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FRAMEWORKS OF DESIGN-DRIVEN RESEARCH

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Breaking Contraindications: Strengthening Design Driven Doctoral Research

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In the previous text contributions for the CA²RE+ publications, my focus has been moving from providing a kind of overview towards more personal stands regarding Design Driven research. The 2020 CA²RE+ Milan conference essay (Cavallo and Alkan, 2021) is an attempt to give a wider insight into the matter, interrelating the main paradigm shifts that took place throughout the international scholarly scene with the Design/Research development pathways at the TU Delft, particularly at the Faculty of Architecture & the Built Environment. Next to that, the framing of the CA²RE+ project out of the perspective and agenda of the ARENA network (Architectural Research European Network Association) characterizes the written piece (Cavallo and Hirschberg, 2021) for the first CA²RE+ book on Strategies of Design Driven Research. Meanwhile, the text for the 2021 CA²RE+ Hamburg conference (Cavallo, 2021), as well as the written contributions for the 2021 CA²RE+ Ljubljana conference and the second CA²RE+ book on Evaluation - the last two publications are upcoming - are more based on my personal viewpoints, observations and experiences. Up to a certain extent, in this new text I will set out some of my findings and clues in conjunction with more general considerations related to peculiar aspects of Design Driven Research.

Although to date several publications, projects, examples and various initiatives – among others and certainly not the least, the CA²RE+ project itself – can be found supporting necessity as well as values of Design Driven research, it is evident

to me that carrying out such research remains somehow an adventurous endeavour, especially in the framework of academic studies such as a doctoral research degree. This situation can be sensed in many of our institutions, in which putting forward design as a pivotal act in scientific research still encounters a considerable dose of scepticisms. For these reasons, I've decided to start the title of this contribution by *breaking contraindications*. While touching upon a few intricacies and dilemmas related to design in the framework of scientific research, the goal of this piece is to create awareness about some of these *contraindications* and outline possibilities to turn these challenges into vantage points to enhance and encourage Design Driven Doctoral research.

DESIGN DRIVEN RESEARCH; PERCEIVING DESIGN IN SCIENTIFIC RESEARCH

It is undoubtedly true that design is a central matter in architecture. Nevertheless, the question of whether it can be considered a central matter also in research, as a scientific activity, remains a persistent concern in our discipline. Design has many facets and connotations, follows very often non-linear pathways of development, frequently combining diverse aspects, as well as various objective and subjective perspectives. These are just some of the reasons due to which considering design as being a sound scientific activity will, up to a certain extent, continue to be controversial. In general, design doesn't follow a predetermined and widely shared set of rules that usually are the main characteristics at the base of scientific research processes (Rheinberger,

2021). Thereby, these misgivings are somehow amplified by this kind of dual identity syndrome that is typical of architecture, at the one hand the practice-oriented design and at the other hand the academic discursive discipline.

Design is commonly regarded as an activity meant to solve problems and achieve a particular product for a project and its implementation, in this way getting close to the usual objectives of design in professional practice. In my opinion, this is a crucial matter that needs to be turned around. Perceiving design mainly as a way to reach a targeted product and focusing too much on problem-solving can turn into a pitfall. Therefore, to enforce design as a research activity, the focus needs to switch towards knowledge. Undertaking Design Driven Research should imply committing to an 'inquisitive use' of design (Elkjaer, 2009), in which problem-solving can play a role but doesn't have the upper hand. In this way, the process of inquiry is more experimental, a process in which all steps are meant to contribute to the development of the thinking. Consequently, the goal of the inquiry is getting to know, about knowledge, and it can be transferred as such to ensuing activities (Elkjaer, 2009). While linking various matters into synergic interconnections, an inquisitive use of design enhances design as a knowledge-oriented activity, promoting creativity processes towards the emergence of new knowledge.

In research, and especially in doctoral research, the most important general requirements to take into account can be summarized under the headings of motivation, research questions, relevance, approach and methodology, novelty and transferability. Although these terms in a row are looking quite straightforward, spelling them out in the guise of Design Driven Doctoral Research demands specific attention. By the fact that design features many different facets and connotations, design driven research obviously cannot be characterized by univocal and objectified ways of inquiry, but rather by singularity, own position, situatedness, context-dependency as well as the use of specific research strategies and techniques (Blythe and Stamm, 2017). In addition, as doctoral research is typically an individual activity, the above-mentioned specificities that apply in the case design is involved, must be extended also to Design Driven Doctoral Research. It is therefore a basic premise that each doctoral researcher involved in Design Driven Doctoral Research develops its position in relation to the above-mentioned peculiarities, clarifying its distinctive individual range of ways to conduct the research (Blythe and Stamm, 2017). Even in the case the research is very specific and with a high degree of singularity, the researcher should make the effort of positioning him- / herself and contextualize (part of) his / her research in the interlocutors' framework in which the inquiry at stake would have an impact and be relevant. Following this

pathway, it should be possible to point out the differences, the additional or adapted points, that are characterizing the individual (part of the) research vis-à-vis the realm of research it refers to. This relates also to the concept of *Reflexive Design*, regarding specific questions of design research, with the goal of adopting more open research approaches in comparison with methodically predetermined scientific investigations (Buchert, 2021).

DESIGN DRIVEN DOCTORAL RESEARCH; MODES AND TYPES OF COMMUNICATION

Following the line of thought outlined in the previous paragraphs of this contribution, the specificities involved with *Design Driven Doctoral research* dictate that doctoral candidates define and enlighten their own position. This implies that researchers should be first aware of the things they are intending to do or are doing and in which context. For example, what is exactly the research and / or practice laboratory (Blythe and Stamm, 2017) of the individual researcher? Where and at which point the researcher / designer formulates his / her own findings via 'reflection on', 'reflection in' (Schön, 1983), and 'reflection for' (Blythe and Stamm, 2017) his particular (part of) work?

At the same time, the researchers should be strategic regarding the potential and opportunities of bringing forward and communicating their research, paying special attention to the design driven aspects of their inquiry. Like in the case of presenting a design proposal to other peers or clients, all types of

communications, verbal, non-verbal, written and visual, are playing an important and specific role also according to the specific types of audience. Terms such as *hidden premises, saying /showing distinction, evidencing claims, experiential knowledge, transformative triggers*, and many others (Blythe and Stamm, 2017) emerge in the glossary to facilitate expression and articulation of the various steps that such types of research journey entail. Without dwelling too much on the various 'new words' and their meanings, the important matter in Design Driven Doctoral research, as it is for every doctoral research, is the contribution to knowledge and its transferability. Also on this account, in *Design Driven Doctoral research* several matters can become pivotal, ranging from personal matters such as, among others, own position, own motivation, own context, and individual triggers, to more external issues like the contextualization of the research, external transformational stimuli, or sharing and testing.

DESIGN DRIVEN DOCTORAL RESEARCH; DOCTORATENESS AND ACADEMIC RESEARCH ENVIRONMENTS

Research environments play a fundamental role in this discussion. When we specifically look at universities as the institutions wherein most doctoral research programs are taking place, there are some perhaps obvious challenges that we should bear in mind. Universities are places where academic knowledge and research traditions along with their scientific conventions are residing, and where, at the same time, experimentation, innovation and cutting-edge

should be nurtured. It is not my intention to start here a discussion involving the bureaucratic complexity of these organizations, but when talking about doctorates it seems obvious to me that ingrained scientific conventions and their accompanying regulations can often be perceived as burdensome, particularly in relation to innovative, experimenting and ground-breaking initiatives entailing non-conventional ways of working and often requiring new pathways of assessment. Many of these issues connected to the various challenges and questions regarding *doctorateness* are constantly a matter of concern throughout the wider academic community in the creative fields (Nilsson et al, 2017). Therefore, in order to strengthen design driven research in particular at the doctoral level, it is key to establish and keep alive a fruitful interplay among all research perspectives in architecture and its flanking disciplines, including every form of design or practice.

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