Epilogue

van der Voordt, DJM; Cuperus, YJ

Publication date
2002

Document Version
Final published version

Published in
Ways to study and research urban, architectural and technical design

Citation (APA)
van der Voordt, DJM., & Cuperus, YJ. (2002). Epilogue. In T. M. de Jong, & D. J. M. van der Voordt (Eds.), *Ways to study and research urban, architectural and technical design* (pp. 503-505). DUP Science.

57 EPILOGUE

THEO VAN DER VOORDT
YPE CUPERUS

57.1 THE ANATOMY OF THE BOOK EX-POST

The initial objective of this book was to write a text book on research methodology for architecture, urban planning and technical design students, with a particular focus on *research by design*. As such it aims to offer an extensive follow-up of earlier discussions of the so-called Methodology Board of the Delft Faculty of Architecture on types and methods of design related research. One member proposed that design driven research applying to be labelled as science should meet the methodological principles of A.D. de Groot's *Methodology: foundations of inference and research in the behavioural sciences* (1969). Other members disagreed and suggested that there are hundreds of 'scientific' research methods. After long discussions the committee published a short report on eight types of design related research, leaving out of consideration its methodological approach. From time to time new debates flared up on whether and when designing and research by design may be labelled as scientific work and a design as the output of scientific research. The present book has been initiated to reflect on these questions and to discuss methods and criteria for 'scientific' design and design related research. Over time a number of new objectives were added. One of these was a comprehensive overview of design related research and study at the Faculty of Architecture in Delft. Another wish of many in the Faculty was to raise the academic status of design, developing a basis for equivalence between certain design outputs and other, more traditionally recognised scientific activities. Yet another objective, though not universally supported, was to develop a more rational basis for design. Multiple objectives often lead to a hybrid. Some people may find this book *is* a hybrid. But, it is much more! As far as we know it is unique in presenting such a rich blend of many different perspectives, methods, and ideologies. In essence, this is really a book on methodology in the sense that it explores a range of methods!

56.2 SHARED OBJECTIVES, DIFFERENT APPROACHES

This book shows that a considerable part of study and research at the Faculty of Architecture at Delft is centred on the description and analysis of plans. Such analyses and the comparison of designs with reference to concept, intent, function, form, structure and technique are the focus of the research programme in architectural and urban design. Objectivity, intersubjectivity and interpretations subject to personal preferences, are weighed differently per project. Pre-design research and the evaluation of existing buildings also represent an important field of study, as does the study of the way in which design solutions are generated. Exploring new construction techniques, product-development, IT and other tools to support and optimise briefing and design and complex multi-actor decision processes in the field of real estate and housing are included as well. Some of the questions being examined are:

- How does a designer generate a concept?
- What is the rôle of typology, model development, hypotheses and forecasts in this process?
- Is evaluation '*ex ante*' able to provide timely indications of strengths and weaknesses in a design?
- How can empirical research '*ex post*' contribute to the improvement of briefing documents and optimising of design?
- What are the (dis)similarities between design research, typological research, design study and study by design with reference to objectives, methodology, object and context, applicability in design processes and scientific character?

As this book has shown, many faculty members are searching for a better appreciation of design tools and of the effects of design decisions, as well as for the optimisation of the briefing process and of design itself. However, some clear differences in approach and strategy were identified.

Empirical research usually starts with a conscientious identification of the problem and objective. It is strongly focused on a careful description of reality, the exploration of theories and the testing of hypotheses. It also tends to develop practical recommendations for designers, planners and policy makers based on the pillars of reliability, validity, desirability and probability. All this is centred around general knowledge and the further development of a body of 'true' knowledge.

Design research - often in the form of (comparative) plan-analysis - is usually strongly descriptive and exploratory and less prescriptively. It is generally directed towards interpreting, understanding and explaining designs and the design tools used, both in itself and with reference to site characteristics and the social, cultural, historical, technical, ecological and economical context. It may be instrumental in evoking inspiration and ideas for a particular design.

Typological research is a particular form of design research, whereas it looks back and tries to explore a typology of design solutions, traced from precedents. But, it can also be a particular form of design study or study by design, whereas the focus is on designing new, yet non-existing types. The focus may vary from description to exploration and testing, from empirical and descriptive to normative and prescriptive.

Design study is an integrated part of the design process itself, whether the design is actually constructed or not. In the field of design methodology many authors discussed the well-known cycle of analysis, synthesis, (simulation) and evaluation. This cycle may be applied to the design task as a whole or to a decomposition into sub-problems. Although the focus is mainly on a particular, context-related design solutions, design studies may explore new possibilities with generic applicability, new knowledge and a better understanding of probabilities and desirabilities.

Study by Design – elsewhere called *Inquiry by Design* or *Research by Design* - tries to generate knowledge and new insights by studying transformations of a design or design interventions in an existing situation. Generally, this type of study also features a strong exploratory characteristic. The first step is to generate new design variations using design itself as the process for the study. Hence the term 'means oriented study' is used in contrast to the more common goal-oriented approach. Then the implications of these variations are studied, whether or not leading to adaptations or completely different solutions. As such new concepts may be developed as well as a better understanding of the impact of different design decisions.

Design may differ sharply from study and research with reference to its product aimed at (a plan or building- versus research based scientific knowledge), its focus (searching for new possibilities - versus searching for desirabilities and probabilities) and its character (normative, based on personal preferences, views and ideology, versus empirical, based on facts). However, in practice the difference is often one of degree rather than kind. Particularly in design study and study by design, studying and designing are alternate processes. Both are employed interactively and iteratively, in order to arrive at a solution of high quality. In different phases and to varying degrees, what is possible, what is desirable and what is probable receives thus more or less attention. In the first instance, in moving to an improved design, contextual knowledge is more important than general knowledge. But, the opposite may be true as well. Starting a design process may evoke new problem statements and research questions, merging study and design to a strongly integrated process.

56.3 STUDENTS' WAYS TO STUDY AND RESEARCH

The task of academics is to research and teach. The Faculty of Architecture at Delft has always been a Design School, focusing on design driven education. While the proportion of non-design disciplines, such as real-estate and project management, asset management and the social sciences has increased in the curriculum, a considerable amount of knowledge is still taught in design studios within the master-pupil tradition. In this process, the teacher inspires the student through the demonstration and discussion of design. While the moments shared in this traditional teaching approach are too valuable to loose, it has become clear that there is a great deal to be said about design and the process of designing. This book aims to stimulate such an approach. In retrospect it presents a wide variety of opinions, design strategies and research methods. From strongly contrasting positions it demonstrates how research, study and design may be linked to one another. In this way, the book should become a valuable tool for the teaching of architectural, urban and technical design. Not only to teach students how to include research data and analysis in their design process, but also to guide them to contribute more consciously and effectively through their design projects to the research objectives of the Faculty. By using the book at different stages of their development and working through it with different faculty members, students may reach deeper levels of understanding. By being presented with the juxtaposition of contrasting points of view, students may experience a positive, creative tension, which facilitates learning. However, although the book shows a lot about *how* faculty members are doing research, in a strict sense it is not a text book on research methodology. For a clear understanding and developing of skills in designing research, different types of research (review of literature, survey, case study, experiment, content analysis of documents and plans, secondary analysis of existing data and so on), research methods and techniques such as interviewing and observation techniques, methods of data-collection and (statistical) data-analysis, this book should be used in combination with more traditional textbooks on research methodology. To ensure that this book becomes an effective textbook in itself and to achieve the same high standards as leading books on research methodology and techniques, it is proposed to hone this book on the basis of feedback from our students.

56.4 CONTINUATION OF THE METHODOLOGY DEBATE

The contrasts and complementarities in terms of strategy and methodology presented in this volume will provide a sound basis for further scientific debate in the area. Cross-references will help the reader in finding different opinions on the same subject. Being informed about the goals and techniques of peers will hopefully contribute significantly to the development of understanding and criticism, the deepening of knowledge and the raise of more inter-disciplinary compositions of research teams. For these reasons, it is intended to use the book as the basis of thematic discussion-meetings and study-seminars within the Faculty of Architecture in Delft. But, of course, 'Delft' also wants to contribute to the international debate and to receive feedback from the international peer group. Although this book originates from our inner circle, we are strongly aware of the leading discussions in many other architectural schools, both in Europe and in the United States. There, too, is a request for a stronger clarification of the issue of architectural and design research as a condition to maintain the status as academic institution. See for instance the book of H. Dunin-Woyseth and J. Michl (2001) *'Towards a disciplinary identity of the making professions'* of the Oslo School of Architecture and the ongoing discussions within the Design Research Society. Whereas we hope that *'Ways to Study and Research'* has shown that design as a field of inquiry has matured to an autonomous discipline, international exchange of ideas and methods will undoubtedly deepen our common knowledge and explore new insights. Furthermore, we are very open to inspiring debates with scholars from other fields of knowledge. So spontaneous reactions on the book are most welcome!