Research Through Design

E-mail-interview on *design research* for the Chinese journal *Landscape Architecture* and the website *Youth Landscape Architecture*: www.youthla.org.
How to define „research through design“?

Design is a normative endeavour, aiming at changing existing situations into preferred ones (Simon 1969). This makes a difference to scientific research, which aims at explaining what is. The normativity and value-orientation of design activities implies the involvement of the designer / observer.

Furthermore, design is not dealing with well-separated subjects under neatly controlled laboratory conditions but with systemic wholes, mostly in real-life conditions. We have two fundamental characteristics of systemic subjects: the problem of control, because of never totally accessible complexity, and the problem of prognosis, because of the evolutionary character of socio-cultural developments.

In consequence, design research, due to the relevance of people, process and products, has to deal with an inseparable mix of purposes and subject matters. This becomes obvious in Archer’s (1981) definition:

„Design Research... is systematic enquiry whose goal is knowledge of, or in, the embodiment of configuration, composition, structure, purpose, value and meaning in man – made things and systems."

Findeli’s (2008) recent definition is very similar:

„Design research is a systematic search for and acquisition of knowledge related to general human ecology considered from a ‘designerly way of thinking’ (i.e. project-oriented) perspective."

Models of Design Research have to take all these peculiarities into account: Research Through Design (RTD) acknowledges that the specific and at the same time very diverse subject matters of design require a special approach in order to be fruitful.

RTD takes the design process, currently also labelled as „design thinking“, as the guiding paradigm for the research process. Scientific contributions are included as necessary.

RTD means the epistemological consideration of the researcher’s / observer’s involvement in the observed. This is a situation of 2nd order cybernetics.

RTD is taking seriously the complete range of human competences. Nelson and Stolterman (2003) argue that designing takes place in the knowledge domains of „the true“, „the ideal“ and „the real“. In a more processual manner we speak of Analysis (how does the situation look like?), Projection (how should possible futures look like?) and Synthesis (how to make these futures real?).

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Is it a general consensus that „research through design“ is a proper methodology for researches in the field of design? And why?

In the sciences the purpose of research is knowledge generation in the respective field. So the primary distinction is not by purpose but by subject matter. Relevant subject matters of design research are fuzzy, as mentioned above. Therefore, design research has to look closer at its purposes.

A rough categorization of subject matters and purposes might be understanding artefacts (aesthetics) / the design process (logic) / the human experience (ethics) and improving the design process so that needs are better matched. Understanding might be related to „research ABOUT design‘, improving the process to „research FOR design‘. The issue of improving the human condition through design is at least implicit here. This most advanced position implies that design is an epistemological process of its own: creating useful knowledge by means of design inquiry. „Research THROUGH design‘ demands special attention; resilient theory models of this categorization are required. A permanent reflection of researchers’ involvement and position in the design process seems to be crucial in this respect.

Of course, research about / for / through design does not exist in pure form. RTD always includes knowledge contributions taken from research about or for design. Therefore we would argue that RTD is the reflective play with these different perspectives.

There is wide consensus that RTD (including similar concepts like „practice-led research‘ or „project-based research‘[3]) is a proper methodology among other approaches. There is no consensus about RTD being the most important designerly approach to research.

Design research foundations are still controversial. There is the „scientific‘path and the approach of a „designerly‘ theory of knowledge production. The attitude of RTD considers the difference between design and design research as gradual. A strong fraction therefore questions the rigidity of RTD and retreats to scientific approaches, claiming that RTD has not shown any progress within the last couple of years.

Here, of course, the question arises: what are the criteria for progress in design research? Relevance in the outcomes? Or rigour in the methodology? Is there any progress in the „scientific“ camp?

Is there any latest development on the methodology of research through design?

Extensive collections of designerly methods are developed. Attempts at structuring the RTD process and at better understanding the crucial Projection phase in the design research process are undertaken. Systems-oriented design approaches are gaining significance again (Churchman 1968, Vester 2007).

There is increasing appreciation of design thinking from other fields: management, organization studies, pedagogy, etc. (Boland and Collopy 2004). Attempts at relating RTD and Science and Technology Studies (STS), especially the notion of „Mode-2-Science” (Nowotny et.al. 2001), indicate a new understanding of scientific inquiry and the retreat from unproductive black & white perspectives (Latour 1991). Transdisciplinarity studies have to be mentioned here. The suggestion, probably the most radical one, is to extend our notion of knowledge towards transdisciplinarity. Nowotny states transdisciplinarity as a central feature of Mode-2-Science.

Transdisciplinarity concerns that which is at once between the disciplines, across the different disciplines, and beyond each individual discipline. Its goal is the understanding and – as in Mode-2-Science – the changing of the present world, of which one of the imperatives is the overarching unity of knowledge. When the very nature of a problem is under dispute, transdisciplinarity can help determine the most relevant problems and research questions involved. A first type of question concerns the cause of the present problems and their future development (system knowledge, see Analysis above). Another concerns which values and norms can be used to form goals of the problem-solving process (target knowledge, see Projection above). A third relates to how a problematic situation can be transformed and improved (transformation knowledge, see Synthesis above). Transdisciplinarity requires adequate addressing of the complexity of problems and the diversity of perceptions of them, that abstract and case-specific knowledge are linked, and that practices promote the common good.

An increasing emphasis on the relevance of design activities in general, indicated by expanding new approaches such as service design, design for social business, social design, etc. supports this development.

See http://www.designprocess.de

Book recommendations

A collection of highly interesting short contributions regarding the emerging interdisciplinary of design thinking and management.

Churchman is internationally known for his pioneering work in operations research, system analysis and ethics. This collection of texts reveals his urge to insert an ethical dimension into science.

The modern essentialist dichotomies of society and nature or culture and technology do not hold any longer in a world, where active things and evolving societies form new hybrid networks.

A basic work on the principles and philosophies of design thinking. Design is a service discipline for humans, acting in fundamentally different domains of knowing.

An analysis of scientific knowledge production today, which is increasingly characterized by transdisciplinarity, project orientation and social accountability.

The classical textbook, which introduces the notion of a genuine designerly way of knowledge production, apart from the sciences and the humanities.

Vester has been a member of the Club of Rome and presents a useful way of thinking and a toolbox for designers from a systems thinking perspective.
Short cv

Wolfgang Jonas, born 1953, study of naval architecture 1971–76 at the Technical University of Berlin, research on the computer-aided optimisation of streamlined shapes, PhD in 1983. 1984–87 consulting engineer in the area of Computer Aided Design for companies of the automobile industry and the German standardisation institute DIN. Since 1988 design practice, teaching (CAD, industrial design, exhibitions) and research (system theory and design theory) at the University of the Arts Berlin and at the University of Wuppertal. 1994 lecturing qualification (Habilitation) in design theory.

1994–2001 professor for „process design”, University of Art and Design Halle.
2005–2010 professor for „system design”, School of Art and Design, University of Kassel.
Since 2010 professor for „Designwissenschaft”, Braunschweig University of Art, Institute for Transportation Design.

Visiting professor at the Carnegie Mellon University, Pittsburgh, USA, Université de Montréal, Canada, Keimyung University, Daegu, Korea, Aalborg University, Denmark.

Focus of interest: design theory as meta theory, design theory and design methods in a systemic perspective, systems thinking, scenario planning, research through design.