

INTRODUCTION

Anne Elisabeth Toft, Magnus Rönn, and Morgan Andersson

This proceedings publication explores approaches and methods in architectural research. The architectural professions are currently undergoing profound changes in terms of education, design work, and research. This calls for specifically articulated research competence, methods, and processes. It also necessitates a re-examination of the notion of architectural research, how it is interpreted in different research contexts, and which role it plays in architecture. Changes in design-, practice-, and arts-based approaches have resulted in new disciplines and new academic research, such as, for example, research by design, curriculum research, and practice-based research. Novel concepts such as transdisciplinary and post-normal science are also embraced by the research communities at universities and schools of architecture, and among architecture professionals an increasing interest in research and knowledge production has resulted in fruitful collaborations between the contexts of practice and academia. Seeking to understand the driving forces behind the evolution of architecture as a professional discipline, an academic subject for teaching, and a distinct field of research, Chalmers University of Technology and the Nordic Association of Architectural Research (NAF/NAAR) joined forces in organizing the 2019 NAF/NAAR Symposium: *Approaches and Methods in Architectural Research*.

Arguing that there is a significant need for up-to-date architectural knowledge in the current transformation of built environments all around the world, the symposium particularly focused on the different procedures by which architectural knowledge is systematically initiated, tested, and discursively formulated in diverse research contexts. Against this background, it also sought to explore how teaching and research can inform each other.

The symposium posed the questions: How can we produce relevant knowledge that helps us to understand the complexities in contemporary architecture, landscape architecture, and urban planning? In what way can we strengthen

the relations between research and practice? How can we understand the connection between methods and the articulation of architectural knowledge?

The Nordic countries have a long tradition of architectural research and formalized doctoral education.¹ The Scandinavian model, with its strong environments for innovation, societal impact, and citizen participation, is currently gaining more and more interest internationally.² It is a model that NAF/NAAR thinks should be further investigated and reflected upon, thus it and its methods and approaches in architectural research, education, and practice were central to the discussions at the symposium in Gothenburg.

Against this background, NAF/NAAR and the Department of Architecture and Civil Engineering at Chalmers University invited both academic scholars and professional practitioners to participate in the symposium. Providing a qualified platform to address the future challenges of the architectural profession, the discussions at the symposium outlined how architectural means and tools can be used as instigators and models for knowledge production and dissemination. They also framed how academia and practice can interact in architectural research, showing how differences and similarities between research projects conducted at universities, art academies, and architectural offices play out.

This publication compiles eleven articles and essays based on presentations given at the symposium. The written contributions are loosely gathered and grouped within given categories, which also structured the symposium sessions and the related discussions: 'Material, Building Design, and Programming'; 'Urban, Rural, and Regional Landscapes'; 'Renegotiating Architectural Practice and Profession'; and 'Heritage, Conservation, and History'.

Beginning with the articles written by the symposium's keynote speakers—Isabelle Doucet, professor of the theory and history of architecture at Chalmers University of Technology, and Karl Kropf, senior lecturer in urban design and historic conservation at Oxford Brookes University—the publication unfolds its theme in diverse ways that reflect its complexity. It broadly maps and presents a number of different discursive positions and research foci, spanning from thoughts on architectural writing as a form of scholarship in its own right to descriptions of architectural practices and the use of quantitative and qualitative methods in architectural heritage management.

In her article ‘Tales of Cities as (Resistant) Practices’, the architectural theoretician Isabelle Doucet reflects on how to write about architecture and urbanism. In doing so, she asks herself what holds relevance, and if she can write about it in ways that respect the situated nature of spaces and buildings. In her writings, she aims to bridge the gap between architectural theory and practice by using so-called situated and relational approaches. Confessing that writing ‘situated stories’ is indeed challenging, Doucet believes that such writing and its performance can expand the discourse of architecture and lead to a new critical engagement with architecture and the city.

The contribution by Karl Kropf is called ‘Multiple Depth Analysis and the Urban Design Consequences of Semi-Public Realms’. In his article, he elucidates semi-public realms—that is, shared circulation spaces—in the built environment and visualizes the concept using models in order to gain a better understanding of how these spaces operate. This approach to investigating semi-public realms is based on a combination of four key conceptions of so-called morphological depth: a) configurational depth, measured as steps between two spaces; b) territorial depth, measured as a sequence of public-private spaces; c) structural depth, measured as the complexity of built form; and d) legal regimes, measured as the relationship between occupation and controlling agents. The first three understandings of morphological depth are related to architecture and urban design as built form. Legal regimes, on the other hand, are associated with power, surveillance, and regulations through private or public entities. In the article, the four conceptions are mapped by Kropf and presented in diagrams of generic structures of building forms. The objective is to translate research findings into design practices supporting the benefits of semi-public realms and to minimize misuse. Kropf’s interest lies in developing a better understanding and sharpening the analysis and critique of semi-public spaces and in improving their design.

Material, building design, and programming

This first section of the book includes two articles. They deal with multidisciplinary research and practice and the methods and means for mapping, orchestrating, analysing, and communicating complex design issues within architectural structures.

Kiran Maini Gerhardsson opens the discussion in this section with a contribution called ‘Benefits and Challenges of Adding Participant Photography to Qualitative Residential Research’. Addressing methods and approaches in

architectural research, her article reflects on the benefits and challenges of adding participant-produced photographs to qualitative interviewing. Based on two qualitative studies carried out in Lund and Malmö, Sweden, focusing on how residents use their electric luminaires and on the daylight coming through window openings in their home environments, the author pursues a discussion of the methods used in both studies. Her article supports findings in recent literature on qualitative research, namely that adding participant-produced photographs to qualitative interviews has multiple benefits in terms of knowledge production, from the perspective of both the researchers and the participants. Gerhardsson argues that the identified benefits, in terms of data quality, outweigh the disadvantages, such as the longer time needed for data collection, although some reflecting comments in her article also point out a number of issues that need to be addressed. One such issue is the necessity of identifying the relationship between a researcher-driven approach versus a more respondent-controlled one, which will affect the outcome. Another issue, as a result of the delegated work, is that significant factors may be missed in the research.

The second article in this section is called 'Biased Building Regulations for Windows?' by Thomas H. Kampmann. This article investigates how windows are constructed, regulated, and how they perform. The objective is to develop a tool enabling professionals to better understand the pitfalls of energy consumption for windows. There are two approaches in Kampmann's article. First, he undertakes a detailed examination of selected paragraphs in building regulations and analyses how windows and energy are expressed in the Danish building regulations 2015 and 2018. Secondly, he compares his finding to similar regulations in Finland, Norway, and Sweden. The comparative analyses reveal similarities and differences in window design and energy consumption in the Nordic countries. According to Kampmann, up to 1995 all windows in Denmark were treated equally with the simple rule that the U-value (thermal transmittance) should be lower than 1.8 kWh/m². Since then, the regulations have become more complex, and the new parameters make it almost impossible for architects and building engineers to select the most energy-efficient windows in Denmark. Kampmann's solution to this problem is a website providing reliable data on windows in terms of sustainability, maintenance, noise reduction, energy performance, and economy. On a general level, the article points out the need for information that is independent of manufacturers.

Urban, rural, and regional landscapes

The second section in this publication embraces four articles. They discuss contemporary approaches and methods in urban design, planning research, and practice, shedding light on how the architectural discipline can understand and tackle complexities within urban processes and produce knowledge for the future design of cities and metropolitan regions.

Ann Legeby starts the discussion in this section with a contribution titled 'Developing Station Communities: Alternative Approaches and Perspectives on Access'. The predominant paradigm of 'concentric centrality' as a model for urban development near stations, whereby high densities are encouraged within one kilometre, is here challenged in the context of smaller stations. Her article focuses on urban form and its configurative properties in connection with the possibility of opening new train stations in the Västra Götaland region in Sweden. The regional authorities aim to strengthen local labour markets, sustainable commuting possibilities, and development outside of metropolitan areas. Legeby advocates a shift from 'node thinking' to 'network thinking', where landscape conditions, barrier effects, visibility, and access in relation to key functions are taken into account, opening up the field for design strategies that are relevant for small communities and avoiding a narrow focus on transportation aspects. Nodes or points in the city landscape foster 'to-and-from' movement and risk being counterproductive from a social and cultural perspective. In smaller communities, the co-location of different facilities generates synergies and is essential for supporting local life and social processes.

Tony Svensson continues the examination of station communities and regional planning processes in the Gothenburg region. His contribution is called 'A CAS Perspective on Planning for Energy-Efficient Station Communities'. CAS, which stands for complex adaptive systems, is a broad concept for cities, communities, and regions characterized by a diversity of niches, regimes, landscapes, built structures, and planning actors. Svensson connects CAS to a paradigm shift in planning, changing focus from mobility, flows, and nodes to accessibility to places, qualities, and functions. Svensson's study on station communities takes place in the Gothenburg region and includes eleven municipalities along railways expanding in three directions from the city centre. The vision for the region promotes this development. CAS can, from a perspective of context, be useful in identifying problems, needs, and opportunities and in formulating strategies for planning an energy-efficient, clima-

te-smart, and sustainable society. Key concepts from a transport perspective, include the question of the station community's accessibility (distance), the social functions (diversity), and the functions for those who live and work in the station community (density), along with the station communities themselves (size and context). These concepts can be seen as a roadmap for further investigation of station communities in the metropolitan area.

'Potentials of Light in Urban Spaces Defined through Scenographic Principles', authored by Mette Hvass and Ellen Kathrine Hansen, presents methods and approaches used in studies of light for urban spaces. The two authors investigate how so-called scenographic principles for the use of electric lighting in theatres can provide inspiration for lighting design that supports everyday activities in the city. According to Hvass and Hansen there is a general need for better outdoor lighting in most cities since it is often designed merely to meet the requirements of brightness levels, for accessibility and safety. The perceived qualities of electric light, its aesthetic and affective values, however, are mostly neglected and not satisfactorily explored. Drawing on theories within scenography, urban design, social science, and lighting design, the two researchers argue that it is possible to use scenographic principles to create lighting in the city at night that enhances the connection between space, people, and light for a richer visual and social experience of the illuminated urban space. Pointing out the important architectural and social potential of electric light in the city, the article promotes scenographic principles as a qualitative tool in lighting design.

The last article in this section is 'Urban Design: Science, Art, or a Scientifically Informed Creative Practice?' by Jarre Parkatti, who wants to contribute to recent debates about the disciplinary autonomy of urban design. In his article, he examines the theoretical and methodological foundation of the discipline of urban design based on a critical review of the writings of Alexander Cuthbert and his questioning of the existence of scientific urban design knowledge. In the article, Cuthbert's discursive positioning, and his understanding of the role of social science and of urban design as a discipline, are discussed up against those of other scholars such as Mike Biddulph, Matthew Carmona, Stephen Marshall, Kim Dovey, and Elek Pafka, among others. In the article, Parkatti pursues the discursive debate, reflecting on the many different kinds of knowledge seemingly central to urban design theory and exploring to what extent this theory is 'scientific or normative' and what its possible scientificity means.

Heritage, conservation, and history

This third and last section in the book contains three articles focusing on architectural history and cultural heritage as significant avenues of recourse for future architectural design. More specifically, they deal with the methods and approaches that define and value architectural heritage as well as the discourses that govern them.

The article ‘Swedish Prefabricated Houses in the Saudi Arabian Oil Fields’, authored by Abdulaziz Alshabib and Sam Ridgway, discusses methods and approaches that have sustained the introduction of modern Western architectural design and industrialized construction techniques in Saudi Arabia during the twentieth century. From the 1940s, Swedish prefabricated timber houses have been imported to the Saudi Arabian oil fields. According to Alshabib and Ridgway, the buildings were originally ordered by the Arabian American Oil Company (Aramco) to accommodate its rapidly expanding workforce of both locals and expatriates, and many Swedish, Scottish, and English architects and builders accompanied the prefabricated houses to the building sites. By reflecting on the Swedish prefabricated houses and the architectural changes they helped to establish in Saudi Arabia, the authors aim to theorize and historically contextualize the Saudi government’s current initiative to build one million affordable homes by 2030, using industrialized construction methods. The article concludes that the Swedish prefab houses, although both successful and popular in the Saudi oil camps, did not translate more widely into the modern Saudi Arabian urban environment, like examples in many other countries, such as Britain and Australia. The reason for this is due to the choice of material—timber—being regarded as temporary, non-traditional, and second class, and it is also scarce in the region.

Mari Oline Giske Stendebakken and Nils Olsson, both specializing in cultural heritage, have researched why a number of institutions in Norway are moving from protected buildings into new structures, while the historical buildings are derelict. In the article ‘Typical Fallacies regarding Potentially Vacating Protected Buildings’, they claim that this unfortunate trend, which most often has negative consequences for the protected buildings and their maintenance, is largely based on incorrect information about the buildings and their potentials. According to the authors, a significant factor for the abandonment of such structures is a prejudice towards older buildings in the documents that support politicians’ decisions. This delicate issue, not only restricted to Norway, leads to the authors’ critical discussion of how

protected buildings are valued, and the methods and tools which are used to define their quality assurance.

In their article 'Heritage Beyond a Subcategory of Cultural Ecosystem Services in Swedish Landscape Management', Susanne Fredholm and Freja Frölander discuss the so-called ecosystem services (ES) approach. Widely used in Swedish planning, it aims to identify and valorize the multiple benefits that ecosystems provide to human well-being. According to the authors, the concept of ecosystem services, however, has no legal definition and is currently not included in any legislation. While keeping a focus on the role of heritage management in ecosystem conservation, the article sets out to investigate the ecosystem services approach and what defines it. The authors' research is based on a review and analysis of Swedish national, regional, and local ecosystem services guidelines and a number of semi-structured interviews with ecosystem services practitioners and experts in Sweden.

Addressing what methods and approaches architects, landscape architects, and urban designers use in their work, why and how, this publication initiates critical reflection on their relevance, qualities, pitfalls, representations, and discursive positionings. It also suggests that new approaches and methods are worth considering. Not just because research and architectural knowledge are evolving practices, and different institutions, infrastructures, and frameworks produce different kinds of knowledge and in different ways, but because of the many future global perspectives and challenges that society at large is facing. Well aware that a selection of articles will give a mere glimpse of the larger discursive picture, it is, nevertheless, our hope that this proceedings publication will lend momentum to further discussions on architecture and architectural research, with a focus on the connection between approaches and methods and the articulation of architectural knowledge.

NOTES

¹ Further information on this subject can be found in *The Production of Knowledge in Architecture by PhD Research in the Nordic Countries*, Proceedings Series 2018-1.

² Fredrik Nilsson and Halina Dunin-Woyseth, 'Building (Trans)Disciplinary Architectural Research: Introducing Mode 1 and Mode 2 to Design Practitioners', in *Transdisciplinary Knowledge Production in Architecture and Urbanism: Towards Hybrid Modes of Inquiry*, edited by Isabelle Doucet and Nel Janssens (Dordrecht: Springer, 2011), pp. 79–96.