally about physical objects and physical systems, not about abstract categories or academic disciplines. It will always rejuvenate itself by going back to those objects and systems in order to ask new questions about them.«<sup>13</sup> The focus here on the physical and material as the most important also in architectural history is of course very easy to subscribe to, but FORTY clarifies that BANHAM made a distinction that became normative in architectural history, and where he put himself firmly on one side of the fence. Each side looking at the other with suspicion: on the one side there are the theorists, for whom works of architecture are just a means of illustrating a theoretical discourse; and on the other side are the ›object collectors‹, travelling around like bird watchers to each spot celebrating the experience of architectural particularities. FORTY again sees the

13 Ibid., p. 20.

strength in both sides and even the necessity of combining them: »Both types will be familiar to you, but I don't think they cannot mix — and indeed I would suggest that part of the pleasure of architectural history comes on the one hand from examining the work, and using that experience to test out theoretical propositions; and on the other hand from bringing theories to interrogate the work. And certainly the best of our students' work has been very successful at this, at moving from object to theory, and back again from theory to object, thinking through objects, and seeing through theory.«<sup>14</sup>

In my view all these remarks, and ADRIAN FORTY'S elaborations on and position in relation to them are very relevant today, not least in relation to this book. Here are attempts to actually combine the photographs of architecture with the real, physical works that are no longer there by making them present in other ways through physical models. These models then also become new representations of the works that continue the development, but now also by adding other physical dimensions again. What the Stockholm Exhibition also is, besides having become a canonic work, is an attempt to form a whole, a system of both high architecture and the ordinary in everyday personal and public life. And this book shows work combining theories and objects in different ways, and that the development of architecture and its knowledge to a large extent goes through this thinking through material objects in a simultaneous construction of physical artefacts and theoretical concepts — and that we need both to think and create architecture.

Before wrapping up this introduction, I would like to add yet one aspect that makes this book interesting and valuable. The Swedish architectural research has during the last decades been mainly dominated and influenced by the Anglo-Saxon sphere (which is also the case with my own use of references here), and what ATLI SEELOW does through his work is to connect the Swedish architectural discussion with the German-speaking world and its research tradition more directly again. This certainly enriches the discussion, gives other perspectives, and opens up new possibilities for further development.

14 Ibid., p. 20.



I am very proud that the work with this book has been made at the Department of Architecture at Chalmers. I am also happy that it has been done within the context of the research environment »Architecture in the Making. Architecture as a Making Discipline and a Material Practice«, a so-called strong research environment in architectural theories and methods funded by the Swedish Research Council Formas 2011–2016.

We certainly still need to develop architectural theories and methods from the perspective of architectural practice, and the work with this book has made valuable contributions to that development. Among what the book shows is that architecture needs and actually uses a broad set of means and methods to explore its history and develop its specific knowledge.







↑ Fig. 33-36 Exhibition hall transport (2).

↓ Fig. 37 Exhibition hall transport (2)  
— Model south facade.





# **Reconstructing the Stockholm Exhibition 1930**

**Atli Magnus Seelow**

**Contributions by**

**Claes Caldenby**

**Fredrik Nilsson**

**Model photos by**

**Krister Engström**

**Models built by**

**students at the Chalmers**

**Department of Architecture**

## Thanks

Fredrik Nilsson  
Claes Caldenby  
Tabita Nilsson  
Peter Lindblom  
Krister Engström  
Keneva Kunz  
Michael Asgaard Andersen  
Sara Henrikson  
Malin Nasiell  
Dan Hallemar

Master Students,  
Nordic Architecture Course,  
2014–2015, Chalmers  
Department of Architecture:

Agnes Ahlsten  
Stéphanie Amstutz  
James Anderson  
Chet Baines  
Benjamin Battagli  
Marie Bemelmans  
Camille Benoit  
Antoni Berga Mayol  
Manon Bianconi  
Linn Anna Björk  
Amandine Bongré  
Annabelle Brading  
Pär Bratt  
Christoffer Breitenbauch  
Lloyd Broda  
Grace Brooks  
Carolin Brügge  
Karin Cajmatz  
Hussein Chith

Eric Chiu  
Sven Compagnon  
Robin Dauvergne  
Alexis de la Taille  
Quentin Desfarges  
Denitsa Dineva  
Pieter Dossche  
Angelica Duran  
Mariana Flores Eguiza  
Chin-Yuan Fan  
Marine Fayollas  
Jenny Folke  
Patrik Fromell  
Violeta García Moreno  
Nicolas Gaulier  
Xiang Ge  
Agnes Gidenstam  
Giulio Giori  
Sara Girola  
Francisco González Merino  
Antonin Gros  
Petter Gunnarsson  
Emily Hamilton  
Xue Han  
Mariya Hasamova  
Fiona Heieck  
Anna Karoliina Heikkilä  
Hanna Holmgren  
Xianmei Hu  
Emily Yang Huang  
Christian Ingelhammar  
Anton Johed  
Damian Kacprzak  
Theresa Kjellberg  
Mingshu Kong  
Maja Kwiatek  
Alice Lebreton

Aron Freyr Leifsson  
Taisja Lindner  
Bas Linssen  
Leopoldo Luchini  
Johannes Luchmun  
Jens Lundin  
Shona Macvicar  
Yuni Mao  
Pauline Marquet  
Stepan Matousek  
Florent Meilland  
Valentina Mena  
Muriel Merkel  
Adela Mierzejewska  
Daniel Morales Valle  
Mantas Nainys  
Malin Nilsson  
Daniel Nordlund Hasseb  
Stina Nyberg  
Hannes Okruch  
François Otten  
Vasiliki Panagiotidou  
Anna Paton  
Manon Pelote  
Elisenda Planell Picola  
Maria Pilar Martín Sánchez-Panadero  
Caroline Pirotais  
Pierpaolo Rabia  
Anja Reinhardt  
Xavier Requena Muñoz  
Mathilde Riou  
Pala Minny Rikhardsdottir  
François Salmona  
Cristina Sánchez Bueno  
Florent Sauvineau  
Rosella Sciurti  
Wenhao Shang

Nada Shehab  
Arvid Söderholm  
Le Song  
Marko Soskic  
Ena Sredanovic  
Lukas Stampfer  
Azusa Tanaka  
Marin Thaller  
Anna Tomschik  
Tom Uyttendaele  
Kristof van Damme  
Janneke van der Leer  
Louise Vanderlinden  
Marine Villaret  
Lanqin Wang  
Ninja Westberg  
Sophie Wiedemann  
Zhao Wu  
Yifei Xu  
Jingjing Zheng  
Yiwen Zhou

Special Thanks to:

Chet Baines  
Benjamin Battagli  
Camille Benoit  
Linn Anna Björk  
Pär Bratt  
Hussein Chith  
Denitsa Dineva  
Marine Fayollas  
Jenny Folke  
Patrik Fromell  
Emily Yang Huang

Damian Kacprzak  
Aron Freyr Leifsson  
Johannes Luchmun  
Stepan Matousek  
Daniel Morales Valle  
Daniel Nordlund Hasseb  
François Otten  
Vasiliki Panagiotidou  
Elisenda Planell Picola  
Pala Minny Rikhardsdottir  
Arvid Söderholm  
Le Song  
Lukas Stampfer

Texts by Atli Seelow translated  
to English by Keneva Kunz and  
to Swedish by Claes Caldenby.

Model photos by Krister Engström.

This book is published with gener-  
ous support by the Strong Research  
Environment »Architecture in  
the Making: Architecture as a  
Making Discipline and Material  
Practice«, funded by the Swedish  
Research Council Formas.