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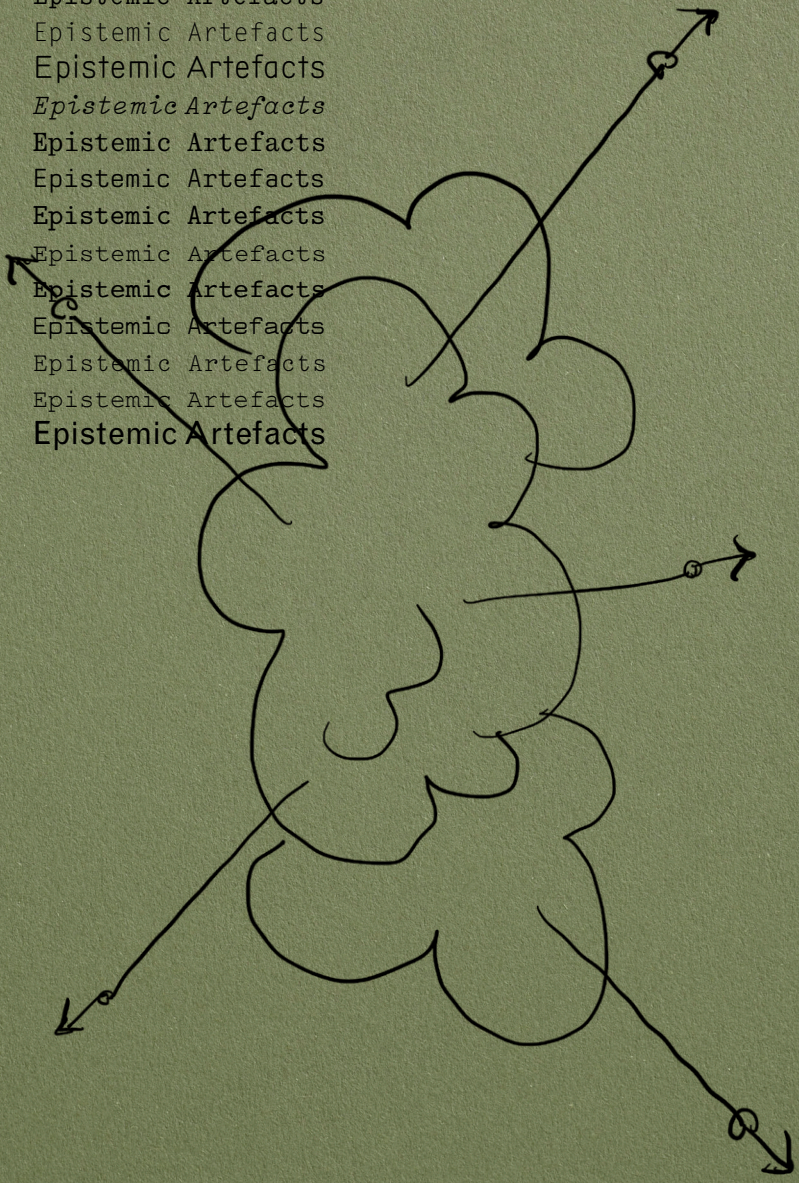
A Dialogical Reflection on Design Research in Architecture



Matthias Ballestrem
and Lidia Gasperoni

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Daniel Norell: 22, 34, 54
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Introduction

In recent years, design-based and design-driven research has given rise to several academic initiatives in the field of university pedagogy, especially in the development of doctoral research and specific programmes aimed at design-based and design-driven doctorates.

As teachers and researchers in architecture, we have gradually become part of this discourse in recent years. From our initial contact with the Practice Based Research Programme at RMIT and the corresponding ADAPT-r project at European universities, to Matthias's co-founding of the PEP programme for design-based doctorates at TU Berlin, to our joint participation in the CA²RE conferences and the CA²RE+ programme, we have become part of a discursive space in which the different perspectives and methodologies of "design-based", "design-led", "practice-based" research in architecture, design, and art have been in constant productive exchange.

The idea for this publication came about after one of our many conversations about our common areas of interest. It became clear to us early on in our discussion on 7 May 2021 that it might develop into a train of thought we would want to remember, and so we recorded it. In the end, we felt that our conversation touched on intense and previously insufficiently discussed points in the discourse around design-based research, the role of the artefact as a form of knowledge, the differences between design and research practices, and more. And so, on the basis of our transcript, we continued to work on our dialogue; we continued to write in

the form of a written correspondence, clarifying points and adding paragraphs, references, and images. It is precisely because of the dialogical nature of this text that we have decided to open up our conversation to the contributions of a broader group of qualified experts. We have thus developed a dialogical format in which an extended community of colleagues in the fields of architecture, philosophy, and design-based research comment on, critique, and further develop our original exchange.

The result is the following text, which includes comments and references from a variety of contributors in the spirit of our initial discussion – a form of transparent peer review that we hope will contribute both to the methodology of design-based research and to our understanding of design as knowledge practice, expanding this discursive space in many directions. The commentary-based format of the text was inspired by Alex Arteaga's book *Architectures of Embodiment* (2020). Our dialogue constitutes a questioning of scientificity with respect to the artefact; the text is not a conventional scientific work containing all of the relevant references in the field and structured by a linear, clear, logically conclusive argument. On the contrary, through the diversity of positions and dialogical argumentations it contains, it attempts to establish a network of questions that require a positioning capable of changing the focus of the question itself. This aspect becomes clear when we consider the polarisation of the artefact and its dependence on practices that are generated not only by dialogue but also by the positions of the chorus of

commentators, which emphasise perception, a non-anthropocentric vision of the artefact, and the role of apparently artefact-free design practices. In his afterword, Marcelo Stamm describes and categorises the epistemic artefact in more detail – a task that is not addressed explicitly in the dialogue itself. Stamm's taxonomy, in the form of a family album, remains at the same time open to additions and regroupings.

We would like to express our sincere and deep gratitude to the authors who were willing to invest their time and energy to share their expertise and contribute to this book: Alex Arteaga, Fabrizia Berlingieri, Peter Bertram, Helga Blocksdorf, Anđelka Bnin-Bninski, Marta Fernández Guardado, Anke Haarmann, Joerg Fingerhut, Rolf Hughes, Rachel Hurst, Daniel Norell, Tomas Ooms, Claus Peder Pedersen, Tim Simon-Meyer, and Philip Ursprung. We would also like to thank Rochus Hinkel of AADR for his curiosity and openness to publishing and supporting this experimental format and for our challenging and productive discussions throughout the editing and publishing process. Much of the depth of this discourse is thanks to discussions with our colleagues within the PEP programme and the CA²RE community, for which we are sincerely grateful. For clarifications and stylistic improvements we thank Carolyn Benson, and for translating an experimental text format into an appropriate layout, our thanks go to Stuart Geddes. Last but not least, we thank HafenCity University for the financial support that made this publication possible.

Figure 1.1: “Student Measuring the Temple of Castor and Pollux in Rome”. Henry Parke, 1819. © John Soane Museum.

1.1 Tomas Ooms: “I would say the viewpoint is different, more aspective: the archaeologist is measuring the measuring archaeologist – to observe, experiment with, and document methods and means of measuring in order to further the act of measuring and, simultaneously, the method of furthering the measuring of the measuring,” said the artefact.

1.2 Joerg Fingerhut: For me, pictures are the *default mode* of design-based research. Drawings, etchings, paintings, etc., provide us with models of the world in a media-specific way, and differently from digital media and architecture itself (Fingerhut 2021). At first sight, it seems as if Parke’s pen and watercolour image shows us the knowledge that can be gained via architectural and technological artefacts (capital, ladder, measuring stick, etc.). Yet the Temple of Castor and Pollux in Rome was not observable to him in his time; rather, it was already one of the most famous ruins of art history (fig. 1.2, three columns on the left). The image is therefore a true epistemic object in that it presents us with the upvaluation of classical antiquity, the measuring of an ideal that is revered and can be brought forth again (this seems quite different from what Matthias sees in it). The measurement is therefore tantamount to a reinvention of the architecture. The main epistemic artefact is the image that brings forth (in a second rebirth after the Renaissance) an architecture that no longer physically exists.

Matthias Ballestrem (MB): In a lecture, I recently saw an image of a painting showing an archaeology student climbing a very long ladder to measure the capital of a column of an ancient temple (fig. 1.1). It depicts the archaeological practice of producing knowledge about a design product – in this case, an ancient temple. The object of investigation is the temple, the researcher is the archaeologist, the research method is measuring, and the result of the research can be verified by re-measuring and verifying the geometry. 1 1.1 1.2 1.3

I have been thinking about how this kind of established scientific research might be comparable to design-based research. I use the term *design-based* as a direct translation of the German *entwurfsbasiert*, which on my understanding means that in this kind of research, knowledge production is based on the researcher’s own concrete design. Therefore, both the design-based researcher and the archaeologist share the aim of accessing the knowledge contained in the design results. However, there is of course the difference that architects have created the artefact that the archaeologist is measuring. They have already produced the knowledge that the archaeologist is now translating into numbers and drawings. The form of knowledge here is a special one, however: a capital is, after all, a physically materialised artefact and not a measured drawing. 1.4

Lidia Gasperoni (LG): Yes, the comparison makes some differences clear. The first difference concerns the *object of analysis* itself, which in the 2

Figure 1.2: “View of the Forum Romanum”. Giovanni Battista Piranesi, 1748–1766. © Stiftung Preußische Schlösser und Gärten Berlin-Brandenburg.

1.3 Anđelka Bnin-Bninski: I find it quite significant that the discussion starts with the notion of measuring. This is exactly the procedure that I introduced in my own doctoral research – on drawing as a critical and tactical activity in architectural design – as an essential leverage that defines the difference between open, active, and engaged drawing, as opposed to the representational, self-referential, non-critical approach to drawing as a design process (fig. 1.3). This shift consists in treating measuring as a bivalent procedure – an exact and scientific, but also experiential, embodied activity, a particular survey (Bnin-Bninski 2018). This relation between the design and measuring is outlined by Paolo Belardi when he elaborates on the Italian terms *disegno* and *rilievo*. While *disegno* stands for both drawing and design, *rilievo* is beyond the *x*, *y*, *z* measurement axes and includes the fourth dimension of time and the fifth dimension of culture (Belardi 2014, 43). Thus, I would say that the activity of the archaeologist is more than a scientific research method; it is also a contextual, experiential, delicate, and even dangerous activity in the specific example of figure 1.1.

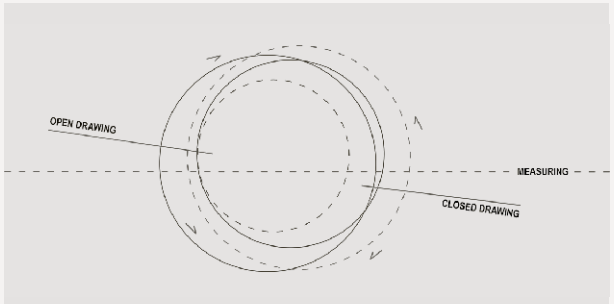

Figure 1.3: “The Leverage of Measuring Procedure”. Anđelka Bnin-Bninski, 2018.

case of the archaeologist is found, located, and external. In design-based research, the object is instead produced by the researcher him- or herself, who in a second moment establishes a distanced relationship with the object in order to grasp it and make its epistemic value explicit.

The second difference concerns the *methods*, which in the first case seem predetermined and conventional and in the case of design-based research are developed by the researcher, since this research does not yet have a conventional and sedimented methodology, on the one hand, and is a design discipline that shapes space in the process of design itself, on the other.

A third difference concerns the *content* of the research, which in the case of the archaeologist appears to be verifiable in the discipline, whereas in design-based research it must define itself. In particular, the general difference between artefacts, research methods, and content seems to me to be central.

Let me focus on the object of analysis: the artefact in its presence becomes the object of research. It is the epistemic object. It consists in the fullness of the potential perceptions, references, and associations created by its presence. Regarding the question of what kind of knowledge is embedded in the artefact itself, the medium of the exhibition plays a generative role. Jacques Herzog and Pierre de Meuron’s cabinet in Basel is a pertinent example. This kind of archive aims to make the work of the office accessible to the public, but it is also an archive of architectural language and its generated spatial knowledge (Ursprung 2005). In interpreting and classifying

1.4 Joerg Fingerhut: The drawing archaeologist and the design-based researcher do more, or maybe something completely different. They bring forth meaning in the production of a design.

2.1 Tomas Ooms: "I prefer to be contradicted. Or at least contradictable. Does that surprise you? 'Contradictability' is a particular and necessary characteristic of architectural artefacts of inquiry, especially in the context of in practice research (In Practice, n.d.). My 'contradictability' is the capacity (of an architectural document) to be argued and contradicted. For me, this entails that I am perceptive, conceptual, constructive, dialectical, and inventive, but also that I contain the account of my own origin and creation. And further down the process, I am a fragment, a part of a whole. It is then your task to induce, discover, and describe the mereological relationships between the parts themselves and between the part and the whole," the artefact says.

2.2 Rolf Hughes: Here, the artefact appears to be removed from its prior context. What is the *context of reception* in which the artefact is now encountered?

3.1 Joerg Fingerhut: In the pictorial design, the abundance of meaning contained in its syntactical density is probably one of its foremost properties (Goodman 1976). The endeavour a researcher undertakes in this case seems to be one of guidance or of providing understanding, for example by pointing to parts of the image. The pen and watercolour image presents architectural elements (such as the frieze, dentils and cornice) that had already been destroyed, or at least heavily damaged, in Parke's time. This difference is salient. It causes us to re-orient ourselves towards the image. All research should partially exploit and then re-orient; it is a process that can lead to a practice. With Matthias's pictorial example one could engage in some *ekphrasis* to further explore the model it presents. Other objects may make us re-orient ourselves in more bodily ways, such as when we engage with three-dimensional physical designs or urban settings.

the artefact, archaeologists possess both tacit and explicit knowledge (Polanyi 1966; Schrijver 2021). They can immediately recognise parts of an artefact or a human body and possess a type of knowledge that is not merely instrumental but also embodied. Using specific languages and established methods, the fullness of the archaeologist's experience is reduced by defining its scientific content. The artefact in its presence, however, is there in its fullness, offering a variety of possible experiences. With respect to the artefact, the central questions concern how to make the object explicit without losing or reducing the fullness of its potential experience, in other words, while remaining aware of the different degrees and aims of specific reductions (Hoffmann and Wittmann 2008–2011, Fraser 2014). How are we to make the artefact the source of a research approach that is both communicable and perhaps generalisable – without having to be based on measurable and verifiable techniques? How can the artefact, in its presence, be an epistemic object and generate research practices that aim not to reduce but rather to reveal its epistemic value? 2.1 2.2

MB: The painting shown above illustrates how the capital – an artefact – becomes an epistemic object. It is obviously very fascinating, and thus the archaeologist takes great care, even in dangerous circumstances, to find out more about its qualities by measuring it. Someone, at some point, designed and made this fascinating building element. Someone created this abundance you speak of, which has sparked much research interest. The particular man-made presence of the 3 3.1

4.1 Rolf Hughes: I don't follow the reasoning here. Research practices, on my understanding of (artistic/design-driven) practice-led research, are what drive the research (based on the premise that the researcher can arrive at research insights through the specifics of practice that would not be arrived at by any other means). Documentation and reflection would seem to be concerned with "describing, illustrating", but these are only instances of a wider set of research strategies and practices.

artefact lies at the beginning – before we can talk about the proportion systems of antiquity, after much measuring.

* Research practices redesign the artefact again and again *

LG: An important question from my perspective concerns the role of research practices. Do they merely have the purpose of describing, illustrating? Or are they really what makes the artefact visible? From this perspective, it seems to me that the relationship between artefacts (understood in the broadest sense of the term) and practices is crucial. The mediality of practices is central to design-based research and prevents the reduction of the knowledge content of the artefact to mere linguistic description, allowing for a dimension of meaning exploration in which practices continually redesign the artefact and reveal its epistemic value. This is how research develops out of designing, and it is not just research about the artefact that has already been designed. Don't you think so? 4 4.1

MB: I think so, yes. And I also understand why it's important to your argument that the practices you're concerned with are inventions, in the sense of being new and original. That is, they become design practices because, on your understanding, they are not purely analytical but bring with them an uncertainty and questioning that is inherent to design in order to qualify as design-based research, thereby distinguishing it from the practice of the archaeologist, who draws the capital. This 5

6.1 Peter Bertram: I think it is important, on a fundamental level, to avoid notions of similarity between artefact and research object. It is really the irreducible difference between the design artefact and the object of research that drives the inquiry of design research (Peirce 1998, 48). The difference is not a gap to be bridged by methodological clarity but rather a productive friction between fundamentally different modes of thinking (Deleuze and Guattari 1996). Design and research practices do not need to be mutually translatable in order for design research to develop. On the contrary, I suggest that a defining characteristic of design research is that it is involved in problem invention across, or perhaps through, the fundamental difference between design and research. Difference is something in itself.

distinguishes designing from design-based research as two independent processes.

LG: This is a fundamental point, i.e. the distinction between artefacts and research, which also depends on specific practices that constitute the methodology through which the artefact becomes an object not only of observation, perception, evaluation, etc., but also of research. 6 6.1

Practices are also not to be confused with design processes. Processes can ultimately say something about artefacts, but in the end the quality of the artefact does not depend on the disclosure of the processes of creation. There are also processes that are total failures, but the artefact is still marked by a certain quality. Practices, however, are the methodological field in which the artefact can become an object of research that is knowledge-generating without becoming purely discursive. The practices are in fact design practices, but they are not just designing objects; they are the crucial path of design-driven research.

* The crucial contribution – is design-based research independent of the artefact? *

MB: The question is, *where* does the decisive contribution emerge? The practices you describe as research practices are used to make accessible what is already present in the artefact, and thus not only to observe the artefact, not only to evaluate it directly, but to question it critically, which in turn contributes to sharpening the 7

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Architectural artefacts are negotiated as epistemic objects, an autonomous and innovative form of knowledge capable of inaugurating and institutionalising architectural research. The backbone of this publication is a dialogue between the architect Matthias Ballestrem and the philosopher and architectural theorist Lidia Gasperoni. In a vibrant discussion, they consider the epistemic value of the architectural artefact, the role of research practices in making this knowledge explicit and accessible, and the criteria for qualifying as design-based research. Alex Arteaga, Fabrizia Berlingieri, Peter Bertram, Helga Blocksdorf, Anđelka Bnin-Bninski, Marta Fernández Guardado, Joerg Fingerhut, Anke Haarmann, Rolf Hughes, Rachel Hurst, Daniel Norell, Tomas Ooms, Claus Peder Pedersen, Tim Simon-Meyer, and Philip Ursprung have added short comments and images to enrich the arguments with criticism, extensions, associations, and references. An afterword by Marcelo Stamm provides a theoretical reflection on a possible taxonomy of epistemic artefacts.

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