Reflection

Ferdinand Ludwig and Katharina Voigt

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Context

A reflection on the contributions in this issue requires a recollection of the 2019 summer conference »Research Perspectives in Architecture«, as well as a consideration of the themes discussed there. It is important to examine and explore which approaches, ways of thinking, and potentials will unfold on this basis for future research in the discipline of architecture. The initial questions mentioned in the editorial introduction to this volume – Where do we come from? Where are we now? Where are we going? – address the dimensions of past, present, and future, inquiring into the history, current state, and future of the research of architecture. In this regard, we need to reflect on recent developments and changes in architectural research. Bold terms, such as the »research turn« (cf. Archis 2016) – implying the academization of the architecture discipline, the scientific character of research or the integrity of genuine methodologies of architecture – seek further framing and definition. Although the aim of this reflection is not to fathom these overarching terminologies, they have been consolidated more specifically through a discussion of the contributions in this reflection.

The opening lecture of the conference by Monika Kurath revealed numerous challenges in, and potentials of, research in architecture. Although this overarching approach has not been included in this volume as a contribution (cf. Flach/Kurath 2016), some of its core statements are of such profound relevance that they are worth addressing again in this reflection. Kurath's

investigation of different research cultures in architecture – using the case studies of the Bartlett and Columbia Schools of Architecture, along with Cambridge University – reveals interesting insights into the different research cultures practiced at the respective institutions. Her analysis highlights their successes and their potential, thereby distinguishing them from each other. She concludes that one key obstacle to reaching a self-evident nature of research in architecture is based on an often-occurring separation of the research division from the design division in architecture schools. Instead, she proposes envisioning architecture departments as comprehensive entities, which include both design and research, equally. Therewith, she highlights that despite their variety of interests and their plurality of methodological approaches, all fields of the discipline contribute equally to knowledge creation in architecture. Nevertheless, she underlines that »design« and »design research« need to be carefully distinguished from each other and accurately defined.

Architecture as a Research Discipline

The very question regarding the interrelation of scientific research and applied forms of knowledge creation in architecture is explored throughout all contributions included in the conference and in this volume. While the latest shifts toward a further academicization of the discipline have resulted in heated debates, weighing the one against the other, the contributions in this volume are based on a common ground of highlighting the fruitfulness of reciprocal interconnections and contingencies of both. The contributions to this issue exemplify the manifold approaches to research in architecture. The fact that architecture is more than just a design practice, but also a research discipline, is therefore without question. In this respect, the original methodologies and ways of working become crucial, as they are the key to addressing research in architecture through architectural means. As Jan Silberberger underlines with his study on methodologies of teaching and knowledge transfer in architecture schools, the design process is more rigorous and more clearly structured than often supposed. On the contrary, well-established scientific approaches – as for instance those of the Natural Sciences – appear to be more liberal and more creative than we believe on first sight. While it has been a long road to approve design as part of the methodological spectrum in architecture – and partially still is – the notion of »design« has long since been adapted to the natural scientific discourse,

as researchers in this field speak of »designing a setup«, and »designing a research proposal«; thus, integrating the design process in the conception of a research project most naturally contributes to its methodological framework. This is where a debate about the understanding of research and science in architecture begins, which is also reflected in this issue's different contributions.

The closer architectural research is to other established sciences and the more methods it borrows from these sciences, the more it is acknowledged as »scientific«. There is nothing at all wrong with this transfer and adaptation of research approaches from other disciplines; it is good scientific practice in all interdisciplinary fields. But this approach cannot answer the question of how research is to be recognized in what we can call the »core of architecture«: Architectural design. As Uta Graff explores in the opening chapter »Research Perspectives in Architecture«, the structured, consecutive, organized, and methodological ways of knowledge creation in architecture are numerous and abundant. Furthermore, the distinction often made between theoretical research and practice-based research is therewith put to the question. Dag Boutsen clearly articulates this redundancy:

»I detest this tendency of some to push architectural research in the direction of applied research. Nothing seems less appropriate. It exists, to a certain extent, but it's the wrong direction. We shouldn't see theory and practice as oppositional. Fifty percent of the curriculum of design education consists of studios and subjects around mixed media. So, when you want to expand research in the service of an educational program, it's necessary to situate that research in a practical realm.« (Boutsen 2016: 24–25)

Understanding architecture as a research discipline, as Kurath promotes it, underlines that research has the potential to contribute fruitfully to the central fields of the discipline, i.e. the design. With regard to the possible research goals for the achievement and application of research results, Boutsen asserts that »research *by* design« and »research *through* design« signify »research *on* design« (cf. Boutsen 2016). Ultimately, research in architecture should always be directed toward and contributing to the design. Methodologically speaking, any approach to gain design knowledge – systematic, testing, creational, analytic or evaluative – should be considered as a serious basis for research. The more specifically we know how we design, the more eager we are to integrate genuine architectural methods into research.

Architect as Researcher

In her text »Reflexions on the Plurality of Methods in Architecture«, Oya Atalay Franck argues that architects are not trained (and maybe not even able) to conduct research, and therefore should avoid trying to do it. Instead, she frames their role as generalists who are responsible for the »organization of the interdisciplinary analytical and synthetical process and the translation of the knowledge gained from this interdisciplinary work into spatial manifestation«. She argues that »the domain of the architect as »maker of spaces« extends to all areas of human presence and all levels of scale« and that this approach causes manifold requirements that »differ obviously from place to place, from scale to scale, and from use to use.« In her eyes, this context-specific approach eludes a systematic, generalizable approach, which is indispensable for research. Franck certainly acknowledges that architecture requires structured processes for problem solving. However, she adds that the reduction of architecture to »mere *problem solving* is robbing it of its key element, the magical quality that architectural spaces and structures have, when they become art«. She subsequently asks: »how can methodological rigor and academic transparency be applied to a discipline which relies so heavily on intuition and on artistic creativity, on that which has to be felt but cannot really be explained?« In this context, she refers to the field of architectural research as »dirty«, because it is not in a laboratory, where agents and factors can be limited, but in the real world. This perspective is nevertheless contrasted by many of the other contributions in the issue, as they highlight the methodological structure, systematics, and clarity of the design process, fostering the potential that identification and investigation of these working methods can provide when applied to research.

According to Franck, architecture is by no means alone in this contextualization of research in the real world, but rather shares its fate e.g. with sociology, anthropology, or medicine. She continues that a holistic medical approach, which regards the patient in all dimensions of »health«, has the same difficulties in finding scientific acknowledgment (and thus ultimately also research funding) as design-related research in architecture – in contrast to laboratory-based medical research, »where huge amounts of money are poured in«.

Research in architecture suffers from the stigma that it would rob the architect of his or her identity, degrade intuition and creative talent, and rationalize the design process, inevitably leading to feeble, uninspired

results. This is a problem that cannot be taken seriously enough. In essence, it is diametrically opposed to the expectations that one should have in research – which underpin all well-established, successful fields of research. In fact, the starting point for research is always curiosity – and is ultimately driven by an open question that cannot be answered easily; a question that requires certain procedures – research methods – to be answered. From this, one could conclude the following: As soon as an architect is of the opinion that a (design) question can be answered without such a systematic, transparent procedure or that this procedure would lead to a less convincing answer, then one should consequently decide against pursuing this research. But this is only partly true: Individual architectural questions – as the generally accepted design practice shows – can of course be answered without a systematic research approach. Yet there is often more than one specific solution behind each design question; there is often a core, an essence, that might be generalizable. It should be noted that the notion of generalizability is often misunderstood by architects. The aim of generalization in architectural research is not primarily a matter of finding a standard solution (e.g. in terms of the built result) with the aim of universal application. Rather, it concerns enabling others to learn from the process of finding a solution in a specific case in order to be able to transfer and further develop this approach to other similar, but not identical, questions. This way of thinking and acting is not very common among designing architects – even in an academic context.

Methodological Adaptions

If a holistic approach to medicine – which is undoubtedly of high societal relevance – is struggling with very similar problems as architectural research, then one should at least consider questioning the criteria of the established sciences and not only the research competences of designing architects. What might help here, are the attempts of e.g. Schöbel et. al assembled in this issue, who, unlike Franck, see high potential for systematic research approaches in the practices of designing architects.¹ For example, in the approach of qualitative abductive reasoning, they see the possibility of systematically collecting, interpreting, and clustering phenomena such as design solutions or built forms – in order to make them available

¹ »Architects« here is considered as an umbrella term. Landscape architects and urban planners/designers are meant equally.

as »scientific data«. Between this clustering and the typologization common in architecture, they see a great methodological affinity and thus conclude that »the similarity between qualitative research and architectural typologization can be used in the design-specific approaches, if we do the same – accept, adopt, and adjust quality criteria of systematic research in what we call »Research through Design«. In doing so, they point out that »we must embed design [...] into a method that enables general, i.e. transferable and verifiable knowledge«. In so far as they identify ways to »operate research through design not only systematically, but also with regard to general knowledge.

The prerequisite for this form of generalization is to shed as much light as possible on the »black box« of design. Yet there is another point to be addressed here: Findings need to be made accessible to others, they need to be communicated and contribute to the overarching discourse. Simply put: One has to publish them and others will have to read them, have to build on them, and also have to indicate what they are building on in their work.

Research Efficacy

The initial questions to plunge into investigation and research are very basic: »what do I want to know and why?«, »what do I have to know to pursue my research?«, »what do I know through my practice and experience?«, »what is already known about my topic?«, »what would the effects of my research be?«² and most importantly: which discourse do I contextualize my work in?«, »which track of argumentation and knowledge do I want to contribute to?«, and especially, »who are the recipients of my work?«. Given the broad variety of subareas in the discipline of architecture, it is most reasonable that it would result in a plurality of research interests addressed and methods applied. The different methodological approaches shed light on the varying roles of researchers themselves. The section on experience-based research should be emphasized in this regard, as it empowers the researcher to become part of the research work, contextualizing it in the background of personal knowledge and experience. Researchers are never uninvolved

2 These five questions have been investigated particularly in the context of the international PhD event on »Research Practice in Architecture«, initiated by Meike Schalk (KTH Stockholm), Frank van der Hoeven (TU Delft), Torsten Lange, and Andreas Putz (Technical University of Munich), hosted at the Technical University of Munich in October 2020.

in their research. Against the background of the differentiation between architectural design processes and the corresponding perpetual self-reflection and self-examination, the discipline of architecture holds the potential to emphasize the individuality of the individual researchers and to conceive of them as part of the research process. Being a researcher does not only describe an activity, but it also highlights a personal involvement, contributing one's individual background, experience, and position to the discourse and knowledge creation of the discipline.

Among the many different aspects of architecture, there are some that ought to be considered of extraordinary importance, forming the core of the discipline. It would be most natural if research in architecture would address the most common aspects – instead of intensive research in liminal subareas of very specific content. Therefore, it is necessary to outline the entire spectrum of the »core« of architectural research. It would be misleading to relate this exclusively to the built object. In this sense, the contributions in this volume reveal not only methodological diversity but thematic variety as well, ranging from the design of ecological systems (Sungoruglu-Hensel) to performative approaches (Ferreira). At the same time, however, it is also important to avoid the arbitrariness associated with the multiple interpretations of »design« in the sense of »design thinking«. For the purposes of precision, the German terms »Entwerfen« and, above all, »Gestaltung« should be referred to in this volume, which can hardly be translated into English. What is meant with »Gestaltung« is a process of creation in which a material object, a structure, a process or a situation is changed or developed in its – in the broadest sense – aesthetic appearance.³ Furthermore, it should be noted that all research activities contribute to a broader realm of discourse beyond their individual specific findings. It is crucial to specify the potentials of a research work regarding this superordinate context. The contributions assembled in this volume – as well as those to follow in future issues – convey the diversity of dimensions of architectural knowledge, the plurality of directions unfolding in research or standpoints and perspectives claimed. It becomes apparent that research always includes the position of the researchers, their self-understanding, their background, experience and choices, and their individual involvement in seeking further knowledge and insights.

³ Own definition, partly based on: <https://de.wikipedia.org/wiki/Gestaltung>, accessed November 11, 2020.

After all, we have to admit that it will not be easy to establish design research in architecture as a widely accepted field of research. Ultimately, it will also be a matter of offering researching architects a platform and a base for their work that enables them to concentrate on their research questions – in other words, rewarding and honoring research in architecture. Therefore, it will not be possible without third-party funding, and, as Franck correctly points out, so far architecture often falls out of the picture here. First, because research questions and procedures are not formulated precisely enough and second, because key prerequisites such as the existence of well-cited peer-reviewed articles are not in place.

The first point can be addressed by establishing a research culture as described above. This must be achieved through a good balance between self-confidence and self-criticism. Self-confidence in the sense that architects have to realize that their inherent methods of analyzing design frameworks (see Boucsein's contribution in this issue), systematizing (typologization) and, of course, designing itself, are quite suitable to develop into research methods. Self-critique insofar as that there is a deficit in making a research approach explicit, as well as in defining criteria of how to distinguish between architectural research and design practice – especially if it is practice-based research.

The second point can only be solved strategically: On the one hand, by urging universities and research-funding institutions to recognize the special approaches of architects. And on the other hand, by establishing or expanding publication formats that are specifically tailored to the particular needs of researching architects. In alliance with other recently started journals from the BauHow5 partner universities, *Dimensions. Journal of Architectural Knowledge* aims to bridge this gap. However, it is not a question of establishing a peer-reviewed journal for purely strategic reasons, to simply follow up with the generally accepted index scores for successful research (number of peer-reviewed publications, h-index, cite-score, etc.) with the aim of increasing the success rate of third-party funding. The established sciences show all too well that publishing for the sake of achieving formal, quantitative rather than qualitative criteria ultimately runs the risk of counteracting itself. Rather, the driving force behind *Dimensions. Journal of Architectural Knowledge* is an interest in the content, while the concrete implementation strategically aims to open up new possibilities for architectural research in the future.

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