and the more current "EKSIG."[1] I understand the authors are aware of these, but I would like to emphasize that the Research Through Design (RTD) conference series can benefit greatly from building on the success and correcting the inadequacies of these other endeavours. I believe that the authors might gain if they go beyond their own reflections and feedback to analyse carefully and critically, and not only refer and summarize, other similar design research conferences and projects that are aimed to serve research through design and the advancement of "design epistemology." In other words, compare and contrast their own with others to identify knowledge gaps and new opportunities, that is to say, to go beyond individual toward collective inquiry.

« 6 » For instance, a question of which the authors are aware is whether non-material-based design research, such as service design, would be welcomed in their RTD conference. This question, I believe, hits a nerve in, if not the heart of, a conference series aimed to advance research through design. As the authors know, there are different meanings and practices attached to "research through design" (see also Chow 2010). The authors' understanding leans toward the practice-based research discourse that has taken place predominantly in the UK, with its foci on material artefacts and embodied knowing. This is entirely legitimate; however, in order to include, for example, service design in the conference

and be consistent with their position, the authors need to re-examine their own basic assumption on "design" in general and "research through design" in particular.

« 7 » Fortunately, the authors are not alone and, I believe, whichever position they take, they will find others to walk with them. If they stay with the foci on material artefacts and embodied knowing, they will find allies with EKSIG and join the discourse on "experiential knowledge" and continue to refine the conference format favouring material- and experience-based presentation and discussion. If they expand their conception of design beyond material artefacts and experiential knowing, then they can examine and build on Jonas' research through design and further rethink the conference format. Jonas' model would imply a format that favours the discursive and the experiential.

« 8 » But at the end of the day, the format is secondary to the culture of inquiry. Organizing a conference is only worthwhile when it is or should be a moment of collective inquiry or learning. Exploring alternative formats to promote and realize this moment is a laudable ambition. Yes, I call this an ambition because academic conferences, like other academic activities, when not seriously reflected on and carried out, are mundane and sometimes boring routines. However, when thinking about creating conditions for facilitating collective inquiry, it is helpful and necessary to acknowledge and identify state-of-art understanding and practice, to improve them and to create a genuine alternative.

Rosan Chow is a Visiting Professor of Designwissenschaft at the Muthesius Kunsthochschule. Her research and teaching focus on design theory, methodology, and research. She holds a Dr.phil in Designwissenschaft from HbK Braunschweig. Before living in Germany, she studied, practiced, and taught visual communication design in Canada, Hong Kong, and the USA.

1| "Research into Practice," as far as I know, was one of the earliest to explore collectively the themes of knowledge and knowing in performing and creative arts in the context of academic and doctoral research. Although the symposium seems to have been inactive since 2008, past proceedings are published online under the title "Working Papers in Art and Design Journal," available at http://www.herts.ac.uk/research/ssahri/research-areas/art-design/research-into-practice-group/production/working-papers-in-art-and-design-journal. EKSIG (Design Research Society Special Interest Group on Experiential Knowledge) has been hosting bi-annual conferences since 2009 and seems to share the same agenda and interest as the RTD conference series. More information is available at http://experientialknowledge.org.uk/conference.html

Research Through Design Is More than Just a New Form of Disseminating Design Outcomes

Wolfgang Jonas
Braunschweig University of Art, Germany
jonasw/at/hbk-bs.de

> **Upshot** • The question of more appropriate dissemination formats for research through design (RTD) is important, but secondary. Artefacts are just media in the knowledge-generating process. RTD is a much more powerful concept than presented here.

Introduction

« 1 » In their target article, Abigail Durrant et al. present "a descriptive, experience-centered account of composing a new international conference with an experimental format that aims to support the dissemination of 'research through design'"(§73), and they conclude:

❝ […] the epistemological challenge for understanding how 'thinking' may be embodied in artifacts, along with understanding how artifact knowledge may be contextualized within a research process and the presentation of its outputs, remains as 'controversial' as ever (Frayling 1993: 8). One conceptual – and pragmatic – move forward could be to use the RTD conference format as a platform or locus for establishing a *commonly understood language* to be drawn upon for disseminating research through design, one that may accommodate the juxtaposition of visual texts, prose and artifacts, for communication, for performance and situated dialogue, and in the use of resources (e.g., technical) for mediating forms of expression and configuring participation. ❞ (§72)

« 2 » This concluding statement conveys the problem that I have with the text: there is a fundamental difference between the problem of disseminating RTD outcomes and the issue of developing a consistent concept of RTD. The article mixes both aspects in an inappropriate manner, concerning both content and strategy. In the end, there is no

epistemological clarification, but rather confusion remains. The authors give a thorough and comprehensive description and reflection on their experiences and the feedback received during the development of a new performative conference format. This is an important achievement in itself. The entire design research community needs more flexibility and more originality in publication and communication formats. But they fail in their aspiration to bring more clarity to the concept and the epistemological implications of RTD. There is the danger that this contribution even strengthens the counter-arguments of those who have always been sceptics of RTD and thus broadens the divide. Therefore I take the opportunity to recapitulate my own reflections on RTD of the past decade.[1]

Reflections on RTD

« 3 » Although it is reported that Bruce Archer first introduced the notion

---

1 | In this commentary RTD is used as a designation for the specific kind of design research, not for the conference series the authors are discussing in their original text.

of research about design, research through design, and research for the purposes of design in the late 1970s during his post at the Royal College of Art in London, it was Christopher Frayling (1993) who made the distinction popular. He introduced the categories of research into / through / for art and design. This categorization, which – for the first time – does not distinguish as to subject matter or an assumed structure of the "real world" but according to *purpose, intentionality* and *attitude towards* subject matters in design, is essential for a genuine designerly way of knowledge generation.

« 4 » Alain Findeli refers to Archer (and other authors) and emphasizes the essential role of project-grounded research for the development of a designerly research paradigm (Findeli 2008). Table 1, which contrasts Frayling and Findeli, reveals inconsistencies, which seem to result from a shift in meaning of "for" and "through" between Frayling (1993) and Findeli (1998). This requires clarification and further elaboration.

« 5 » Frayling's categorization is inconsistent and rather fuzzy, whereas Findeli

provides an epistemologically and semantically much clearer concept. Frayling's "through" comprises much of Findeli's "for"; only action research may relate to "through / by" with both authors. Frayling's "for" is something very different from Findeli's "for"; Findeli would probably not consider it as research at all. Jonas and Jan Meyer-Veden (2004) and Jonas (2007a, 2007b) adopt Findeli's categorization and try to clarify:

Research about design acts from outside, keeping the subject matter at a distance. Researchers are scientific observers that try to avoid any impact on the subject. For example: design philosophy, design history, design critique, etc.

Research for design acts from the outside too, but aims at supporting the design process. Researchers act as knowledge providers for designers. The provided knowledge may be of limited validity because it relates to a reality that is changed by design. For example: market research, user research, product semantics, etc.

Frayling 1993	Findeli 1998
Into "the most straightforward, and […] by far the most common: ▪ Historical research ▪ Aesthetic or Perceptual Research ▪ Research into a variety of theoretical perspectives on art and design – social, economic, political, ethical, cultural, iconographic, technical, material, structural […] whatever. […] there are countless models – and archives – from which to derive its rules and procedures."	**Into / about** ▪ Separation of design research and design practice (weak theory), ▪ "little or no contribution to a theory of design"; see the field of "design studies" (Margolin)
For "The thorny one is Research for art and design, […]. Research where the end product is an artefact – where the thinking is, so to speak, embodied in the artefact, where the goal is not primarily communicable knowledge in the sense of verbal communication, but in the sense of visual or iconic or imagistic communication."	**For** ▪ Design as applied science (no theory), ▪ complex, sophisticated projects ▪ (research and development)
Through "less straightforward, but still identifiable and visible. ▪ Materials research – such as titanium sputtering or colorization of metal projects […] ▪ Development work – for example, customizing a piece of technology to do something no-one had considered before, and communicating the results. […] ▪ Action research – where a research diary tells […] of a practical experiment in the studios, and the resulting report aims to contextualize it. Both the diary and the report are there to communicate the results, which is what separates research from the gathering of reference materials."	**For** ▪ Design as applied science (no theory), ▪ complex, sophisticated projects ▪ (research and development)

Table 1 • Design research concepts based on Frayling's (1993) terminology in comparison to Findeli's (1998).
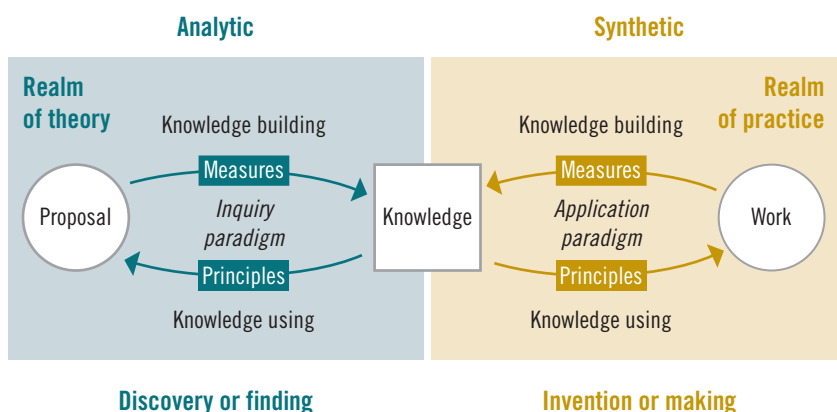
Figure 1 • A pragmatist model of building and using knowledge (Owen 1998).

Research through design (RTD) denotes the genuine designerly process of knowledge generation. Designers / researchers are immediately involved, creating connections, thereby changing the subject of research. For example: potentially every "wicked problem" in Horst Rittel and Melvin Webber's (1972) sense.

« 6 » Research about and for design seems unambiguous. The epistemological status of RTD, however, is still weak. According to Findeli (1998: 111) "'project-grounded research' […] is a kind of hybrid between action research and grounded theory research": *Grounded theory* aims at theory building, while accepting the modification of its subject matter. *Action research* aims at the modification of reality, while observing and processing theory modifications (Swann 2002). Both approaches admit the involvement of the researcher as well as the emergence of theories from empirical data, in contrast to the established concept of theory building as the verification of previously formulated hypotheses.

« 7 » Archer (1995) adheres to the distinction of research about / for / through design and puts RTD in a category with action research:

❝It is when research activity is carried out through the medium of practitioner activity that the case becomes interesting.❞ (Archer 1995: 11)

Findeli (1998: 111) clarifies that:

❝[…] although the importance of the design project needs to be recognized in project-grounded research, it should never become the central purpose of the research project, otherwise we fall back into R&D. Therefore, the design project and its output find their place in the annex of the dissertation, since practice is only a support for research (a means, not an end), the main product of which should remain design knowledge.❞

« 8 » Findeli (2008) introduces a new perspective in arguing that RTD, or "project-grounded research" as he prefers to call it, has to combine research for and about design in order to become both relevant and rigorous. Note his statement that "the design project and its output find their place in the annex of the dissertation."

« 9 » Charles Owen (1998) introduces a pragmatist concept of knowledge generation in and through design, which integrates inquiry and application. It can be traced back to David Kolb's (1984) pragmatist learning cycle and even earlier models (Dewey 1986). Owen concentrates on building knowledge for the improvement of the design / planning process (left side of Figure 1) and on applying this knowledge in design / planning (right side of Figure 1). The feedback loops in the model of building and using knowledge indicate the close interconnection between reflection and action or analytic and synthetic reasoning in the design process.

« 10 » I choose to interpret his representation as an argument for the *fuzzy demarcation line between design and RTD*. Yet,

without neglecting the "beauty of grey" in between, one should insist on the distinction:

▪ *Design* uses and applies analytical knowledge for the purpose of designing artefacts or finding answers to design questions, whereas

▪ *RTD* uses designerly, project-based process knowledge for the purpose of finding answers to research questions.

« 11 » Finally, Owen gives a number of recommendations, for example:

❝Initiate studies of the philosophy of design. Just as studies of the philosophy of science, history, religion, etc. Seek to understand the underpinning values, structures and processes within these systems of knowledge building and using, there need to be studies of the nature of design.❞ (Owen 1998: 19)

which can be interpreted as the urge to do research about design.

« 12 » Table 2 relates the concepts to the epistemological theory of first- and second-order observation / cybernetics. A fourth category is emerging: research as design.

Research for design: An idealized / disembodied / objective observer of some isolated external phenomenon, generating knowledge *for* a design / inquiring system. Research is defined / determined by underlying basic assumptions regarding the structure / nature of the design process (What is design? How does it work?). → Design as a cognitive process, semiotic process, communicative process, learning process, etc. Research aiming at the improvement of the design / inquiring system regarding various externally determined criteria (so-called "applied science").

Research about design: An idealized / disembodied / objective observer of a detached design / inquiring system, generating knowledge *about* this system. Research is defined / determined by motivations aiming at inquiring and understanding the "nature" of diverse aspects of design. Research by means of disciplinary scientific methods applied in order to explore various aspects of design. → Design as a subject of disciplinary research: philosophical, anthropological, historical, psychological, etc.

Research through design: An embodied / situated / intentional observer inside a design / inquiring system, generating knowledge and change *through* active participation in the design / inquiring process. Research is defined / determined by basic assumptions regarding the purpose of designing (What is design good for?) aiming at the achievement of goals. → Design as a projective process, human-centered process, innovation process, emancipatory process, political / social process, etc. Research guided by the design process aiming at transferable knowledge and innovation according to various internally determined criteria.
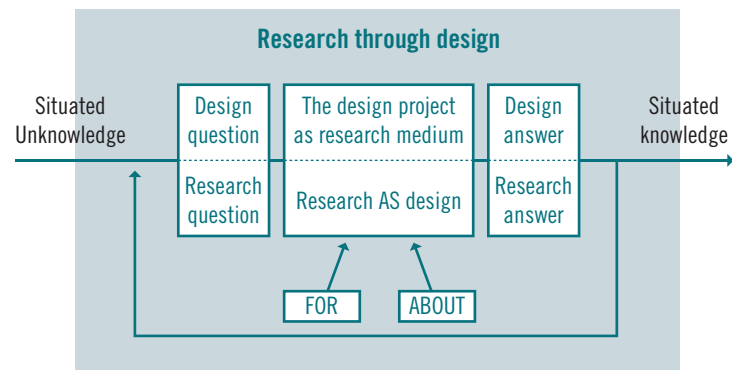
Research as design(?): An embodied / situated / intentional observer inside a design / inquiring system, concentrating on the production of variations *as* raw material for the design / inquiring process. Research in action. Probably the essential mental and social "mechanism" of generating new ideas, the location of *abductive* reasoning. → Design as the inaccessible medium of knowledge production, etc.

« 13 » To sum up: Figure 2 illustrates that RTD cannot exist as an isolated concept, but that it has to integrate the other modes of inquiry. Scientific input (about, for) is indis-

Figure 2 • Research through design means the reflected, purposive, and playful use of observer modes during the design research process (Jonas 2014).

pensable, but the nature of the design phenomena does not allow the reduction of design research to (applied) scientific research. On the contrary: scientific research has to be embedded in designerly models of inquiry. There are the all-embracing *subject matters* of aesthetics / products – logic / process – ethics / people, and the essential distinguishing *purposes* of understanding design-relevant phenomena, of improving the design process, and of improving the human condition. These purposes can be related to the *epistemological attitudes* of research about design, for design, and through design.

« 14 » Based on these considerations, I have finally developed the position that RTD has the potential to act as the epistemological paradigm for transdisciplinary studies and transformation design (Jonas 2014, 2015).

Conclusion

« 15 » To come back to the target article, I will summarize my critique, which is based on a different view of RTD, following Archer, Owen, Findeli, and others: RTD is not primarily about conceiving artifacts / products as carriers or representa-

First order cybernetics	Second order cybernetics
▪ Observer is situated outside the design / inquiring system ▪ Emphasis on the analytic aspects of the research / learning cycle? ▪ producing facts	▪ Observer is situated inside the design / inquiring system ▪ Emphasis on the projective and synthetic aspects of the research / learning cycle? ▪ producing (arte)facts based on values

Table 2 • The concepts of research for, about, through design, related to observer positions and perspectives (Glanville 1997).
Black: Observer position and relative perspective; yellow: life-world; red: design / inquiry system.

tions of knowledge, but about conceiving the design process as a unique epistemological and methodological medium / device for knowledge generation, different from other disciplines' instruments. Furthermore, I avoid Frayling's understanding of the artifacts as carrier of knowledge and agree with Findeli and Rabah Bousbaki's (2005) hypothesis of the "eclipse of the object." This helps to avoid the impression that RTD is either a form of R&D or a form of artistic research.

« 16 » In this context, two main goals as to content and strategy can be identified:
1 | the development of RTD's epistemological basis and methodological realization in order to raise its academic standard and reputation; and
2 | the exploration and development of new formats of presenting and communicating RTD outcomes.

The second goal should contribute to the first one. So, RTD and its dissemination (the second goal), which – in my view – also means promotion of RTD, will better be supported by aiming strategically at connectivity to more traditional formats than by neglecting them. This may appear paradoxical: RTD *is* different, no doubt. But in order to be better accepted in its difference, it should be a bit more the same. Our competitors are the other disciplines that use their approved approaches for comparable research questions. We have to prove that our answers, developed by designerly procedures, are of equal quality. The development of a *commonly understood language* (the authors' claim) will probably not be achieved by retreating towards our own cozy comfort zone of design studio interaction patterns. It may even turn out to be counterproductive.

Wolfgang Jonas holds a Ph.D in engineering (naval architecture) and earned his teaching qualification (habilitation) for design theory in 1994. He has taught in Halle, Bremen and Kassel. Since 2010 he has been professor of Designwissenschaft at Braunschweig University of Art. He is interested in design methodology, systemic and scenario-approaches, and the development of the concept "research through design."

Striking a Balance: Openness in Research Through Design

Amy Twigger Holroyd
University of Leeds, UK
a.t.holroyd/at/leeds.ac.uk

> Upshot • The experimental conference format described by Durrant et al. is intended to create an open platform for dissemination and knowledge creation. The field of open design, in which designers create structures to support creative action by others, offers relevant insights and alternative approaches. For example: while it is logical to see openness as open choice, it can be productive to instead think of openness as constructed through a balance of structure and choice.

« 1 » In this response to the richly detailed target article on Research Through Design (RTD) – a conference that I attended as both presenter and "provocateur" – I have chosen to focus on the specific issue of openness.

« 2 » As the authors explain, the field of research through design is in the early stages of development (§7). While significant progress has been made in recent years, this approach still has few shared touchstones and lacks even a consistent mutual language; openness is required to accommodate the diversity of viewpoints and vibrant debate that will help the field to mature. As detailed in the article, RTD was therefore conceived as an open platform for the dissemination of practice-based design research, with the participants' contributions shaping the discussions that would take place as well as the format of the event (§2).

« 3 » This approach raises questions over the most effective way to foster open, constructive discussion and exchange: How much structure and facilitation is appropriate? How can framing elements be planned to guide and support rigorous debate and productive dialogue in such uncharted territory? How can insights be shared with a nascent community to enable a field to progress, without shutting out alternative interpretations?

Open design and open activity

« 4 » Consideration of these questions brings a parallel from contemporary design practice to mind: the concept of open design (van Abel et al. 2011). Although some understandings of open design involve the user in designing industrially produced goods or major building projects, or customising, adapting or completing products at home, I am interested in another interpretation, in which trained designers direct their energies towards building structures to support the individual or collective creativity of others. Jos de Mul (2011) describes this role as that of the metadesigner: someone who guides others through a creative process, mediating and enabling their experience.

« 5 » My own doctoral research – which I identified as using a research-through-design methodology – tackled the issue of openness in fashion, simultaneously exploring methods of "opening" and re-knitting existing garments, ways of sharing design skills with amateur knitters and the possibility of opening up the fashion system through amateur making (Twigger Holroyd 2015). At each of these levels, the openness I sought was situated in contrast to a "closed" norm, and was intended to give autonomy to individual wearers, rather than fashion "experts."

« 6 » In practical terms, I developed a range of re-knitting techniques, each of which had countless variations, depending on the characteristics of the original garment and the design of the alteration; I then shared these techniques with a small group of amateur knitters at a series of workshops. I wanted to create a space for these participants to devise their own re-knitting projects, experiment and make creative decisions, without prescribing the nature of their actions or inadvertently imprinting the techniques with my own preferences and values.

« 7 » This practical exploration helped to shape my thinking: while I initially saw openness as offering as many choices as possible, this overwhelmed and confused the participants and stifled their ability to act. I realised that in order to open up activity, I needed to provide support – in this case, by limiting the options available. This corresponds with the argument made by de Mul (2011: 37): "the designer's task is to limit […] space in order to create order from disorder." Thus, I came to understand openness