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The Nordic Association of Architectural Research

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THE PRODUCTION OF KNOWLEDGE

IN ARCHITECTURE BY PHD RESEARCH
IN THE NORDIC COUNTRIES

Editors: Anne Elisabeth Toft and Magnus Rönn

NAF/
NAAR

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FOREWORD

Anne Elisabeth Toft and Magnus Rönn

The Nordic Association of Architectural Research (NAF/NAAR) is an independent association of architectural researchers from universities and schools of architecture in the Nordic countries. Its primary function is to facilitate the research collaboration of its members and their dissemination of research results. It welcomes researchers ranging from PhD to senior researcher level, providing them with critical mass and an engaging and supportive research community.

The symposia of the association are widely recognized as important platforms for critical reflection on architecture and architectural research. In order to ensure their dynamic and democratic format, the events are conceptualized and organized in collaboration with various partners and each year hosted by a different university or school of architecture. Every symposium focuses its discussions on a topic or theoretical framework representing the current research interests of NAF/NAAR and its collaborating partners.

With the present publication, the association wishes to shed light on architectural research and its knowledge production by taking a closer look at PhD research. Other books have addressed the same subject, but from different vantage points.¹ Particular to this publication is its interest in pursuing architectural research, and the notion of it, as a social, cultural, and political construction. It follows in the wake of the 2016 NAF/NAAR Symposium titled *The Production of Knowledge in Architecture by PhD Research in the Nordic Countries*, which took place in Stockholm, Sweden, at the KTH School of Architecture on 19–20 May 2016. The symposium, which was a joint venture between NAF and the KTH School of Architecture (KTH Royal Institute of Technology), was primarily aimed at PhD students and their supervisors. However, its discussions were relevant to anyone who works with research and knowledge production within architecture and who has an interest in the epistemological questions raised by the way the concept of architecture and the concept of research are interpreted in various research-related contexts.

More than forty abstracts were submitted to NAF/NAAR prior to the symposium and twenty students representing very diverse research interests, backgrounds, and methodological approaches lectured at the event together with invited keynote speakers from Denmark, Finland, Norway, and Sweden.² The students who lectured were either at the beginning, in the middle, or towards the end of their doctoral research, and their presentations therefore reflected a work in progress. The invited keynote speakers included newly graduated doctors with very different research profiles. Sharing their individual PhD research experiences with the audience at the symposium, they provided valuable insight into research and career building – pointing out different professional avenues one may take after finishing one's PhD. The invited keynote speakers also included Professor Emerita Halina Dunin-Woyseth from the Oslo School of Architecture (AHO). Acclaimed for her lifelong engagement with and research on doctoral programmes, as well as her knowledge in design professions and epistemology of architecture and philosophy of science, she provided the symposium with a contextualized background for its discussions.

Motivated by the many essential research questions that were raised during the symposium, but which still needed reflection and answers, NAF/NAAR on 4 November 2016 curated a second event on this subject matter: The NAF/NAAR Open Hearing: The Production of Knowledge in Architecture by Research in the Nordic Countries. This hearing, which broadened the perspective of the discussions of the Stockholm symposium, took place at the Nordic Pavilion in the Giardini during the 15th Architecture Biennale in Venice, Italy. The invited keynote speaker at this event was Associate Professor Henrik Reeh, PhD, researcher and PhD supervisor from the Department of Arts and Cultural Studies at the University of Copenhagen. His lecture "Relational Architecture: Education, Research, Transformation", which has been developed into an article and included in this book, gave a critical meta-reading of the discussions which took place in Stockholm, pointing out the relational function and practice of architecture and architectural research in society.

The present publication collects eighteen articles and essays based on presentations given at the symposium in Stockholm and the open hearing in Venice. All of them – except those by invited keynote speakers Halina Dunin-Woyseth, Johan Linton, Ann Legeby, Marie Markman, and Henrik Reeh – have been submitted to a double-blind peer review process, following a peer review template developed by NAF/NAAR.

The collection of texts by PhD students in the book may be considered a representative sample of the research in architecture that is currently being carried out at the Nordic PhD schools. It embraces a wide range of topics, and looking at it, it is difficult to identify any coherent and consensus-building theme or pattern that connects the texts. This is also reflected in the heterogeneous structure of the book, and the meeting of different epistemologies in it. The articles and essays in the publication are loosely compiled and grouped within given categories, such as for instance subject areas which also framed the symposium sessions and their discussions. The book falls in two parts – Section I and Section II – separating the written contributions by keynote speakers and those by PhD students. In this way, part one creates a conceptual framework for part two.

Articles and essays in the publication vary in terms of subject areas, research issues and approaches, theories, and methods. On a general level, the subject areas represented in the book can be roughly divided into an architectural history perspective and a theoretical perspective on contemporary design practices. Research approaches represented in the written contributions include case studies, archival studies, literature reviews, concept analyses, artistic research, and research by design, as well as experiments and investigations through practice. Articles and essays with a historical perspective reflect on the history of architectural education, the phenomena of space and spatiality, and changes in architectural practice. Texts dealing with contemporary design are looking at architecture as a “making discipline” in the larger context of academic research.³

As President and Vice-President of NAF/NAAR – and the editors of this publication – we extend our sincere thanks to the many colleagues who kindly contributed to it. We are very grateful to all the individual authors who submitted articles to the publication and to the many peer reviewers who have supported NAF/NAAR and its work by offering their time and professional expertise to reviewing the articles. We would like to express our gratitude to all of these people.

Our thanks are also extended most particularly to our close collaborators at KTH School of Architecture in Stockholm – Dr. Daniel Koch and Dr. Charlie Gullström Hughes, who were instrumental in organizing and hosting the 2016 NAF/NAAR Symposium. We also thank Pro Dean Anders Johansson, as well as Katja Grillner and Rolf Hughes, both professors at the school, for their interest in and support of the symposium.

Equally, we would like to take the opportunity to express our gratitude to Karin Åberg Waern, Head of Exhibitions and Pedagogy at the Swedish Centre for Architecture and Design in Stockholm, for her invaluable help in and advice on organizing the NAF/NAAR Open Hearing in Venice. In this connection, we would finally also like to direct our thanks to Rector Alberto Ferlenga, Professor Enrico Fontanari, Associate Professor Francesco Musco, and PhD Fellow Alberto Innocenti from the Università IUAV di Venezia for their interest in NAF/NAAR and its hearing at the Venice Biennale.

The publication of the present book was made possible by the very generous financial support of the Stockholm symposium from FORMAS, J. Gust. Richart Stiftelse and Sven Tyréns Stiftelse.

It is our hope that the book will make a qualified contribution to the already existing body of critical work concerning knowledge production in architecture by PhD research.

Anne Elisabeth Toft
President of NAF/NAAR

Magnus Rönn
Vice-President of NAF/NAAR

NOTES AND REFERENCES

¹ This book follows in the wake of previous conference proceedings on PhD education – for example the proceedings publication from the 2011 NAF/NAAR symposium *When Architects and Designers Write, Draw, Build,? a PhD* and the 2005 colloquium *The Unthinkable Doctorate*. The 2011 NAF/NAAR Symposium *When Architects and Designers Write, Draw, Build? a PhD* took place at the Aarhus School of Architecture, Denmark on 4–6 May 2011, and the 2005 colloquium *The Unthinkable Doctorate* took place at Hogeschool voor Wetenschap & Kunst – School of Architecture Sint-Lucas, Ghent, Belgium on 14–16 April 2005.

² Invited keynote speakers included Halina Duunin-Woyseth, Norway; Johan Linton, Sweden; Ann Legeby, Sweden; Marie Markman, Denmark; and Sari Tähtinen, Finland. Sari Tähtinen (PhD 2013), a postdoctoral researcher at Aalto University, chose not to develop her keynote lecture into an article for this publication.

³ The “making disciplines”, a concept originally introduced by Halina Dunin-Woyseth in 2001, refers to the disciplines of art, design, and architecture. It includes art production, object design, industrial design, architecture, landscape architecture, urban design, and spatial planning. See Halina Dunin-Woyseth and Jan Michl (eds.), “Towards a Disciplinary Identity of the Making Professions: The Oslo Millennium Reader”, *Research Magazine*, 4 (2001), Oslo School of Architecture, p. 1. Anne Solberg, “Developing Doctorateness in Art, Design and Architecture”, PhD thesis, Faculty of Humanities, Sports and Educational Sciences, University College of Southeast Norway, Kongsberg, 2017, p. 6.

INTRODUCTION

Anne Elisabeth Toft and Magnus Rönn

For more than thirty years NAF/NAAR has been a unifying key player for architectural research in the Nordic countries, and thus also an important representative for the different research cultures at PhD schools. With the symposium *The Production of Knowledge in Architecture by PhD Research in the Nordic Countries*, the association set out to shed light on architectural research by taking a critical look at the research projects that are presently being carried out by PhD students in Denmark, Norway, Sweden, and Finland.

At the symposium this was done by raising questions about the benefit, relevance, formats, explorations, and interfaces of PhD research – and about its current state and the perspectives for its future. As the organizer of the symposium, NAF/NAAR was particularly keen to learn about the research motivations of the youngest generation of researchers. More precisely, NAF/NAAR was interested in exploring why architects today embark on PhD research, what they are researching, how they define and practice research, and what they think the future holds for them in terms of research projects and research positions.

In a self-reflexive manner, NAF/NAAR also had an interest in surveying and critically discussing the power systems or regimes which frame and direct the research that is being carried out. This interest concerns the governmentality of knowledge production put forward by the institutions, infrastructures, and frameworks that shape society's understanding of what research is and should be.

Architectural research is a business and a commodity, and researcher training in and about architecture supports an institutionalized process of knowledge production that, among other things, includes grants, PhD positions, professor positions, supervision, courses, peer review, and project work. Different research cultures and regimes set different standards for what counts

as knowledge and research. The relationships between research cultures are mediated by power, which means that a dominant regime sets the terms of what is to be considered research – and what is not. The local contexts in which PhD programmes are developed are crucial to the researchers' interpretation of the notions of research, as different teaching formats, methods and discourses, languages and language systems condition the research and the knowledge production that are taking place at the educational institutions.

The symposium wanted to find out which research cultures and regimes are shared at the PhD schools in architecture in the Nordic countries, and it wanted to address its possible implications for the research being produced. It gave its participants an opportunity to reflect on their dissertation projects and to discuss their experiences from researcher training in a qualified context.

Seen from this perspective, the symposium was also a representative platform for the presentation of the different research discourses currently prevailing at Nordic universities and schools of architecture. At the symposium, various normative research practices were articulated through the presentations given by the PhD students. Some of the lecturers were self-reflexive and conscious of discourse, reading their own research and knowledge production through the lens of the theme of the symposium, but a greater number seemed not to take such meta-reflections into critical account when speaking about their work. This issue is also reflected in the present book. To some extent, meta-discussions are lacking in many of the articles and essays, which first and foremost act as presentations of the researchers' PhD projects and the subjects they explore.

The collection of texts in this book is a testimony to the fact that there are many different opinions and politics on what a PhD dissertation in architecture should include and how it should be structured – whether it should be a monograph, an article-based dissertation, or something entirely third – and if one compares the PhD researcher training at universities and schools of architecture in the Nordic countries, one will find that not only are there significant international differences between the programmes and their structures, but also that on a national basis there are often major differences from institution to institution in terms of what is emphasized in the education.

There are many reasons for these cultural differences, which can be traced historically. The first doctoral programmes in architecture were set up in North America in the 1960s.¹ In Europe – including the Nordic countries – they have existed since the early 1990s, when demands within society opted that higher education had to be research based and that educators teaching at the university level had to have a PhD degree.² It is thus only in recent times, within the last thirty to forty years, that architectural education in the Nordic countries has been methodically systematized and academized and made for an actual research study. Until then, the education of architects, which would often be arts and crafts based, was almost solely oriented towards design practice, and professors who taught at the schools of architecture would be practitioners without any formal academic research background or experience.

Doctorates in architecture have a much shorter history than many other doctorates, and several researchers in architecture would most likely claim that they are still in the process of finding their form within the whole of academic research. Others, however, would argue that they are transforming or changing, finding new and alternative forms of expression that break away from earlier hegemonic research models.

A key issue concerning PhD research in architecture is still to this day *what* performing research in architecture actually means, and *how* architects, with their particular background in architecture and architectural education, should ideally practice research. An equally pending issue, also being discussed since the 1980s, relates to the relevance and value of PhD research in architecture for architectural education, the architectural discipline and society, and what kind of PhD training the PhD students should obtain in regard to the profile of their future positions in the profession.³

The first generation of American PhD programmes in architecture, or the so-called architectural sciences, was closely aligned with the PhD programmes and research discourses that already existed at universities, in particular in the humanities and social sciences, and they were therefore in many cases a specific model for imitation. Early PhD theses in architecture are most often monographs on architects or architectural works, history, historiography, theory, and criticism.⁴ They typically follow a research model, which is known from art history and critical literature studies, and they also adopt the conventions of the traditional text-based PhD dissertation common to these studies.

The above-mentioned American PhD programmes in architecture functioned to some extent as models for the first European ones of the kind. For better or for worse, they too would emphasize the historical and theoretical study of architecture.⁵ It was only later that the research terminology and its notion were expanded, and the extensive pallet of diverse research concepts, approaches, and methods prevailing at PhD schools today would appear.

However, there are fundamental differences in the way of thinking about education between the Anglo-Saxon countries and the Continental and Scandinavian countries. On the subject of teaching and different ways of teaching, a distinction is often made between a curriculum tradition and a didactic tradition.⁶ In the curriculum tradition, based in American culture, the focus is on *what* needs to be understood and learned, while in the didactic tradition, which is German in origin, there is an educational focus on *how* a subject should be understood and learned, and what significance this has for the individual who understands and learns it. The curriculum and didactic traditions are not necessarily unambiguously separated, and in many educational institutions, including schools of architecture, their use more or less overlaps.⁷ Nevertheless, the distinction between the two may have an impact on what kind of research projects is being favored in different countries, and it may also affect whether the research institutions and their research cultures – consciously or subconsciously – have the tradition of nurturing so-called basic research or so-called applied research.

Whether PhD programmes in architecture are associated with an art academy or a university significantly influences the teaching and research being carried out at these institutions. At the former schools, which represent a long-standing artistic education of architects steeped in tradition, architecture is still regarded as an artistic discipline, and research carried out at these schools often draws upon methods and strategies from the arts. Research in architecture at these schools has traditionally been basic research. Conversely, at technical universities, research, often aimed at the industry, has traditionally been carried out as applied research. At these universities, PhD theses in architecture will most often focus on the technological aspects of architecture, reflecting the science and research formats typical of the specific educational discourses of these institutions.

How architectural research is funded – whether it is commissioned by, for instance, a private company, a university, a school of architecture, an archi-

tectural office, or a cultural knowledge institution – also plays an important role for the research that is carried out, its subject area, its form, and its research methods. In later years, based on the global economic crisis in 2008 and the advance of neo-liberal politics, it has become more and more common for researchers at public universities and schools of architecture to be made responsible for applying for research funding for their research projects through external funding pools. This is a circumstance which also greatly influences the research and PhD projects in architecture that are produced in the Nordic countries. Not only does it put pressure on the researchers and the research institutions; it may also discriminate and exclude certain kinds of research projects, as the decisions about which research projects and what kind of research are important and relevant for society, and the architectural discipline is now more and more distributed across executive bodies outside of academia.

Free researcher-driven research, which has traditionally been fundamental to research in the Nordic countries, may be at risk if research has to meet the demands and expectations of the body which sponsors this research. It may also be at risk if its results are to be continually legitimized – evaluated and credited – by society’s changing research political establishment – an establishment which, at least in Scandinavia, increasingly favours and promotes so-called strategic research.

Globalization and the migration of researchers and PhD students have led to a mix of different research concepts and understandings existing side by side at many research institutions. Some PhD schools welcome the apparent freedom of the mix, while others struggle to make sense of and create consensus in an ever more labile research framework. For better or worse, it influences the content and the quality of the research being produced at PhD schools. It also influences the critical mass at the schools, as international researchers and guest professors tend to stay only for a relatively short period of time before moving on to other institutions. Unemployment amongst architects has led to more candidates pursuing a PhD and a career in academia, and it has also led to older architects applying for PhD positions. A new phenomenon in architectural research is the so-called Practice-Based PhD, which invites experienced practising architects to embark on research. Practice contexts are also sites for knowledge production, and many architectural offices today experiment with various kinds of research. In general, “practice-based research” is understood as an original investigation undertaken in order to

gain new knowledge partly by means of practice and the outcomes of that practice. In the “making disciplines”, including architecture, the emphasis is primarily on the creative process and the works that are generated from that process.

By some architects, the Practice-Based PhD in architecture is interpreted as the culmination of a long-standing evolution within architectural research towards a more field-specific design scholarship. In the first article in Section I of this book: “Development towards Field-Specific Research in Architecture and Design: On Doctoral Studies in Scandinavia since the 1970s”, Halina Dunin-Woyseth and her co-author Frederik Nilsson outline a history on doctoral studies in architecture that has exactly this perspective. Dunin-Woyseth and Nilsson’s overall conclusion is that professional practice, teaching, and research in architecture initially acted separately in doctoral studies, then became oppositional, and just recently began to synergistically permeate each other in types of research that recognize so-called designerly ways of thinking.

Architectural history – once the hallmark of architectural research at most schools of architecture – is a subject in decline in the Nordic countries. According to Johan Linton, who teaches it at Chalmers University of Technology in Gothenburg, it is almost excluded from obtaining state research funding in Sweden. With only few research positions available in architectural history at the Swedish universities and architecture schools, it is a development which will most likely lead to significantly fewer students in the future specializing in it. In his article: “History of Architecture: Thinking Beyond the Present”, Linton critically reflects on the cultural relevance and value of architectural history in the study of architecture. In doing so, he takes his point of departure in a presentation of his own PhD dissertation from 2013, a monograph on Le Corbusier’s concept of *Ville radieuse* (The Radiant City). One of the passages in the thesis specifically deals with Le Corbusier’s plan for Stockholm from 1933. Using it as a representative example in his argumentation for the relevance of architectural history, Linton maintains that having historical knowledge about this innovative and influential plan for the Swedish capital will give architects a deeper understanding of later urban schemes in Sweden.

In the article “Everyday Urban Life at Neighbourhood Centres: Urban Design and Co-Presence”, Ann Legeby presents her 2013 PhD dissertation, *Pat-*

terns of Co-Presence. Her article sums up the many findings in her research, while putting into perspective her methodological approach and theoretical stance towards the subject of study. The author, who is a researcher in urban design at the School of Architecture at KTH Royal Institute of Technology in Stockholm, explores the role of urban design and urban form in relation to urban segregation. Legeby's aim is to contribute to and nuance the debate on this global issue by highlighting the role and impact of the built environment beyond residential segregation. Most importantly, she points out, her aim is to identify how urban configuration creates so-called affordances and limitations, and how urban configuration influences co-present situations in terms of its intensity and its constitution. In her PhD thesis, Legeby examines spatial relations and how public spaces, such as streets, parks, and squares, can become important "arenas" for co-presence and interplay between different kinds of inhabitants who are normally separated. Arguing that an important social function of a city is indeed to structure co-presence among people from different social categories, Legeby also identifies and examines various architectural typologies and institutions that are important for the development of social processes, specifically those related to work, education, and culture – for example, schools and libraries.

Marie Markman, a visual artist and landscape architect with degrees in both disciplines, aims to refine the work of integrating art, landscape architecture, and urban planning in her research. In 2015, she defended her PhD dissertation *Landscape Sprawl: An Artistic Response to Living in the Anthropocene*, which deals with new approaches towards landscape architecture and how to rethink the phenomena of urban sprawl. Taking her PhD thesis as her point of departure, Markman in her article "Open Research – Sharing Research Formats and Challenges", candidly refers to what it was like for her to be a PhD student and in what way she carried out her cross-disciplinary research project. She reflects on the intentions behind her dissertation, its concept, format, and structure, as well as the review it received when she defended it. Her article also includes critical thoughts on creative processes and her own PhD researcher training at the PhD school at the Aarhus School of Architecture, voicing an apparent need amongst many PhD students to learn more about specific research formats and methods. In her text, she furthermore comments on the discussions on research and knowledge production which took place during the NAF/NAAR symposium in Stockholm. Against this background, Markman, still drawing on her personal experiences as a researcher, refers to her present work and how she learned that her research

and research approach can be of use and great demand outside of academia. Markman, who basically believes that research is a creative act, and that art and research have many things in common, in 2017 established her own independent research laboratory which counts both private companies and public institutions amongst its clients.

Henrik Reeh, who was invited by NAF/NAAR to lecture at the Venice Biennale on the theme of the 2016 NAF/NAAR Symposium, in his article “Relational Architecture: Education, Research, Transformation” frames the impact that PhD education in the Nordic countries has on architectural research and its production. According to Reeh, the landscape of research and reflection on architecture has been transformed during the past three decades. This transformation has taken place in tandem with the strategic development and formalization of doctoral education in architecture. In his article, Reeh contextualizes this development and reflects on how it manifests, pointing out that PhD education today is a complex institutionalized system consisting of an ensemble of elements. Shedding light on five of these elements – categorized by him as the “Dissertation”, the “Doctoral Student”, the “Supervisor and Scholarly Institution”, the “PhD and Profession”, and the “Labor Market” – he further reflects on how they are connected and together amount to a dynamic system of multilayered and far-reaching relations. Reeh’s analysis is based on six representative “cases” – six completed Danish PhD dissertations that he has been involved in as a supervisor.

Reeh’s meta-reading of the production of knowledge in architecture by PhD research wraps up Section I of this book. Section II, which consist of essays and articles written by PhD students, begins with three essays in the context of architectural history.

Norwegian PhD student Mathilde Sprovin’s architectural historical study is aimed at the Norwegian architectural education and its development from the opening of The Royal Drawing School in Christiania in 1818. Sprovin argues that the opening of the school, the first public art school for craftsmen, artists, and architects in Norway, was part of the process of constructing a nation state after the country gained independence from Denmark in 1814, at which time the country acquired a free constitution, creating the foundation of modern Norway. The ambition of The Drawing School was, according to the author, to be a Norwegian art academy, similar to other national art academies established in Europe during the eighteenth century. Sprovin’s

study largely deals with national identity, the symbolic value of architecture, and the political roles of architectural education and the architectural discipline as culture-bearing institutions. Even though, according to Sprovin, The Royal Drawing School in Christiania never obtained the status of a proper art academy, it held, by nature of it being the aesthetic centre of the nation in the 1800s, an indisputable position of power in Norway. In her article, “Architecture Education in Norway in the Nineteenth Century: From France with Love”, the author pursues the history of the school and the training of architects there, placing the school’s training in a European context of architectural education. She describes the leading theories in the education of the architects of the nineteenth century, and which influences were specific to the training that took place at The Royal Drawing School in Christiania, shedding new light on both the role of the school and its discourse.

Like Mathilde Sprovin, Ola Svenle, who is a PhD fellow in the history and theory of architecture at KTH, Stockholm, is interested in the history and historiography of architectural education. He presently carries out research into the development of Swedish architectural education. In his article titled “Lost Grounds: Architectural Knowledge Production as Crisis Management” he reflects on the social and cultural changes that occurred in Sweden at the end of the nineteenth century: the period in which the country went from being a pre-industrial to an industrial society. Svenle is interested in identifying and understanding how these changes affected architectural education in Sweden, its content and form. For instance, Svenle comments on how new artistic and scientific considerations began to appear in Swedish architecture and its practice, and how the break with tradition to some extent brought about a crisis in the construction industry in the 1880s. Drawing on the work of, among others, architectural historians Björn Linn and Finn Werne, he pursues the possible nature and consequences of the crisis.

Natalie Koerner, from the Royal Danish Academy of Fine Arts, School of Architecture (KADK), in Copenhagen, writes on the spatiality, temporality, and materiality of digital archives. In her article “Cloud Machinery and Memory Theatres: A Spatial Approximation of the Digital Cloud”, she attempts to elucidate the spatiality of the digital cloud. In doing so, she draws similarities between the digital cloud and two historical theatre-related occurrences that deal with ephemeral data structuring: the so-called cloud machinery used in religious theatre since the fourteenth century and Giulio Camillo’s sixteenth-century Memory Theatre, claiming that such a comparison is relevant in order to explore the spatial imaginability of today’s digital cloud.

Sustainability drawing headlines in the media and political debates worldwide is at the forefront of many current PhD projects in the Nordic countries. Not least among urban designers, planners, and landscape architects are considerations about sustainability absolutely central. A number of articles and essays in this publication reflect this trend.

The article “Changing Perspectives on Storm Water Management in Norway”, written by Elisabeth Sjødahl from the Oslo School of Architecture (AHO), addresses a topical subject in urbanism and landscape architectural studies. Climate changes of recent years now very much make architects and engineers rethink many of the cities of the world and their infrastructures in relation to increasingly frequent and extreme floods caused by cloudbursts and storm surges. Sjødahl’s PhD deals with water management, its productive and restructuring role, and the effects of climate change in the peri-urban area of Oslo. In her article in this book, which looks at the changing perspectives on storm management during the last fifty years as observed through literature reviews, she gives the reader an idea of current approaches within storm water management as compared to more historical ones. The article also presents the author’s reflections on the needs within the Scandinavian climatic region – more specifically, on planning practices in Norway.

The city and its sustainability is also the subject of Fabio Hernández-Palacio’s research carried out at the Norwegian University of Science and Technology (NTNU) in Trondheim. His research question, which is put into perspective in his article for this publication, is focused on the city and its density. More specifically, his study addresses Norwegian cities, which are, according to the author, amongst the least dense cities in the world. Through a literature review in his article titled “The Sustainable City in Norway: The Quest for Urban Densification”, Hernández-Palacio sheds light on the many challenges facing Norwegian cities in the future, while also reflecting on whether they can become denser and more sustainable.

Anja Standal, architect and researcher at the Norwegian University of Life Sciences (NMBU), is drawn to the wider aspects of planning and architecture with a particular interest in the interdependent relationships between buildings and their contexts. In her present article, she claims there is a need for a morphological rethinking of the boundary in the interface between private and public space in cities, arguing that micro-morphological physical parts, which are easily overlooked in urban development, have great significance in

determining successful urban performance. According to Standal, very little research has so far been done to develop a framework to assess and systematically analyse the micro-scale formal properties (morphological) and spatial relationships (syntactical) at the boundary between buildings and streets. In her article “Urban Micro-Morphology as a Framework to Assess Physical Public-Private Interfaces at Street Level”, which draws on her PhD research, she therefore pursues these theses, while taking the first steps towards perhaps developing such a framework.

In the article “Observer, Expert, or Activist: Changing Roles in Design Research Project”, Katja Maununaho, from the Tampere University of Technology, School of Architecture, presents aspects of her PhD research on urban housing design in multicultural neighbourhoods. She also puts forward her reflections on knowledge production in design research and considers what, in her opinion, is particular to design research and its methods as opposed to other kinds of research. In continuation of this, she writes about ethical considerations and responsibilities that she believes architects and design researchers have to keep in mind when doing research. Her reflections are based on her own PhD research experiences from the regeneration of a suburban high-rise tenement block in Suvela, Finland, entwining social life and spatial form, which in the article are put into perspective by current theories on the subject.

Housing design and questions of dwelling and domesticity are the themes of the following three articles written by Nicholas Thomas Lee, Ira Verma, and Turid Borgestrand Øien respectively.

“Dwellscape: The Contemporary Dwelling Interior as a Continuous Domestic Landscape”, written by Nicholas Thomas Lee from The Royal Danish Academy of Fine Arts, School of Architecture (KADK), suggests a discourse on the domestic interior as a so-called inhabitable landscape. According to the author, who explores the spatial planning of contemporary dwellings in his PhD thesis, such discourse is generally lacking. Introducing it offers a counter-image to the traditional discourse, which often seems to be focused on the functionalist programming of space or the formalistic expression of the exterior envelope, leaving the interior as a mere consequence. Lee advocates that architects challenge a technocratic attitude to planning by engaging with an approach to the spatial organization of dwellings that allows for a more “nomadic” appropriation of the domestic landscape and which con-

siders the significance of threshold “places”. He elaborates on his perspective by incorporating theory and literature in the area and making a comparative analysis of House Vandenhoute by the Belgian architect Juliaan Lampens and Moriyama House by the Japanese architect Ryue Nishizawa – two representative examples of the latter design approach to the spatial organization of dwellings.

“Neighbourhood Planning and Housing for the Aging Population: A Case Study” by Ira Verma, a PhD student at the Department of Architecture at Aalto University, addresses a future-oriented challenge for the welfare countries of Scandinavia: ageing populations. The populations are ageing and especially the percentage of very old persons is increasing. This demographic transformation calls for new ways of thinking about housing, infrastructures, welfare, and services, as well as new ways of planning neighbourhoods that support people in their daily lives. Centred around the research question “How can the planning of the built environment promote independent living?”, Verma, in her article in this book, sets off to reflect on experiments in subjectivity, collectivity, and environment. Her reflections are supported by her empirical studies, while also drawing on previous research on the subject.

Turid Borgestrand Øien, a PhD student at the Danish Building Research Institute (SBI) at Aalborg University, in her essay called “Healthy Housing Enacted: A Qualitative Approach to Indoor Environment” brings attention to healthy housing and what it takes to create and maintain a healthy home. The article, which reflects on the theme of Borgestrand Øien’s PhD project, is written as a response to problems with damp and mould in Danish homes. The author’s aim is to contribute to the understanding of healthy housing. In her case, this involves working across the fields of indoor environment, anthropology, and architecture, adding qualitative methods to an otherwise quantitative field of research. In her article, she reflects on her research methods and on how she conducted her investigations. Her approach to research and her reflections on this approach give the reader an understanding of the complexity of the relationships between housing, indoor environment, mould, and public health.

Three essays in this book engage in focused discussions of “designerly” or artistic ways of carrying out architectural research and what signifies this kind of knowledge production as compared to other modes of research.

Taking her point of departure in reflections on the production of architectural knowledge – and on how theory, practice, and education can inform each other – Ute Groba from the Oslo School of Architecture (AHO) proceeds to discuss various principles for the design of low-rise high-density architecture as a sustainable housing typology in timber for Norwegian cities, the latter being the subject of her PhD project. In her essay “Making a Case for Urban Timber Housing – by Research, Teaching and Design”, Groba puts forward some of the first results of her PhD research. With the essay, however, she first and foremost wants to make a contribution to the debate on architectural research and academic education. This Groba does by analysing and contextualizing how combining academic and “designerly” methods in her work has been fruitful for her, and how bringing her research into a master studio course gave her a discursive framework that offers her valuable feedback situations and a laboratory-like context for design experiments.

Espen Lunde Nielsen’s PhD research aims to provide new knowledge about the city and practices of social interaction and coexistence in the city. Based on French writer George Perec’s concept of the “infra-ordinary”, Lunde Nielsen focuses on the everyday topography and unregarded spaces of the city, voicing their importance in the urban texture and how we as human beings understand it. The PhD project, which is carried out at Aarhus School of Architecture (AAA), is described in a self-reflexive manner in the essay “Situating Knowledge Production: Urban Biopsies, Frameworks of Perception, and Critical Spatial Practices”. Lunde Nielsen’s research method is characterized by being informed by a variety of artistic and interdisciplinary practices, taking into account and critically discussing the position of both the agency of the knowledge producer (the author) and the object of study. An important feature in Lunde Nielsen’s PhD, which could be described as a research-by-design project, is his collection of so-called urban biopsies and his fabrication of instruments or “situated probes” that act as lenses in his perception of the city. Situated probes, the author argues, propel conversations between designers, people, situations, and places and provide ways that we as human beings can see the world differently and thus gain new knowledge. In the present essay written for this publication, three related urban biopsies are presented that demonstrate Lunde Nielsen’s theory on the infra-ordinary and on practices of social interaction and coexistence in the city.

In Elin Tanding Sørensen’s “arts based” doctoral study, carried out at the Norwegian University of Life Sciences (NMBU), there is also an ambition to in-

tegrate a variety of artistic and interdisciplinary practices. More specifically, Tanding Sørensen aims at fusing methods from the arts, landscape architecture, and science for the sake of arriving at visionary urban design propositions and a deeper understanding of the city as habitat. In a study of the cultural and biological enrichment of urban hard surfaces through the establishment of biologically active urban covers, she has curated and fabricated a series of “living labs”, the first being an artwork entitled *Mosses/circuits*. In this outdoor-laboratory proposal, the main ingredients are mosses in combination with microhabitat reliefs inspired by electronic circuit boards. In her PhD research, Tanding Sørensen aspires to shed light on the underlying forms of knowledge particular to the fields of art and landscape architecture. Taking this aspiration as a point of departure for her article in this book, “On Urban Hard Surfaces”, she proceeds to reflect on her fascination with mosses and its perspectives for her work, in which urban ecology and landscape design processes that may contribute to “better performing cities” are pivotal.

Architectural research – and the notion of it – is subject to different interpretations depending on its context. Discussions on its specificity as compared to other kinds of research are nevertheless evolving as it becomes more institutionalized and its history is written. Likewise, knowledge production in architecture is not a stable concept either. It seems to consist of a series of “research acts” that allow each art practice or discourse to again and again contribute to a collective definition and constitution of both the concept and its practice. The term “knowledge production”, originally coined in economics in the 1960s and entering arts discourse as a critical term deployed against the rapidly growing global economy of the 1990s, has in the twenty-first century become an increasingly contested term due to its parroting of the discourse of that same global economy.⁸

The aim of this book has been to shed light on PhD research in the Nordic countries and to contribute to discussions on knowledge production in architecture. Having an interest in framing the politics of educational systems and the construction of research cultures in architecture, NAF/NAAR wanted to curate a platform for critical thinking on these matters. Raising a number of epistemological questions regarding the notion of architectural PhD research and its history, research formats, methods, and theoretical positionings, as well as the research skills and competences that the educational systems cultivate, the book presents and discusses what is presently endorsed as architectural research in the Nordic countries. In doing so, it also illumi-

nates past understandings and future perspectives of knowledge production in architecture. Complex, yet making no claim to being complete in its coverage or account of its subject matter, the book wishes to stimulate further thinking on architectural research and the frameworks and mechanisms that govern it.

NOTES

¹ The first doctoral programme in architecture in the USA was established at the University of Pennsylvania in 1964, followed by Cornell University in the late 1960s and later on by Princeton University and the Massachusetts Institute of Technology. Halina Dunin-Woyseth, “The ‘Thinkable’ and the ‘Unthinkable’ Doctorates: Three Perspectives on Doctoral Scholarship in Architecture”, in *The Unthinkable Doctorate* (Ghent: Hogeschool voor Wetenschap & Kunst – School of Architecture Sint-Lucas, 2005), p. 84.

² Jørgen Dehs and Claus Peder Pedersen, “Introduction”, in *When Architects and Designers Write/Draw/Build/? a PhD* (Aarhus: Arkitektskolens Forlag, 2013), p. 8. Although the first formalized doctoral programmes in architecture in the Nordic countries were set up in the 1990s, several theses on architectural research had already been written in the 1970s and 1980s. In Sweden, the PhD education – including special courses and an individual study plan for each PhD student – started in 1970s at the schools of architecture in Stockholm, Gothenburg, and Lund. During the 1970s, altogether fifty-four theses were approved at the three schools of architecture in Sweden. The first “crisis” came in 1980–82 when the government suggested a major cuts in research and PhD education at the schools of architecture in connection to problems in the building sector. See Jan Eriksson and Örjan Wikforss, *Arkitekturforskning* (Stockholm: Statens råd för byggsforskning, G7:1983). The appendix (pp. 77–82) includes an overview of the theses produced at the schools of architecture from 1955 to 1982 – seventy-six theses in total.

³ Already in 1987 this issue was being discussed in *NJAR*, the scientific journal of NAF/NAAR. There are several articles discussing the relations between research, education, and practice in the following issues of the journal: 1 (1987), 2 (1987), 1–2 (1989), 1–2 (1990), and 4 (1991).

⁴ Dunin-Woyseth, “The ‘Thinkable’ and the ‘Unthinkable’ Doctorates”, p. 84.

⁵ Anne Solberg, “Developing Doctorateness in Art, Design and Architecture”, PhD thesis, Faculty of Humanities, Sports and Educational Sciences, University College of Southeast Norway, Kongsberg, 2017, p. 32.

⁶ Merete Wieberg, “Forståelse i forskningsbaseret undervisning – især i relation til human- og samfundsvidenskab”, *Dansk Universitetspædagogisk Tidsskrift*, 10 (2011), p. 59.

⁷ *Ibid.*

⁸ Sidsel Nelund, “Acts of Research: Knowledge Production in Contemporary Arts between Knowledge Economy and Critical Practice”, PhD thesis, Department of Arts and Cultural Studies, Faculty of Humanities, University of Copenhagen, 2015, p. 278.