

Developing a Dialogical Platform for Disseminating Research through Design

Abigail C. Durrant • Newcastle University, UK • abigail.durrant@newcastle.ac.uk

John Vines • Newcastle University, UK • john.vines@newcastle.ac.uk

Jayne Wallace • Northumbria University, UK • jayne.wallace@northumbria.ac.uk

Joyce Yee • Northumbria University, UK • joyce.yee@northumbria.ac.uk

> Context • Practice-based design research is becoming more widely recognized in academia, including at doctoral level, yet there are arguably limited options for dissemination beyond the traditional conference format of paper-based proceedings, possibly with an exhibition or “demonstrator” component that is often non-archival. Further, the opportunities afforded by the traditional-format paper presentations is at times at odds with practice-based methodologies being presented. **> Purpose** • We provide a first-hand descriptive account of developing and running a new international conference with an experimental format that aims to support more analogously the dissemination of practice-based design research. **> Method** • Our approach herein is broadly interpretative, phenomenological and critically reflective in orientation, to analyze our own experiential insights from the conference conception, through to the event itself and post-conference reflections, alongside the reflections fed back by conference delegates. **> Results** • We have found the roundtable format continues to function well for creating a discursive interactional context. However issues arose around the crucial nature of the session chair’s role in enabling rich and multi-voiced discussion and how presenters’, organizers’ and delegates’ voices were captured and documented, with implications for further developing the conference design. Looking forward, there are also questions raised about: balancing the stringency of a rigorous review process with provision of an encouraging platform for early-career researchers; and balancing the need for clear criteria and formatting standards (for assessing quality and rigor in submitted work) with the “openness” of the submission template and formatting guidelines (to encourage pioneering developments in visual argumentation). **> Implications** • The article provides a valuable resource for practice-based design researchers who are committed to generating research understanding through applied endeavors (making things) and / or writing. This includes designers who are new to research cultures. It should also appeal to those working in interdisciplinary research in collaboration with design practitioners (but who may not be practitioners themselves). The conference aims to foster and support a burgeoning “research through design” academic community and to provide a fitting dissemination platform for this community. We hope that the conference will encourage academic communities to give proper consideration to the concept of design as a knowledge-generating activity. **> Constructivist content** • Knowledge about design research is generated from meaningful interaction between people and artifacts as part of the unfolding conference experience. The organizational features of the conference aim to support knowledge dissemination through dialogical relations between people and things in particular contexts of interaction. **> Key words** • Research through design, practice-based research, dialogical relationships, embodied knowledge, new materialities, discursive dissemination platform.

Introduction

« 1 » Practice-based research in design is increasingly recognized as a knowledge-generating endeavor. However, ideas about “what” forms of knowledge are generated when designing and “how” it is generated remain heavily debated (e.g., Archer 1995; Findeli 1998; Frayling 1993; Jonas 2007a; Nelson & Stolterman 2003). Linked to this are questions about how practice-based design research produces transferrable knowledge that may be effectively disseminated. Arguably, the traditional conference

format of delivering paper presentations to audiences seated in darkened auditoriums is not always conducive to the dissemination mechanisms common in the creative design disciplines, which are often centered on presentations of exhibited artifacts. Typically, design conferences either adhere to the traditional conference format just described, or showcase product propositions whereby the intended outcome is not research understanding.

« 2 » In this target article, we present a collective experiential account of the process of establishing and running a new biennial

conference series entitled Research Through Design (RTD, <http://www.researchthrough-design.org>). RTD is envisioned as an experimental, inclusive platform for disseminating practice-based design research. It comprises a curated exhibition of design research artifacts accompanied by roundtable discussions in “Rooms of Interest.” RTD welcomes submissions from all areas of design. The submission process invites authors to leverage visual argumentation in reporting on their research, and to propose exhibition pieces that draw upon appropriate media and materials for the persuasive commu-

nication of ideas. The novel format of RTD is therefore intended to support creative, practice-based researchers in disseminating their work by situating the artifacts and processes of design at the heart of proceedings. As such, RTD provides a dialogical format for knowledge generation around people and their designs, and helps scaffold a pertinent debate on epistemology in design.

« 3 » Originally conceived of by Jayne Wallace and Joyce Yee, the inaugural RTD conference took place in the UK in 2013, run in conjunction with another conference under the umbrella branding of Praxis + Poetics (<http://www.praxisandpoetics.org>).¹ Following RTD 2013, the organizers collected and analyzed feedback from the delegates about their experience of running and attending it (Wallace, Yee & Durrant 2014) to inform plans for a future iteration of the conference. RTD 2013 proved to have international reach and was well received by delegates. As a result, RTD has been taken forward as a biennial conference series. RTD 2015 was held in Cambridge, UK, between 25 and 27 March 2015.²

« 4 » As members of the RTD Steering Committee and previous General Chairs, we provide, herein, a reflective, experiential account from our shared perspectives about how the conference has been iteratively developed. In this article, we draw upon critical phases of planning RTD 2015 to explicate the ethos and motivation behind the conference series design. We focus in particular on how the novel RTD format gives serious attention to both (a) providing a dialogical conference experience and (b) capturing the knowledge that is generated *during* conference proceedings. We additionally reflect upon survey feedback we have received from delegates to make sense of our experiences and the impact of the event, generating insights to inform the ongoing development of the series.

« 5 » In the course of reporting on this conference design and its documentation, we make connections with constructivist agendas on valuing active, situated dialogue for fostering shared understanding

and transferrable insights. Towards the end of the article, we will discuss the envisaged role of the conference series to support and sustain a burgeoning RTD researcher community. In doing so, we contribute to current efforts to advance discourse surrounding design epistemology.

The evolution of Research Through Design

Debates on the role of practice as a knowledge-generating activity

« 6 » The phrase “research through design,” from which the conference takes its name, has been used variously within academic discourses and in colloquial parlance to describe a process of inquiry through designing. While the phrase holds different meanings, it conveys, in a straightforward sense, how design may be understood as a *knowledge-generating activity*. This acknowledges that design provides a *practice-based* approach to raising questions about the world, and alternative perspectives and visions of the future, through making them tangible and relatable.

« 7 » Debates in design research about the role of practice and making have matured in recent years as practice-based research programs are more formally adopted in academia. However, questioning around the relationship between the epistemology of design and science remains open and much debated. This is perhaps due to a lack of consensus on the epistemological and methodological frameworks that designers are using. A particular point of contention has been the epistemology of artifacts and their making. How knowledge may be located “in” or created “through” designed artifacts remains an open question, and one that complicates established dissemination traditions that favor the written word, in line with the scientific method (see, for example, Chris Rust’s work: Rust 2007; Rust, Mottram & Till 2007). However, in recent years, commentators note that multiple approaches to “doing research through design” that include arts- and humanities-based approaches are now widely accepted and endorsed; as such, design research is arguably “coming of age” (Koskinen et al. 2011).

« 8 » Nigel Cross is an early commentator to make sense of the relationship between design and science from a historical perspective, noting the emergence of “designerly ways of knowing” (Cross 2001). Cross observes how the post-war climate in the 1960s led to the development of a design methods movement built on tenets of objectivity and rationality; this “design science” perspective was encapsulated in Herbert Simon’s *The Sciences of the Artificial* (1969). And while this perspective developed in the decades that followed, alternative discourses also emerged to push back against it; these acknowledge the “wicked problems” of design (Rittel & Webber 1984), and how design can be seen as constructive, generative and iterative (Gedenryd 1998) in creating possible things and possible worlds. Donald Schön coined the term “reflective practitioner” (1983), which captured the imagination of many design researchers. As later documented by Cross, Schön “explicitly challenged the positivist doctrine underlying much of the “design science” movement, and offered instead a constructivist paradigm” (Cross 2001: 53). He goes on to note the following.

“Schön proposed instead to search for ‘an epistemology of practice implicit in the artistic, intuitive processes which some practitioners do bring to situations of uncertainty, instability, uniqueness, and value conflict,’ and which he characterized as ‘reflective practice.’” (Cross 2001: 53f)

« 9 » Christopher Frayling and Bruce Archer built on Schön and others’ ideas to further advance discourse on designerly ways of knowing and working. Frayling (1993), adapting Herbert Read’s work on art research (1943) and informed by Archer’s work of the time (Archer 1995), coined three distinctions in approaches to (art and) design research: research into art and design; research through art and design; and research for art and design.³ Research *into*

3 | It is important to note that when Frayling conceived of “into, through and for” it was in part a deliberate pragmatic move and the terms were not meant to be taken as concrete definitions. Despite this, they have since become highly popular in design research literature. In an interview with the authors conducted prior to RTD 2015, Frayling noted how he now feels differently about the

1 | The General Chairs of RTD 2013 were Jayne Wallace and Joyce Yee.

2 | The General Chairs of RTD 2015 were Abigail Durrant and John Vines.

art and design refers to research where art or design practice is the object of the study. Research *through* art and design refers to design practice as the vehicle of the research, and a means to communicate the result. Finally, research *for* art and design aims to communicate the research embodied in the artifact. The concepts of “research through design” and “research for design” have since been taken up and at times criticized for conflating tacit knowledge and design practice with “a new form of theorizing” (Friedman 2008: 157); design is traditionally taught by masters to apprentices and, some would argue, *not* researched. This framing has also been criticized as an over-simplification of research conducted in design and was not fully expanded on by Frayling in subsequent years.

« 10 » The debate about whether or not tacit knowledge (know-how) is equivalent to “knowing” has been on-going in design research discourses since the academization of the discipline. Kristina Niedderer’s research (2007), derived from a study of craft practice, has shown that conventional research prioritizes explicit and propositional knowledge because of its language-based mode. Conventional research therefore excludes certain kinds of knowledge associated with practice, which are often called practical, experiential, personal or tacit, and which evade verbal articulation. Niedderer’s work considers the role of practice, and the design project, in the generation of knowledge, in particular drawing on preceding arguments made by design theorists such as David Durling (2000, 2002) and Michael Biggs (2000) on the validity of practice-led knowledge in design, and on rigor and research in practice (Biggs & Büchler 2007) and theory construction (Friedman 2003). Others have since honed articulations of “research through design,” addressing the nature of knowledge generation in terms of design processes (e.g., Findeli et al. 2008; Jonas 2007a; Fallman 2008).

« 11 » More recently, Koskinen et al. (2011) developed the notion of “constructive design research” to reinvigorate perspectives on how “design research through

value of delineating design research approaches in this way. To elaborate on how is beyond the scope of this article.

practice” is not tied to explanation (explaining the world), but is rather about imagining new worlds and building them. The authors bridge activities of making, understanding and theorizing, and highlight the significance of design inquiry to society and making societal change. Their work includes reference to critical and speculative design approaches that use the language of design to materialize alternative perspectives or socio-political commentary on the world (Dunne & Raby 2013; Stirling 2005).

« 12 » Research through design has also been taken up in the interdisciplinary field of human-computer interaction (HCI). In the course of interdisciplinary working, the HCI community has needed to grapple with distinguishing engineering design from creative design (Löwgren 1995). This has led to recognition of the generative and exploratory nature of inquiry in creative design (Wolf et al. 2006) and the value placed on the process of designing as a vital feature of inquiry (Fallman 2003) rather than a means to an end. In this field, Bill Gaver (2011, 2012) and John Bowers (2012) have articulated strategies for practicing research through design that resist the formalization of knowledge, instead privileging provisional and contingent expressions through the creation of “annotated portfolios” and “workbooks.”

« 13 » In areas of design that embrace digital and networked technologies, practitioner-researchers are also adopting new tools and materials, giving rise to new design expertise (e.g., interaction design, synthetic aesthetics) and new design cultures (e.g., maker communities) with both local and global influence across academia and industry (Anderson 2013; Yee, Jefferies & Tan 2013). This invites further reconceptualizations of how inquiry through making may take place and how understanding may be “entangled” between people and things (Ingold 2013). Such new configurations of expertise and environments have led to a recent rise in academic conferences (e.g., Making Futures, <http://makingfutures.plymouthart.ac.uk>, and All Makers Now, <http://www.autonomic.org.uk/allmakersnow>) or conference tracks (e.g., DIS Pictorials, <http://dis2014.iat.sfu.ca/index.php/pictorials>) that give serious attention to the value of doing “research through design,” with formats that support – and encourage

– experimentation, interdisciplinarity and visual argumentation (e.g., Blevins, Hauser & Odom 2015). These conferences also signal growing communities of interest about design researcher-practitioners and the roles of artifacts in research dissemination.

Towards an epistemology of design

« 14 » We have observed that the creative, practice-based element of design research – which Schön referred to in terms of “reflective practice” – is starting to be explored through tackling the *practical* question of how it is disseminated. As set out in our introduction, traditional dissemination formats for design research have arguably revolved around delivering paper presentations in auditoriums, and until recently, underexplored the means to accommodate or exploit the role of designed artifacts in research communication. Also, while many conferences have an exhibition or “demonstration” feature for design, this is still, arguably, positioned as ancillary rather than an integral part of the conference. Alternatively, design exhibitions and festivals may include design research but focus on showcasing product propositions rather than the communication of research understanding.

« 15 » In this section, we have further highlighted the evolution of “research through design” as a creative, practice-based inquiry that has gained significance in the broader discourse of design research and is now represented by a burgeoning community of practitioner-researchers who draw on a diversity of expertise. We suggest that there is much need – and opportunity – for new *dissemination platforms* to support research through design. Moreover, by engaging with the practical challenges of composing a conference for communicating research understanding, there is an opportunity to contribute to the advancement of design epistemology in itself by exploring how such work could be disseminated and where knowledge may reside. In the sections to follow, we critically reflect on our recent experience of organizing RTD 2015 to:

- identify these challenges,
- describe our efforts to address them through the conference design, and
- elucidate our learnings about improving the dissemination structure for future events in the series.

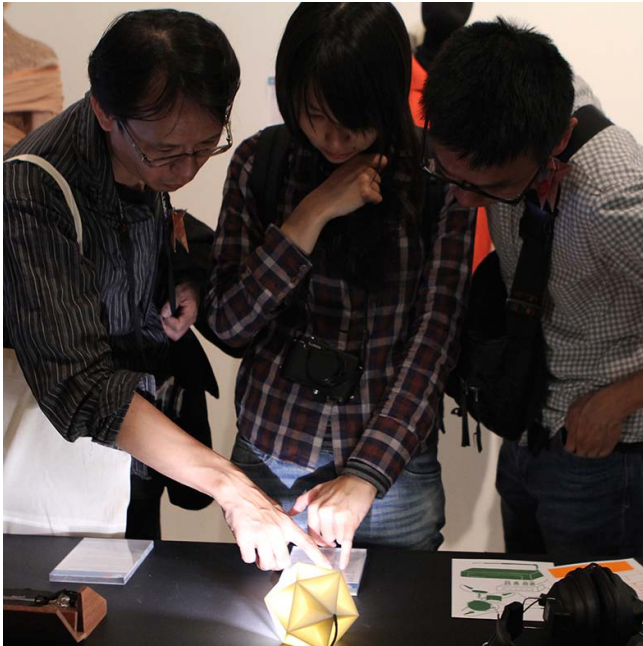


Figure 1 • Exhibition at RTD 2013
(Photograph by Matthew Coombes).



Figure 2 • Room of Interest session at RTD 2013
(Photograph by Matthew Coombes).

Establishing RTD

« 16 » The first Research Through Design (RTD) conference was held at the Baltic Centre for Contemporary Art in Gateshead, UK, in 2013. The conference was primarily intended to be a platform to nurture early-career design researchers with a practitioner background. At the same time, it was experimental, challenging notions of academic practices with a novel format for disseminating and communicating practice-based design research. We now turn to providing an overview of the RTD format and main insights from running the first conference.

Introducing a novel dissemination format

« 17 » The novel format of RTD situates the artifacts and processes of design at the heart of proceedings, for presenters and delegates to encounter them in performative, material terms. This was achieved at RTD 2013 through organizing a curated design exhibition that formed a central component

of the conference design (Figure 1). The exhibition was physically situated in a central location in the conference venue, and ran for the duration of the proceedings in conjunction with a program of presentations.

« 18 » The conference program was composed of roundtable presentation and discussion tracks, taking place in “Rooms of Interest” (Figure 2). The Rooms of Interest were an intentional departure from the traditional lecture theatre format to create a more intimate and egalitarian space that was conducive to presenter-audience dialogue. Each Room was composed of seating for presenters and delegates around a central table. Work from each invited presenter (or a component part of it) was brought from the exhibition into the Room, to talk “to” or “through” during the presentation and for delegates to handle and explore. Presentations in each Room were chaired by an invited member of the design research community and fellow conference attendee. Following the presentations, a generous period of time was dedicated to a discussion facilitated by the session chair. Here, broad-

er themes emerging from and between the different works presented were explored.

« 19 » Let us elaborate on the rationale for the format and call for work. In conceiving of the Rooms of Interest, we sought to create a space that felt more comfortable and less formal than a traditional presentation format. Sitting around a table, handling research design artifacts while a speaker presents the work, felt more familiar to us as designers; echoing the art and design school tradition of the critique (“crit”). As such, it was hoped the roundtable would afford a distinctly discursive presentational context inviting active questioning and rich discussion.

« 20 » The 2013 conference established a two-stage submission process that we have continued for RTD 2015. We wanted to encourage new or early-career researchers to put forward submissions; at the same time we were clear that work must go through a process of peer review and selection to ensure high-quality research content. Stage One required a 300-word abstract submitted with up to 10 images offering sup-

porting evidence of process, prototypes and final pieces. The abstract was required to summarize the motivations, intentions and/or outcomes of a “research through design” project and describe an artifact representative of this project. The visual documentation was required to communicate the material that would be brought to the conference and included in the “exhibition,” offering reviewers a holistic view of the research described and the opportunity to interrogate how the textual and visual are working to communicate the research from the beginning. For RTD 2013, we received 114 Abstract submissions; reviewers were asked to provide supportive comments to guide authors in preparing a high-quality final submission of a four-page written commentary with associated visual imagery. At Stage Two, 56 authors were invited to submit a full paper, and 39 papers made up the final proceedings. These were self-published online at <http://www.researchthroughdesign.org/proceedings>.

« 21 » A selection of 16 reviewers represented a broad range of design subjects (including fashion, textiles, 3D, visual communication, interaction, product and HCI) and a mix of established and early-career researchers with a strong practice-focus. This selection was key for the combined expertise to evaluate not only the quality of the research but also the role that “making” plays in the generation of new knowledge. The reviewers were also asked to participate in a face-to-face Program Committee (PC) meeting. The decision to hold a face-to-face meeting was critical as it was envisioned as affording discussion not just focused on the perceived “quality” of the submitted work, but also on its potential to both stimulate talk and scaffold both engagement and collective sense-making (i.e., around how it could be handled, shared and interacted with, either in the exhibition or in the Rooms) at the conference – interactional aspects that are challenging via textual review or online review platforms. Reviewers were also asked to review the Stage Two full paper submissions.

« 22 » These various features of RTD were intended from the outset to provide a discursive format for knowledge generation around people and their designs; as such, the format – and the process of *putting it*

into practice by composing a conference – was intended to help scaffold not just the dissemination of research through design but also a pertinent debate on epistemology in design.

Key insights from the first conference

« 23 » The Rooms of Interest format worked very well, offering a distinctly dialogical platform for meaningful forms of engagement around work that included constructive criticism and reflective discourse (Wallace, Yee & Durrant 2014). The presence of artifacts in the roundtable setting changed the dynamics and focus of the presentations, from a mode of a single authoritative voice presenting work through verbal and textual means, to a more intimate, supportive and egalitarian one. The room size also mattered in helping to foster this atmosphere, accommodating about 30 delegates. Furthermore, the artifacts became “tangible anchors” that transformed the discussions in the Rooms, proving valuable for understanding and accessing the research.

« 24 » We found the role of the session chair to be crucial to the discursive success of each Room. A good session relied heavily on the session chair’s ability to draw members of the audience into discussions, as well as gauge and react to the changing energy in the room. Session chairs also supported presenters by drawing attention to elements of their work that may be being missed, or that relate to features of the other presenters’ work, in order to make full use of what the presentations and work offer in relation to one another. We also observed the efficacy with which some session chairs invited those assembled to take a short break mid-discussion, to chat informally, to physically re-orientate to the work and each other and to collapse any perceived formality around the role of the presenter versus that of the audience.

« 25 » It was clear from RTD 2013 attendee (i.e., delegate, student volunteer or organizer) feedback that we needed better documentation of the rich discussions that took place in the Rooms. Some commented that, given the two-track proceedings, they missed half of the program – which was a shame – and wanted to have the opportuni-

ty to catch-up or find out what they missed in the other Rooms. We sought to address this in planning RTD 2015, which we will elaborate on in the next section.

Developing the RTD series

« 26 » Based on the success of the inaugural conference, it was decided that RTD would continue independently for 2015. The notion of continuing and developing the RTD conference series raised interesting questions about what kind of communities could be engaged and fostered and how to ensure continuity of the valued aspects of the 2013 conference. For RTD 2015, we introduced a number of new features, see <http://www.researchthroughdesign.org/programme>: a larger and more diverse PC and reviewer pool; opening up the forms of work submitted; a more open approach to formatting final proceedings; a “Making Space” session that included performances and tours; “Provocations” to replace the traditional keynote; and documentation of the unfolding conference experience.

« 27 » Our conference venue⁴ for 2015 also helped shaped plans and iterations for the format. While different in function (an industrial research lab rather than an art gallery), the venue offered three spaces of adequate size for Rooms, a suitable atrium for the exhibition and an auditorium for plenary sessions (which were held as single-track sessions within a multi-track program). Given the interest voiced about the conference within design research communities, and our anticipation of more submissions for 2015, the venue provided flexibility to accommodate potentially more delegates than attended in 2013.

Developing the submissions process

« 28 » As with the first conference, RTD 2015 had two stages of submission.⁵ Following RTD 2013, Stage One of submitting required a written abstract with accompa-

4| We were kindly offered the venue for RTD 2015 by Microsoft Research Cambridge: <http://research.microsoft.com/en-us/labs/cambridge>

5| The RTD 2015 Submissions Chairs were Nadine Jarvis, David Cameron and Justin Marshall.

nying visual documentation. However, for 2015 we were purposely open in the submissions call about what this material might be – from designed artifacts to on-line media, performative pieces or films. Although exhibition pieces for RTD 2013 had included film, vocal performance and other “non-artifact” forms, for 2015 we wanted to emphasize explicitly how design research in itself can take on a range of forms and practices. As with RTD 2013, we emphasized an expectation that the “artifact” – or a component feature of it – should be portable, to be moved flexibly between the exhibition space and the Rooms during the conference program.

« 29 » For RTD 2015, we also invited authors to respond to themes, and introduced one called “Process Interrupted” through which, we hoped, authors would submit work that was provisional and that had been developed along the timeline running up to the conference. This was in response to a number of submitted *proposals of work* for RTD 2013 that were then developed and exhibited as outcomes at the conference. It also allowed the chairs to emphasize our openness to work in which artifacts are positioned less as an outcome and more as part of a process, and as such may be less visually and aesthetically refined than may be expected of typical design exhibitions.

« 30 » At Stage One, we received 223 abstracts, nearly double the number for RTD 2013.⁶ From these, 65 authors were invited to make a full submission to Stage Two, which, as per 2013, involved writing a longer commentary that leveraged visual argumentation. These subsequent submissions were reviewed once more, this time with reference to informing decisions about acceptance into the final proceedings. There were 34 submissions accepted at the final stage. Again, proceedings were self-published online.

Formatting accepted submissions

« 31 » In addition to the peer review aspects of the submission process, a further important set of considerations came in the form of how work was to be formatted in

6| We used an online conference management tool to handle submissions: <http://www.openconf.com>

graphic design terms for the proceedings. For RTD 2013, authors were provided with a desktop publishing template adapted from another conference series. For 2015, we wished to explore how such a template could be more open to non-textual elements and guide authors to weave the visual and the textual together in their layout. Following discussion, we discarded having a template altogether, instead providing authors with a set of guidelines. These included constraints (a 3500 total word limit (but no lower limit), a consistent referencing format and an A4 landscape orientation) and an open remit: “*to creatively interpret the submission guidelines in order to explore a broad range of innovative formatting approaches*,” emphasizing the use of visual argumentation to support the presentation of specific work.

« 32 » The final formatting of the visual papers for proceedings presented more significant choice points that connected to the aforementioned epistemological concerns on dissemination that we knew we would have to grapple with. Authors, perhaps inevitably, submitted their final papers in a *range of layouts*. Some embedded images in fixed arrangements (indicating their explicit intention to leverage visual argumentation); others provided the visual component separately for the chairs to format. Consequently, we needed to respond flexibly with what we had been provided and, with varying degrees of input, we contributed our own formatting choices to create what we felt needed to be produced to deliver a coherent proceedings. Practical decisions for configuring *online* proceedings further informed the papers’ final formatting.

Making Space

« 33 » Alongside the Rooms of Interest, we decided to make space in the RTD 2015 program for alternative presentations *in and beyond* the exhibition space (Figure 3). We recognized that some of the accepted works would benefit from being demonstrated or performed in particular settings (e.g., outside the venue), or from being engaged with on a more intimate basis. So we introduced a session in the main program, called Making Space, which was dedicated to engagement with the exhibited work.

« 34 » We designed this session with an open and flexible structure to accommodate

different forms of engagement. We invited authors to consider new opportunities for interaction with attendees as they saw fit. We made space for some presenters to organize events (e.g., walks, performances) that attendees could sign up for. The overall aim was to create additional ways for all attendees to experience the exhibited work that felt meaningful and fitting.

« 35 » Again in the spirit of “making space” for more dialogical interaction, the Provocations at RTD 2015 were intended to provoke increased interaction with and between audience members than afforded by a traditional conference keynote (a lengthy talk followed by Q&A).⁷ We briefed invited speakers⁸ on the scope of this format, while leaving them to structure audience engagement; as a result, each Provocation felt unique as an experience.

Documenting the conference experience

« 36 » The discussions in the Rooms of Interest at RTD 2013 were hugely significant for generating and communicating knowledge around the presented work. This prompted reflection on how conventional conference publications focus on documenting work in a form that it is accepted *prior* to proceedings. In planning RTD 2015, we recognized that there was potential to capture and document conference experiences that incorporated the unique and often performative presentations of work with artifacts-to-hand, and the rich discussion that takes place around their presentation. Capturing discussions would also, we envisaged, provide means for inviting further annotations of the work, which could be archived with the online proceedings to augment the traditional conference paper. Furthermore, this would support those un-

7| In introducing these Provocation sessions, we were inspired by the Conversations and Debates format at DRS 2014: <http://www.drs2014.org/en>

8| The Provocations at RTD 2015 were provided by: Nelly Ben Hayoun (opening); William Gaver, John Bowers, Jonas Löwgren (as a panel chaired by Carl DiSalvo); David Gauntlett and Amy Twigger Holroyd (jointly); and Christopher Frayling (via pre-recorded interview) and Tim Ingold (closing).

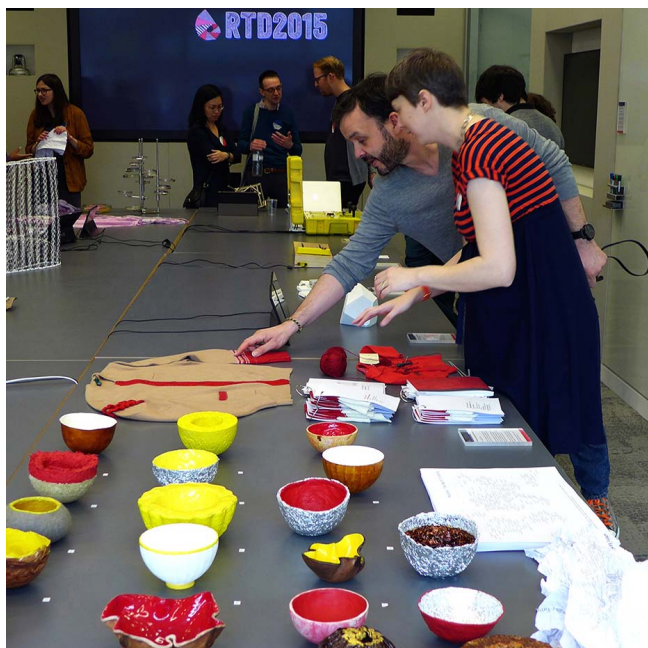


Figure 3 • Making Space session at RTD 2015
(Photograph by Abigail Durrant).



Figure 4 • Musical performance by Jo Foster, accompanying presentation of scribe materials at first plenary session of RTD 2015
(Photograph by Abigail Durrant).

able to attend certain sessions in parallel to catch up with discussions they had missed.

« 37 » At RTD 2015 we devised new ways of *capturing the unfolding conference experience*. Firstly, we introduced six “scribes” to capture discussions surrounding presentations in the Rooms of Interest. Hosted by Documentation Chairs,⁹ each scribe was presented with an A3 sketchbook, customized for every Room of Interest session, with pages incorporating thumbnail prints of the papers’ pages to annotate or reference. Scribes were invited to express their personal aesthetic preferences for drawing and writing tools and styles in creating their interpretations. At the end of days one and two of the program, the sketchbooks were photographed, and then presented back as a slideshow in the follow-

ing morning’s plenary session, for attendees to reflect upon. At the first of these plenary sessions, the slideshow was accompanied by an improvised musical performance by one of the scribes (Figure 4).¹⁰ At the second plenary, the slideshow was followed by a critical discussion between the Documentation Chairs, scribes and conference attendees about the scribing endeavor.

« 38 » Secondly, we invited 2015 attendees and student volunteers to use a mobile application called “Bootlegger”¹¹ to capture short pieces of video across the conference program (from sessions to social gatherings); footage from these videos was then edited *during* the conference and presented back to attendees in the exhibi-

tion space. Thirdly, each session was audio- and video-recorded to afford the potential to integrate this documentation later.

« 39 » The conference website was developed to be extendable to serve the RTD series beyond the event itself, as part of the dialogical platform being established. Following RTD 2015, we invited all author-exhibitors to review scribe materials that represented them and their work in the Rooms, and received their additional consent to then publish these materials online via the RTD website to augment the proceedings.¹²

« 40 » In sum, these various features of RTD 2015 were developed to reflect the organizers’ *responsiveness* to RTD 2013 experiences, while balancing this with the need for *continuity* in valued features such as the Rooms and exhibition.

9| The Documentation Chairs for RTD 2015 were Jayne Wallace and Jon Rogers.

10| Jo Foster sang and played guitar in an improvised accompaniment to the scribe materials.

11| See <https://bootlegger.tv> for details about this application.

12| See scribe documentation at <http://www.researchthroughdesign.org/experiences>

RTD 2015 experiences

« 41 » We now describe our experiences of and critical reflection on running RTD 2015. Our account is significantly shaped by perspectives provided by attendees, via an online survey, about their conference experiences. The survey was designed to elicit qualitative feedback, in the form of prose responses (with no word limit) to open questions. We encouraged people to be critical and reflective in feeding back, and gave them the option to be anonymous. In our analysis reported herein, we focus on attendees' perspectives about *how* and *to what extent* the features and structural mechanisms of the format worked to afford a supportive environment and context for communicating the research.¹³

On being guided in the process of submitting work

« 42 » Overall, we received a mix of survey responses about the submissions process and in particular about the quality and usefulness of the reviews. Some felt the overall process was "straightforward" (#14) and said they had "really positive experiences, and helpful feedback" that "helped shape the work" (#13). However, some authors also found the process overcomplicated, unclear and confusing at times. This was particularly so in reference to the open guidelines we provided for the type formatting and visual layout of Stage Two submissions.

« The suggestion/requirement to lay out the paper in an 'experimental' way was a bit time-consuming – especially with so few guidelines, and especially at the second stage – I spent time laying out the revised text, despite having the feeling that you [the chairs] would re-do it anyway... To avoid this, I'd suggest giving ... something to start experimenting from, rather than a blank page ... and then making it clear for the second stage if you want the author to continue with their own layout. » (#14)

This author wanted "clearer guidelines" from the outset "to start experimenting

from" (our emphasis). For her, the overall submissions process needed to manage authors' expectations better about *how* it would unfold – end-to-end – and *in what ways* the organizers planned to work with what authors submitted. The coordination of input to visual layout mattered for authors' investment of time and effort. We had initially intended to be highly *responsive* to what authors submitted in the final proceedings. However, much of what was submitted expressed this uncertainty about what we would "do" with the papers, reflecting quite traditional single- or two-column journal articles or conference papers, rather than experimental visual papers. Faced with a collection of papers that were formatted in a myriad of ways, and mindful of the intention to produce a proceedings that – whilst eclectic – would also give visual coherence to the collected works, we worked up a flexible but consistent two-column format and transferred all but a small number of highly visual papers into this. This process in itself was labor intensive and nerve-racking for us – requiring editorial decisions on carefully placing authors' text in relation to their submitted images, and raising concerns over whether or not we were representing work appropriately.

« 43 » Also, while many respondents said communications about submissions were "very clear" (#2, #4, #13, #14, #15) and "easy to follow" (#15), some felt that the peer-review procedure was "onerous" (#3) and "overkill" (#7) and advocated "a simpler application process" (#3): "the submission processes seemed to be set up to be more like an established academic conference, whereas a lighter mechanism would have been more appropriate" (#7). Those who shared this opinion felt that the notion of using a review process that met criteria for quality and rigor associated with an "established academic conference" was perhaps not appropriate for the kind of research that RTD intends to support. Also, because the RTD proceedings were not archived in keeping with established criteria for academic impact, some reflected that the submissions did not "warrant" high quality "production" in keeping with that established criteria. Here is voiced a sense of RTD being predominantly about "a hands-on discussion of practice" and not

about the demonstration of the usual academic impact criteria.

« It [the RTD peer review process] biased the submissions and event away from a hands-on discussion of practice towards the production of an archival piece of work for a venue which, frankly is unlikely to be high-profile enough to warrant it. » (#7)

Some authors were positive about the nature of reviews, for example, "I was happy with the quality of feedback" (#8). Others expressed disappointment about what they perceived as "variability" in the reviews' quality and usefulness across the two-stage process. As one person pointed out, such a process is "as always, extremely dependent on [the] effort and aptitude of reviewers and meta-reviewers" (#6), and this was seen to be variable; indeed, some authors who were invited to review the submissions of others felt a lack of reciprocity in terms of what they contributed to the review process versus what they received back as authors.

« 44 » Authors also pointed to aspects of the submission process that felt uncertain, which we take to be symptomatic of the unconventional format and diversity of the RTD community. In broad terms, there was some uncertainty expressed about *how the artifact could serve alongside the written paper* in the submissions process, and about the role of the artifact – and the "author-as-exhibitor" – in the research presentation and exhibition. The exhibition curators¹⁴ were continually in dialogue with individual author-exhibitors as the event drew nearer. However "anxieties" remained for some about losing authorial control over the display of their work.

« I think I had quite a different picture in my head of the space and tables and maybe a photo of the kind of set up would have been useful. [...] Some of my anxieties were because I didn't feel sure about how it would look and I felt a bit out of control. [...] I think if I had seen the set-up I might have made some adjustments to the way the work was displayed. » (#8)

14| The Exhibition Chairs for RTD 2015 were Joyce Yee and Richard Banks.

13| Note that the conference format was entirely novel for many, as nearly twice the number of delegates attended RTD 2015 compared to the inaugural conference.

A few exhibitors said they would have liked images of the exhibition space in advance “to communicate how the exhibition works” (#5) – “works” connoting here how the venue *functions as a space* for communicating and interacting around the design research.

On Rooms of Interest for fostering situated dialogue around presented work

«45» Reinforcing feedback on the inaugural conference, the roundtable format was seen to be a key feature of the RTD format and “the unique selling point of the conference” (#6, #10). Many expressed how the arrangement “helps to generate an inclusive feel and allows for richer discussions” (#9). It felt successfully like a design crit, affording an embodied engagement with the design materials.

“There seemed to be something about having a bowl in your hands that made it easier to ask questions! It generated more of a participatory ‘group crit’ kind of atmosphere, which I found far more interesting than sitting in an auditorium listening to only presentations.” (#13)

«46» Attendees valued the sense of it being new and experimental: “I wasn’t sure exactly what to expect” (#8); “I enjoyed the unconventional format” (#14). It was noted, however, that the atmosphere of inclusivity, conviviality and egalitarianism that we had hoped to create needed to be nurtured by those gathered in the given setting.

“At the beginning of the conference when people were just getting to know one another, it was quite difficult to encourage this kind of generous but also critical reflection and discussion when the roundtables were often between people who may not have met one another before and had potentially different design backgrounds.” (#16)

The assembled group needed to “warm up” and “as the week went on this did feel a little easier as chairs and people got into it” (#16). It seems that in some cases attendees needed to familiarize themselves with the unconventional format to “gear in” to its discursive potential and social dimensions.

«47» Leading from this, some talked about how the Rooms varied in success, in no small part dependent upon how they

were run as much as how people participated: “Some were excellently run – dynamic and lively, like a design crit with great discussions. Others were just like any other conference – give the speakers too long to talk, let them overrun” (#7). It seems that “devoting time” to a facilitated discussion about *all* presenters’ work made for a successful session.

“The sessions I went to that worked best were the ones in which all the speakers presented one after the other (with only clarification questions) and then had a group discussion after everyone had presented [...] rather than the session which responded to each presentation one-by-one.” (#13)

The setting...

“seemed to require a rather firm template and serious preparations to realize its full potential, where the initial presentations are kept concise and the better part of the session is devoted to a facilitated discussion across contributions.” (#6)

A key insight from both the 2013 and 2015 conferences is the extent to which the agency and voice of the session chair *matters*, implying that whoever is in that role has an important responsibility to deliver: “much rests on the session chair” (#9). In sum, the active, situated dialogue fostered around work was valued, but it was felt that proceedings needed to be orchestrated carefully by key people holding responsibility.

The role of the exhibition space

«48» The presentation of work in the exhibition was well received by attendees: “the exhibition tied into the conference well” (#11), enabling “in-depth talks with people about work” (#2). The centrality of the exhibition to the event, emphasized through the new Making Space session (Figure 3), was appreciated.

“I liked that fact that time was given to the exhibition through the Making Space session. I have had previous experiences at other conferences where the demonstration of work/posters has been relegated to a side room with insufficient time allocated. I had some good conversations beside the exhibited work that came about because of the structure.” (#8)

«49» One attendee reflected on the potential for the RTD exhibition to support processes of making, alongside its outputs, better: “There’s still a lot of emphasis on the objects that are made and it would be great to have more work that is about the processes of making, not just the products” (#16). This comment highlights again a perceived tension or ambiguity on the role of the artifact in the proceedings. A salient discussion thread that arose across many Rooms of Interest discussions was on the importance placed on the artifact by the format. Some authors were initially reluctant to show their “failed” or “unfinished” work in the exhibition. In one case, it was felt the artifact would misrepresent the aim of the research while in another, a prototype was deemed a failed experiment that then led its maker down another path. In both these instances, we believed it was still important for the authors to have a physical exhibit as a tangible anchor to the research. Reflecting on this feedback, we recognize the need to frame the range of functions of the artifact more clearly in the submission process.

«50» Another tension was experienced around the diversity of work and different design expertises represented in the exhibition. For a couple of author-exhibitors, the Making Space session felt “intense” (#2) or “awkward”: “Personally I felt a little awkward about the Making Space session as I didn’t really have anything to demonstrate” (#15), adding “but I can see the benefit for those that do” (#15). From our organizer perspectives, the Making Space session felt like an important iteration to the RTD format, mainly because it worked to create another alternative context for engaging with work and brought people and “things” together in new ways that injected energy into proceedings. It also disrupted what might otherwise have become routinized patterns of people movement between the Rooms and reception spaces of the venue.

On conference documentation

«51» Documenting the conference experience raised new questions about what it means to disseminate research through design via a mediated or interpretative frame. It was primarily the scribing activity that raised critical discussion and questioning from attendees. Within the program

structure of RTD 2015, the preparation of slideshow presentations of scribe materials (Figure 4) was deemed a manageable, if effortful, task. However, the collective feeling of the organizers and scribes was that the slideshows were *less than ideal* for presenting the materials and stimulating discussion around them. The potential of the scribing activity, and its limits, were also echoed in the survey feedback. Some attendees found the scribes to be a welcome addition: “I thought the scribes were a nice touch; the experience of seeing my own session documented was engaging” (#15). Attendees almost unanimously appreciated the extra interpretative voice to proceedings: “I liked the multiplicity of responses” (#14). But there were mixed views about what it meant for the personal views of the scribes to be voiced. While recognizing the scribe potential, some questioned their appropriateness in relation to professional expertise.

“I was hoping for scribes to add a layer of interpretation and commentary to the contents of the presentations, but this would require scribes who are both rather senior researchers with specific topical knowledge and also fluent documenters.” (#6)

Whilst reflecting on “who” should scribe, some attendees offered to “volunteer” (#8) to take up the scribe role themselves.

« 52 » Many attendees also commented on the presence of the scribes in the Rooms, and attended to *how* they captured proceedings.

“The scribes’ documentation was at its best when it attempted to capture the nature of the work and its discussion rather than note down what was said. When it was less successful it felt like peering into someone else’s notebook. Given that the papers are already available, it would be good to concentrate on enriching not repeating what has been said, for example [...] to see what inspiration and new ideas the discussions generated for the audience and the scribes personally” (#10).”

It was felt that when the scribes took a more interpretative stance, the results were more valuable. Also voiced here is a sense of the scribes needing to strike a balance between being involved and actively positioning

themselves in relation to discussion, while not being conspicuously observing in ways that may seem usurping or intrusive to the presenter.

« 53 » The auditorium slideshows (Figure 4) were found to create a reflective atmosphere in the morning, which was appreciated: “personally I really enjoyed having a more relaxed, reflective session [...], it helped ease me back into a serious thinking space” (#15). However the mode of slideshow display on the auditorium screen felt frustrating for others. “I felt a little uncomfortable about it being on the big screen” (#8). Some attendees felt that the slideshow was somehow distancing from the discussions in the Rooms. As depicted in Figure 4, a scribe’s voice could be salient in this context.

“It was valuable to see what the scribes were working on, but it felt rather disconnected from the discussions themselves. It would’ve been great to see them displayed straight after each session, and brought into the discussion more.” (#2)

« 54 » In part, this meant being able to “answer back” to the scribes: “Maybe there should be better opportunity to be able to answer back or ask what was meant by this or that comment” (#2). This desire for dialogicality was expressed further by a few attendees who wished for the scribe materials to be made “more accessible” (#11) in a “public space” (#4) at the conference, either *live* or following a given session. This was “so that visual communication can continue” (#4) and be read and *annotated by other attendees*.

“I’d have liked to see what the scribes were producing displayed on a wall for us to peruse during breaks/lunch etc. – rather than just in that morning plenary session. It would be nice if other attendees could upload/post their own contributions too (and might encourage them to do so).” (#14)

Attendees felt this could stimulate further discussion outside of the sessions. Leading from this, much interest was expressed around making the scribe documentation accessible to attendees *following* the conference, for continuing engagement and “to make it worthwhile” (#5). All but two au-

thor-exhibitors were positive about publishing scribe materials to augment the online digital proceedings.

« 55 » Overall, we received diverse opinions about the scribing endeavor. These multiple perspectives have helped frame nuanced considerations about the nature of the scribe role and how documentation could be effectively developed in future RTD events.

Discussion

« 56 » Through composing a conference such as RTD, we have endeavored to develop an ongoing, experimental and iterative dissemination format that contributes insights – in a practical, concrete and experiential sense – that help advance design epistemology. In this section, we discuss key insights from our own and the delegates’ experiences, with a view to identifying directions for future iterations of the format. We connect our insights to the concerns framed in the introductory sections about design as a knowledge-generating activity, considering broader implications for composing conferences that support presentations of artifacts and design practice and how this may connect with constructivist thinking.

Preconceptions and language surrounding research through design

« 57 » Considering the kinds of language we have used to describe this dissemination platform, and to frame the communication of research through it, presented significant challenges to us as organizers. Beyond defining “the practice of research through design,” or “practice-based design research” in light of evolving discourses, we had to devise terms to describe the features of the new format. Reflecting on the RTD 2015 experience, we view this as an ongoing challenge; the language that we use around the conference is still being “figured out” in visual, textual, material and performative forms of expression.

« 58 » The challenges we encountered centered on a number of conceptual tensions framed by terminology. First of all, recognizing that “design research” connects with a wide set of design expertise, each with its own relationship to theory and prac-

tice, meant that RTD is potentially speaking to a diverse and expansive community of people. As such, the terminology we use must be broadly intelligible and, to a certain extent, non-specialized. That said, academic discourse on research through design is arguably evolving in complexity and reach (as summarized in the introduction), so the perceived need to use accessible language may sit in tension with an endeavor to, in academic terms, draw on technical jargon for precision in advancing that discourse.

« 59 » We may point back to Schön's (1983) notion of "reflective practice" to frame another overarching tension for RTD, which is to create a dissemination format to support research communication that acknowledges both (i) established academic criteria for identifying rigor and quality and (ii) an epistemology of *practice* that is tacit, implicit and artistic (rather than necessarily scientific). As reflected in attendee feedback, the submission process required authors to communicate their work through both visual and textual means, with a proposition for an exhibit. It was this visual and textual account of work that was assessed for selection; the opportunity to communicate reflective practice, as Schön would have it, only came at the event, *following* selection. The submissions process therefore privileged the visual and textual at selection over the material and embodied practices that RTD intends to support.

« 60 » Within the submissions process, and as echoed in survey feedback above, we faced the challenge of using commonly understood terms such as "author," "maker," "paper" or "abstract," "exhibition" and "artifact" to address the diverse and burgeoning RTD community. However given RTD's departure from convention, what we have meant by these terms is something a little different. For example, by "paper" we meant a "visual paper" that communicates using images in conjunction with prose. But forms of visual papers are so eclectic and diverse that it felt too "leading" and too specific to provide examples, and therefore hard to provide a "benchmark" for a visual paper form defined in RTD terms. As it turned out, the experimental guidelines we provided for creating "visual papers" opened up a space of ambiguity and complexity – for both authors and reviewers – that was con-

sidered problematic by some. For others, the orientation to "papers" resulted in reinforcing existing and salient practices of academic writing that were felt to be in tension with reflective practice.

« 61 » What we meant by "artifact" for RTD was also more precise than afforded by the linguistic terms at our disposal. We found this term widely interpreted throughout the submissions process, raising questions for all involved about what types of media and materials may be drawn upon in the expression of research through design. Does RTD support service design, where artifacts might be less tangible? Does RTD support participatory design, where artifacts might be used as part of a process of engagement? The answer is "yes" to both – but assumptions around the language of artifacts and objects made people question how inclusive the conference might be.¹⁵ Reflecting on the RTD 2015 exhibition, and how author-exhibitors expectations were variously met, we identify new opportunities – a new play of possibilities – for envisioning future iterations of the exhibition as an explicitly performative space for communicating reflective practice. As the RTD series continues to be established, we hope to develop commonly held terminology for research communication that serves the RTD community enough to achieve the right kind of dialogical dissemination platform while not feeling too exclusive or privileging of words over other forms of expression.

Peer-review and Research Through Design

« 62 » It was clear that the rigorous and substantive peer-review process was somewhat at odds with some authors' expectations of how design practice should be assessed, commented upon and selected. We identify practical changes that could make the process less laborious for authors and reviewers. Perhaps of most critical importance in the RTD peer review is the provision of more supportive guidance for reviewers themselves. While many authors felt they

received constructive and helpful feedback, others felt less well supported. Sometimes this was a result of misunderstandings by reviewers in terms of the scope of the call (i.e., that work submitted at Stage One might be provisional or unfinished) or a result of trying to be inclusive (i.e., of young or novice designer-researchers, or practitioners with limited experience of academic publishing). There is clearly a challenge for the conference organizers to shape and manage reviewers' expectations carefully. This includes: advising reviewers to provide a similar sense of support and generosity to authors that is felt at the conference itself; and being more supportive of work that speaks to the RTD values and ethos, and to the particular assessment criteria that the conference establishes. Another challenge to be explored in future iterations is to balance the need for clear criteria and formatting standards for assessing quality and rigor in submissions with the "openness" of the submission template and formatting guidelines to encourage pioneering developments in visual argumentation.¹⁶

« 63 » Leading from this, another key consideration for the RTD peer review process is the role that *curation* plays in the selection and presentation of work. We are referring not just to the curation of submitted artifacts, but also to the curation of the research, discussions, experiences and provocations. An additional challenge ahead for RTD organizers is how to weave the curatorial elements of the conference in with the peer review process and with sensibilities about "who" is asked to review and "how."

« 64 » Considering these practicalities of peer review has prompted us to reflect on epistemological concerns on how to support the dissemination of tacit and practice-based forms of research understanding across *both* the submissions process and the conference event. We have found the Rooms of Interest sessions, Making Space sessions and other aspects of the *event* to support successfully the creation of a dissemination context fostering active, situated dialogue and active

15| Critical reflections about the inclusivity of the RTD submissions call were raised and addressed at the RTD 2015 Town Hall session: <http://www.researchthroughdesign.org/experiences>

16| Visual argumentation was also explored in a special issue of *Studies in Material Thinking*, Volume 13, which included visual papers about research presented at RTD 2013: <https://www.materialthinking.org>

sense-making – in keeping with the RTD values and ethos. Survey feedback on RTD 2015 peer review highlights the importance of further configuring the submissions process to be *compatible* with this dissemination context. Looking ahead to future iterations of RTD, opportunities should be maximized during the submissions process to develop dialogical understanding between *chairs and reviewers* and to encourage supportive critique between *reviewers and authors*. Organizers should also consider how those in a curatorial role may – in active dialogue with the other chairs, reviewers and authors – be more directive *across* the submissions process, from informing the call to shaping the proceedings and their later documentation.

« 65 » Furthermore, our analysis herein frames at least two open questions:

- How much does the research community privilege discussions on work *at the RTD conference* over its peer review *prior* to the event?
- To what extent should situated discussions of work presented at RTD, and its constructive critique, be privileged in the documented proceedings and deemed representative of the forms of research understanding that the work generates?

How to develop the conference documentation

« 66 » Further engaging with this latter question, we may reflect on the RTD 2015 developments in conference documentation. Key insights have emerged on what it means to capture situated discussions during the unfolding conference. The scribing activity at RTD 2015 received the most interest and critical attention. It was experimental and, although planned in advance, was largely developed in situ and in response to the scribe materials being created. It was the plenary slideshows that were found to be most problematic. Although they enabled a large cohort to engage with the content together, each slide could only be seen in sequence and for a limited time. Based on the survey, a clear way forward could be for scribe sketchbook pages, as they are produced, to be displayed in a central reception space at the venue that is communally accessed by delegates (e.g., during refreshment breaks). Here, attendees could

actively engage with materials and respond in their own time with a layer of interpretation, expanding the scope and potential for situated dialogue *at* the conference beyond the scheduled sessions.

« 67 » If the scribing endeavor is taken forward, another critical point relates to who acts as a scribe and how. There is a clear rationale for inviting those who professionally self-identify as being a scribe to take the role, (with the aim not to generate any specific or preferred type of scribe output, but rather to leverage the skills of a diverse range of expertise in order to generate a rich variety of different kinds of scribing). However, the extent to which those scribe identities and outputs are validated and included as authorial voices in the conference proceedings – and publications – remains open to critical questioning. A significant finding is that some attendees would have also liked to scribe – an insight with interesting implications for discerning the value of situated dialogue between author-exhibitors and how they actively participate in-and-beyond the RTD events as a research community. Certainly, the RTD website, and linked online platforms, afford us considerable scope for facilitating and nurturing ongoing dialogical relations around work presented and documented at the conference event.

Facilitating the right kind of discussion

« 68 » As we noted from feedback about RTD 2013 and RTD 2015, the session chairs were key enablers of rich and multi-voiced discussion. It was clear that, rather than ensuring a session chair is an expert in research through design, what the role calls for is an expert *facilitator*. It is also apparent that sessions worked best, or were perceived by delegates and presenters to have been the most rewarding, when the session chair demonstrated a deep understanding of or interest in the content of the authors' work. This of course requires a significant amount of preparation and involvement for a session chair; and therefore organizers must provide careful guidance to session chairs to convey the amount of effort and attention that the role requires, in advance of the conference as well as during a session.

« 69 » We understood from 2013 the importance for session chairs to have a great

amount of flexibility in how they run their session. However, the 2015 feedback highlighted a need to balance flexibility with a more explicit set of strategies on how to “run” or structure a session in ways that foster the *right kind* of discussion. For example, future session chairs may be invited to follow a session structure: a series of talks, followed by a conversational break (with physical movement to bring a different kind of orientation to the work); and, after this, an interactive, goal-oriented discussion between attendees to generate themes for the session that may be reported afterwards as a concrete output to disseminate further – at a plenary session and online beyond the conference. Scribes could also be directed to capture this collective synthesis.

« 70 » The facilitation of sessions was equally impacted upon by the method of presentation by authors. For example, while many authors made use of the audio-visual equipment at the conference to present slideshows associated with their talk, this at times emphasized a didactic structure to sessions, where the audience was talked to rather than conversed with. Consequently, we are also considering how the roundtable session design could further break down the traditional structure and assumptions of presentation to foster discussion and conversation further. We are also rethinking how to bring the authors, audience and environment into play in different ways, not only to offload some of the responsibility from the session chair but also to emphasize the collective, discursive dynamic that is possible when everyone in the room feels that they can contribute.

« 71 » A further issue to consider is how there was almost a phase of “initiation” for those new to RTD or for those who had not chaired or attended a Room of Interest before. We noted how session chairs who experienced RTD 2013 felt better placed to chair sessions at RTD 2015; there is a need here to acknowledge that the unconventional format we have been trying to create may be difficult to grasp from description alone. While the RTD website describes in depth the ethos and atmosphere of the conference, and while all session chairs were briefed, we found that much about how to foster the right discussion is *learned through doing* and held as tacit knowledge. Similarly – recalling



{ ABIGAIL DURRANT

is a Leverhulme Fellow at Newcastle University, based at Open Lab in the School of Computing Science. She holds an MA (RCA) in interaction design and a Ph.D in social psychology and works as both a creative practitioner and design researcher. With an interdisciplinary career spanning the arts, humanities and sciences, Abigail's work in recent years has critically explored selfhood and identity in digital cultures, and methodologies of research through design. Her fellowship research specifically investigates the role of interaction design practice in supporting collaboration and communication within interdisciplinary teams working on complex technology research projects that engage academia, industry and the public sector.

JOHN VINES }

is a lecturer at Newcastle University, based at Open Lab in the School of Computing Science. He is a designer by training, and has conducted research at the intersection of product and interaction design, human-computer interaction, social science and cognitive science over the last ten years. These days, he closely aligns his research with participatory and collaborative forms of design research and practice, engaging in a range of projects where users, citizens and communities are actively involved in shaping decisions in design projects that center on their neighborhoods, their cities and civic life.



{ JAYNE WALLACE

is reader in craft futures in the School of Design at Northumbria University, UK. Her work spans digital craft, interaction design and human-computer interaction, focusing on co-creative design practice and the development of physical-digital devices that have social and personal meaning to support wellbeing and sense of self. The ways in which our bodies and the objects that we associate with them (such as jewelry) represent different things about who we are and our relationships with other people have long been a fascination and she makes digital jewelry to explore how we can make things that are personal, beautiful and digitally enabled to give us new ways to understand ourselves and others. In recent years, a key focus has been the sense of self in dementia and she has worked closely with people who are living with dementia as well as specialist adult mental health units in the National Health Service, UK.

JOYCE YEE }

is a reader in design practice in the Department of Media and Communication Design, Northumbria University, UK. She holds a BFA in graphic design, an MA in visual communication and a PhD in design. Her academic research is divided into two main strands: one focusing on the impact and value of design in social spaces and the other on the epistemological and methodological implications of research through design. Her most recent book, *Design Transitions*, co-authored with Emma Jefferies and Lauren Tan, presents 42 unique and insightful stories of how design is changing around the world. She is currently involved in research projects investigating how design is being used as an innovation and a change management tool in both public and private sector organizations.



something voiced in survey feedback above – dialogue in the Rooms improved over the course of the conference as attendees became familiar with the RTD format. That the conference might encourage the assembling of familiar faces is, in many respects, a positive attribute and is something that can be harnessed upon in future RTD events – for example, by ensuring a trajectory where previous chairs, authors and audience members become regulars of the community, and delegates from one year be invited as session chairs the next. However, with this comes the danger of making the community overtly exclusive and cliquey, which is at great odds with the founding values of the conference.

Closing reflections

« 72 » As Frayling highlighted in 1993, finding the *right language* to communicate intentionality about design-as-inquiry has been underdeveloped in creative design cultures. It arguably remains so today, as demonstrated through our interactions with practitioner-researchers for RTD, both in endeavoring to establish a peer-review process and more broadly to provide an efficacious dissemination context for practice-based design research. Moreover, 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. Within the scope

of this paper, we have suggested a couple of practical steps in support of that aspiration while also providing impetus for articulating a working culture of disseminating research through design. This working culture foregrounds the materiality and physicality of design research while remaining experimental in its openness to possible forms of knowledge generation.

Conclusion

« 73 » In this article, we have provided 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.” We have endeavored to do this at a time when ideas about “what” forms of knowledge are generated through designing and “how” remain heavily debated and open to questioning. In the process of establishing RTD, we have grappled, in both practical and conceptual terms, with these questions and debates on design epistemology, hoping to make small steps to advance them by bringing a burgeoning community of practitioner-researchers together in dialogue with each other and their work.

« 74 » The ethos and motivation behind creating RTD aligns with a constructivist perspective to the extent that it recognizes how *knowledge about design research is generated from meaningful interaction between people and artifacts* as part of the unfolding conference experience. Focusing on RTD 2015, we have analyzed our own experiences as organizers alongside those voiced by attendees, in ways that resonate with constructivist perspectives valuing active meaning-making in situated activity. We have highlighted how the composition of RTD, including the Rooms of Interest and the central exhibition, have functioned well to create a discursive, interactional context for design practitioner-researchers. We have also identified a series of *tensions* on

what it means to create a supportive and inclusive dissemination platform (by being intelligible and inviting) while experimenting with new and unconventional forms of knowledge-generation (that may be distancing and open to mixed reception) within a diverse community engaging different kinds of expertise. We have highlighted the challenge of balancing a rigorous review process with the provision of an appropriate context for giving voice to “reflective practice” (after Schön), and how much we privilege the discussions on research *at* the conference over the peer review of research *prior* to it. Finally, within the dynamics of the event itself, we have highlighted challenges around the facilitation of embodied and multi-voiced discussion, and how presenters’ and delegates’ voices may be captured and documented, with implications for how future iterations of the conference may be composed in dialogue with the RTD community.

Acknowledgements

We sincerely thank the RTD 2015 attendees who took the time to provide feedback about the conference experience and the anonymous reviewers of this article who provided useful guidance. We extend our thanks to everyone who was involved in the organization and support of RTD 2015 including our major sponsor Microsoft Research Ltd, to the Programme Committee members and reviewers for their time and consideration, and to the presenters, scribes, and provocateurs for their invaluable contributions. This work was supported by the Leverhulme Trust (ECF-2012-642), EPSRC Centre for Doctoral Training in Digital Civics (EP/L016176/1), and AHRC Knowledge Exchange Hub Design in Action (AH/J005126/1).

RECEIVED: 13 AUGUST 2015

ACCEPTED: 22 OCTOBER 2015

Open Peer Commentaries

on Abigail Durrant et al.'s "Developing a Dialogical Platform for Disseminating Research through Design"



Disseminating Research through Design – Challenges and Opportunities Learned

Carl DiSalvo

Georgia Institute of Technology, USA
cdisalvo/at/gatech.edu

> Upshot • The target article provides a thorough and insightful review of the Research Through Design (RTD) conferences and discusses the successes and limitations of the events in the dissemination of design knowledge.

« 1 » In their target article, Abigail Durrant et al. do an excellent job of setting the stage for their discussion of the RTD conference. The background material on research through design is thorough and accurate. In addition, it is accessible to a broad audience, so that readers coming to the topic from outside of design should be able to understand the historical context for the conference and the motivations that undergird both the broader research through design tradition and the RTD conference series (§§1–14).

« 2 » In §15, the authors make clear the topic of concern – methods of research knowledge dissemination. This is indeed a, if not *the* crucial issue facing the wider research through design community. If we take seriously the notion that design can be a knowledge-generating activity, the one question that follows is how to capture and share that knowledge. Conferences provide one venue, and so it makes sense that the authors explore the design of a conference from a reflexive stance to try to surmise how the structure of the conference might appro-

priately serve the needs of sharing research through design knowledge.

« 3 » §§16–22 provide readers with a detailed perspective on the design of the 2013 RTD conference. While on the first read through I found this section a bit tedious, on the second read through it became clear that describing the conference structure and decisions in such detail is a necessary part of establishing an empirical basis for the later discussion and reflection. This empirical account of the conference (§§16–40) is important because even when conferences attempt the experimentation that RTD attempted, it is rarely documented. One of the reasons I was asked to comment on this article is that in 2014 I was an organizer of the Design Research Society conference, and as part of that, I, together with my colleagues, took it upon ourselves to re-design the conference structure. Our motivations overlap (but are not identical to) RTD. Though we believe we successfully created a new conference experience, there is no documentation of the process. This is a loss – precisely the kind of loss avoided by the attentiveness to detail in the target article.

« 4 » §§41–55 provide the reader with more data about the events, in the form of responses from participants. These responses are useful for grounding the discussion to come. Of particular interest were the issues raised for both the role of the artefacts and the experiments in documentation, as both of these were intentional designs meant to enact the constructivist character of the event. These comments from participants will be useful for readers who themselves are considering experimental approaches to conference design.

« 5 » As an attendee at the 2015 RTD conference, I can attest to the tension raised

with regard to the role of the object in research through design. In my own experience as an author and exhibitor, there was a constant negotiation between the presentation of the project as one that revolved around a very specific device, and the presentation of the project as an exploration of a practice, in which the device functioned as a prop, an instrument in a design experiment. In the sessions, this tension was raised by numerous presenters. And to their credit, the organizers (when present) and the discussants were responsive, providing the space for the exploration of the topic. In my opinion, the question is far from settled. Indeed, I would not be surprised if the question became a central theme in the next RTD conference. But the discussions that ensued at this conference around the role of the object – between being the ultimate focal point on the one hand and merely a prop on the other hand – were so vibrant as to have continued in email and in-person in the months after the fact.

« 6 » I found §§57–61 particularly insightful for the discussion of how various terms shaped the perceived inclusivity of the conference. This is particularly notable in the field of design given that the term “design” itself has become so broad. It was informative to hear that (potential?) participants struggled with understanding the range and kind of design artefacts that would be “counted” as such. Again, these findings and this discussion should be incredibly useful to future conference designers. Moreover, they point back to larger issues of terminology in the ever-expanding field of design.

« 7 » Though it is well beyond the scope of this article, there could be value in looking in two directions for thinking through the issues raised in §§57–61. The first would be to look to the history of mid-20th century art, to no-

tions of the happening, and also to gatherings of likeminded artists, designers, and researchers at events such as the Macy conferences on cybernetics. To what extent is RTD an attempt not simply to rethink conferences, but also to rethink the practices of design research beyond the common perceptions of science? If this is the case, then maybe there is value in looking even further afield to explore what these future “conference” events might be. In terms of the limits of language, is the notion of the conference itself a limitation? Similarly, with the notion of the exhibition, how imaginative and inventive might one be in the next RTD? How close to a conference does it need to seem in order to “count” as one?

« 8 » §§68–72 are the crux of the article, bringing closure to the discussion. However, in reading them I could not help but desire more discussion. It seems like these issues of finding the right language and facilitating the right kind of discussion are what are most key to this entire endeavor. I wonder if there might be value in looking further afield and, also, (following the notion of the reflective practitioner) in considering what the driving motivations are for the organizers. Taking the conference as a designed thing (wholly appropriate, but rarely done), what brings it into being? Who does it serve? What service is it meant to provide? To answer the question about the right language and the right conversations requires answering these other questions. Given the range of opportunities for design research in 2016, why RTD? I would hazard a guess that for the organizers (if not collectively, then individually), there are deep commitments at work driving the conference forward (thus the publication). What are those commitments? Perhaps that is key to identifying the right language and right discussions?

Carl DiSalvo is an Associate Professor in the School of Literature, Media, and Communication at the Georgia Institute of Technology. At Georgia Tech he directs the Public Design Workshop. He publishes regularly in design, science, and technology studies, and human-computer interaction journals and conference proceedings. His first book, *Adversarial Design*, was published by MIT Press in 2012. DiSalvo holds a Ph.D in Design from Carnegie Mellon University (2006).

RECEIVED: 17 OCTOBER 2015

ACCEPTED: 19 OCTOBER 2015

Nurturing an Environment for Practice-Led Research: Reflections on RTD2015

Liz Edwards

Lancaster University, UK
e.edwards3/at/lancaster.ac.uk

> **Upshot** • The commentary reflects on Durrant et al. from the perspective of a conference participant. It also addresses the dynamics at the meeting point of multidisciplinary practice-led design research.

« 1 » I am a doctoral student, one of the early career researchers that the Research Through Design (RTD) conference aims to support (§§16, 20). Earlier this year I experienced my first RTD conference, RTD2015, 21st Century Makers and Materialities, as an author-exhibitor and participant. The commentary will reflect upon my experience of the conference with reference to challenges and choices presented by Abigail Durrant et al. It will also draw attention to the influence of epistemological commitments in shaping expectations of RTD conferences and will consider the tensions at play in planning a conference that speaks to a diverse community of researcher-practitioners.

« 2 » I recognise my experience of RTD2015 in the account discussed in Durrant et al., exemplified in §§45f and feel that the conference was very successful in achieving a dialogical and supportive platform that embodied the commitments described on the RTD website, <http://www.research-throughdesign.org/about>. The way this was enacted included subtleties not described in the target article, but memorable because they are atypical of my other conference experiences. These include quite detailed communication about the event, including the way the Rooms of Interest sessions would be managed and an invitation to take part in the “Making Space” session with clear guidance about the purpose of the session. Direct interactions with the submissions team and exhibition coordinators revealed care and concern for the work and its presentation. I was welcomed personally, introduced to others and *checked-in with* in a way that signalled a desire to draw me into a community. These

details set the supporting tone and the ethos that emphasised authentic concern for the artefact and a genuine desire for a different kind of conference experience that valued research derived from practice. The physical and temporal structure of the conference supported different kinds of dialogue and opportunities for knowledge transfer including group conversations and individual discussions and there were multiple invitations to delegates to comment on and discuss the effectiveness of the format.

« 3 » I *learned* my way into the conference and agree that the dialogue in the Rooms of Interest improved as new attendees were initiated (§46). Meaningful induction prior to conference would aid induction but, as explained in the article, it is a tacit process that occurs through situated interactions. This may put some prospective participants at a disadvantage due to lack of familiarity with art school *crits* and experimental ways of communicating research. One of the strong sensations I experienced at RTD was of community, albeit with varied backgrounds and research interests.

« 4 » The conference series itself is an example of research through design, and Durrant et al.’s article is a reflection on an iterative design that produces conference artefacts. An illustration is the discussion of how scribing might raise the prominence of process, reflection and interpretation (§§36f) within an epistemology of design, and the difficulties of getting the right balance in terms of content, medium, experience of scribe and mode of communication (§§66f). The article reveals an on-going conflict between the desire and intent for the conference to *be itself*, strengthening an identity that is congruent with the ethos and motivations associated with research through design (§71), while at the same time being outward facing and accessible to a wider academic research audience. Not only is there a surface tension where research through design meets *traditional research* in the wider research community but also there are multiple internal tensions. The design conference participants and reviewers are drawn from disparate research traditions (§§2, 21), and interdisciplinary research teams may include non-designers unfamiliar with practice-based research. Consequently, familiar and general means of communication and dissemination that transcend

domain-specific barriers are needed to share research at submission and post-conference, but as reported, these can be at odds with the dialogical dissemination activities that more closely address an epistemology of practice. Additionally, designer-researchers often work within *the academy*, which retains vestiges of its positivist roots (Schön 1991: 31) through a structure that privileges particular forms of knowledge and favours traditional and recognisable research outputs, so researchers may be torn in their commitments.

« 5 » As I reflect on the tensions articulated in the target article, I am pulled back to arguments from the past that remain present, despite the evolution of research through design. These include inconsistency expressed in understandings and uses of research through design as well as disagreement about practice-based knowledge generation and rigour, and discrepancy in how such research should be communicated. For example John Zimmerman, Erik Stolterman and Jodi Forlizzi (2010) believe that an artifact can be a manifestation of research but others (Frayling 1993; Gaver 2012; Gaver & Bowers 2012; Friedman 2008) stress the need for research findings to be made explicit for Research with a capital “R”¹ (Frayling 1993) to occur. In relation to theory generation, Friedman has argued that linking reflective practice of design to design knowledge is misguided (2008:158) and he proposes grounded theory as a way to draw out theory from practice (2008:154). Zimmerman asserts the need for a “theoretical scaffolding” (2010: 311) for research through design to clarify the distinction between theory and practice but William Gaver (2012: 937) warns against “impulses towards convergence and standardization” that could diminish the nature of design research. He contrasts generalizable theories emerging from scientific research with the kind of knowledge that may be derived from annotating the “ultimate particular” of design, described by Stolterman (2008). To return to frequently aired differences may be uncomfortable, because it draws attention away

1| Christopher Frayling (1993) distinguishes between Research with a capital “R” and research with a lowercase “r”. The former is academic research whereas the latter is research required for the development of a design.

from coalescence and common ground, but I think it is relevant because it points to reasons why the RTD conference requires such care and attention. It also reinforces matters of concern raised in the article about developing future conferences.

« 6 » Design has a multiplicity of contexts so that even the same practices may have different meanings. This was one of the themes of a recent talk by Paul Dourish at Lancaster University. As a result, research that is conducted through design is expansive, encompassing disciplines that use research through design in different ways with different intent. One example of the distinction is between design with heredity in science, such as engineering, and design with heredity in arts, such as information visualisation. Practitioner-researchers from both fields may identify as designers but they may not be grounded in a shared ontology, so their understandings of how an epistemology of design might be advanced may be at odds. This has a potential impact on expectations of the submission and dissemination process at a conference for the furtherance of a design epistemology. I am reminded of James Pierce et al.’s work on the divergence in discourse about *critical design* (CD) in “arts-inflected design” (Pierce et al. 2015: 2083) and human-computer interaction (HCI). The paper uses separate terms to underline the different understandings of CD based on readings of “referent,” “intellectual heritage” (ibid: 2085) and the “forms of knowledge that are considered helpful for doing design” (ibid: 2086). Pierce points to the distinct concerns that design brings to products and production because of its grounding in arts and humanities. The paper, which addresses an HCI audience, suggests ways to broaden and deepen connections between HCI and design, including increasing design literacy within an HCI context. The paper concludes:

“Embracing design practice and discourse may require us to rethink, for example, how we conduct peer review, select and prioritize publication formats, and set conference registration fees.” (Pierce et al. 2015: 2091)

I think the difference in the way CD is used and understood in different academic communities has parallels in research through design.

« 7 » This brings me back to Durrant et al. and the RTD conferences. Although we come from different places, Gaver (2012: 942) writes that most in research through design “share a common set of values” that include appreciation of “the value of craft,” “that the practice of making is a route to discovery” and that design’s “synthetic nature” can allow “richer and more situated understandings.” The commonalities he describes are things I recognize from RTD2015, and the reference to its ethos, motivation and atmosphere in Durrant et al. (§§64, 71, 74) reinforces my sense of building a community to share research and explore a design epistemology. So there are shared values, but there will also be differences in understandings and intent.

« 8 » My concern is how the conference will be nurtured, because it requires a delicate balance to enable it to flourish. The tensions are evident in the target article and a change to programme team, numbers of delegates, conference location, conference space and submission process all have the potential to change the dynamics of the dialogue. Feedback from RTD2015 highlighted issues of inclusivity in the submissions process and perceptions of incongruity because of differing beliefs about practice-based research and differing expectations about the dissemination of design research. One submission mode is unlikely to satisfy all for the reasons set out above, but a mode that privileges process, artefact and dialogue can reinforce the conference ethos. Opening up the questions raised by the article in the context of the conference could provide opportunity for dialogue about the way the structure supports, challenges and develops research through design. This is more than a functional activity because the conversation has power to reveal and clarify epistemological differences and areas of convergence.

« 9 » Frayling’s paper (1993) was written at a time when academic Research was a relatively new proposition in some art schools. Frayling showed that this was not something to fear. He shared illustrations of how Research was already ongoing in art and design as a way of engendering confidence. Research through design is in a new phase, though it still faces the challenges brought by multidisciplinary and interdisciplinary traditions. The conference provides a

space to explore, experiment, share, critique and disseminate practice-based research through dialogue, in an atmosphere where a particular ethos has been established. In this way, it can continue to provide a more appropriate forum for the presentation of practice-based methodologies.

Liz Edwards is a designer and Ph.D candidate within the HighWire Centre for Doctoral Training, Lancaster University. Her research interests include values-led design, research through design and design of digital-nature hybrids for interpretation of gardens and natural environments.

RECEIVED: 27 AUGUST 2015

ACCEPTED: 12 SEPTEMBER 2015

Matching Methodology to Conference Content: The Assemblage Network Potential for Research Through Design Conferences

Jane Norris

Independent Researcher, UK
drjanenorris/at/gmail.com

> Upshot • This OPC considers the tension inherent in the twin aims of the Research Through Design (RTD) conferences: providing a high quality academic dialogical conference experience, whilst promoting and recording knowledge generated via a range of actants. It proposes the use of a more transparent underpinning methodology that aligns the disparate elements of the event with the RTD conference aims and content.

RTD paper and conference ethos

«1» As someone who presented a paper and attended sessions at RTD 2015, Abigail Durrant et al.'s target article closely reflects my experience of a conference that actively engages in a collective constructivist approach to research through design. As the article identifies, the RTD conference is "envisioned as an experimental, inclusive platform for disseminating practice-based design research" (§2) aimed at stimulating

discourse further and sharing knowledge in design research. In addition, it seeks to "help scaffold a pertinent debate on epistemology in design" (§2). As such, both the conference and this article offer a significant contribution to the field of design research.

«2» The target article offers two clear areas of focus: the way the novel RTD conference format resulted in "(a) providing a dialogical conference experience and (b) capturing the knowledge that is generated during conference proceedings" (§4). This twin focus with embedded but slightly different trajectories sets up a tension that is explored throughout the article: how to maintain traditionally recognised and accepted academic standards whilst also employing new formats of presentation and debate-recording that allow a wider range of less controlled actants to become involved in the network of the event. This OPC will focus primarily on this interesting tension.

«3» As stated in support of a new epistemology of design, "there is much need – and opportunity – for new dissemination platforms to support research through design" (§15). Particularly, as the article accurately identifies, as, "typically, design conferences either adhere to the traditional conference format [...] or showcase product propositions whereby the intended outcome is not research understanding [...]" (§1). In a rapidly evolving global, digital, networked culture, research and particularly design research needs to be at the forefront if not leading creative research dissemination and modes of communication.

«4» To realise this through the twin ambitions of academic discourse and event recording in a novel conference format, needs, as identified, "further reconceptualizations of how inquiry through making may take place and how understanding may be 'entangled' between people and things" (Ingold 2013; §13). Theoretical models such as assemblage theory (DeLanda 2006; Deleuze & Guattari 2004) or actor-network theory (Callon 1991; Latour 1993) or the nascent open design (<http://opendesign.foundation/articles/designers-can-open-source-session-video>) movement offer useful models for such a reconceptualization as they supply an underpinning framework that would support the continual reforming and reconnecting of knowledge at such conferences.

Engagement in the conference

«5» The inclusion in the conference of those researching outside recognised forms of academia also contributed to the tension between an *authoritative academic voice* (quality) versus a more *horizontal assemblage* (democratic). Christopher Frayling's closing videoed provocation¹ refers to "pockets of interest" that are not driven by Arts and Humanities Research Council funding themes. As a researcher who is delivering Higher Education in an Further Education environment, outside the Research Excellence Framework and self-funding my research, the ability to access *transparent rules of engagement* is important, as academic practice is often tacit and somewhat opaque. As a first-time presenter, the peer review was an excellent example of such transparency. It was an exceptionally well-organised and helpful experience. It was rigorous yet suggested ways to draw out, develop and better communicate the key themes of my research in the proposed paper. As acknowledged, "the final formatting of the visual papers for proceedings presented more significant choice points that [...] we knew we would have to grapple with" (§32). The *open design* format was confusing at this granular level. The reformatting of the accepted visual papers, redesign by someone other than the author, risked reducing the clarity of the communication. Here, an *assemblage* approach would allow for discrete and crafted elements that then connect and interact within the event but do not need to be disassembled themselves. This would resolve some of the tension between retaining a coherent and *quality voice* and a more fluid and egalitarian format. However, issues around archiving material still need to be resolved, as it should surely not be a choice *between* high quality or engagement but an assemblage of all. It is concerning that

"because the RTD proceedings were not archived in keeping with established criteria for academic impact, some reflected that the submissions did not 'warrant' high quality 'production' in keeping with that established criteria." (§43)

¹ | RTD 2015 Provocation by Sir Christopher Frayling, Part 5. A film by Abigail Durrant and James Price for Research through Design (RTD) 2015 Conference. Available at <https://vimeo.com/129779638>.

A hands-on discussion of practice that is part of quality academic research should also demonstrate academic impact criteria.

Presentation experience

« 6 » The inclusion of artefacts as *work in progress* balanced the pressure of the presentation, as the research artefacts (in my case bowls) brought to the Rooms of Interest became additional characters in the event, diffusing the *sole authoritative voice* and opening up tactile experience to the other conference delegates. As the target article identifies in a feedback response: "There seemed to be something about having a bowl in your hands that made it easier to ask questions!" (#13 §45) The article rightly acknowledges that the "presence of artefacts in the roundtable setting changed the dynamics and focus of the presentations, from a mode of a single authoritative voice presenting work through verbal and textual means, to a more intimate, supportive and egalitarian one" (§23). Democratic assemblage offers a richer complexity of knowledge and need not mean dumbing down.

« 7 » In line with the novel format of RTD, six "scribes" were introduced to discussions surrounding presentations in the Rooms of Interest "*capturing the unfolding conference experience*" (§37). The scribes work operated best at the level of an illuminated manuscript (<http://www.bl.uk/catalogues/illuminatedmanuscripts/TourIntroGen.asp>), where the drawings and quotes enhance the core text but do not supersede it. A band of illumination assembled around the presenter's core text would mirror the structure of the round table spatial environment of the presentations. If, as mooted in the post-feedback reflections, this was then placed on a wall for further comment during the conference, an additional ring of comments/illuminations could form another border around the document, responding to the original text or developing one of the discussion points. This could form a rich carpet of discussion that has the potential to continue expanding, possibly even at future conferences, like traveling ripples emanating from the impact of an initial presentation.

« 8 » The scribes appeared to hold considerable power in the recording of the presentations as they acted as gate keepers of knowledge, and those presenting had little

opportunity to respond to misunderstandings. A lens that interprets inevitably builds the established canon of knowledge for that event. A chance to continue engaging would act as a remedy to the *authoritative voice of the scribe* (§54). Matching the methodology to the conference content here would mean finding ways of keeping this open and allowing *rings of comment* to be assembled in an ongoing process after the event (§54).

« 9 » It is important to map how all the actants in the conference work to trace their agency. Gilles Deleuze and Félix Guattari (2004: 324) identify particularly significant elements in assemblages as *operators* that work as *assemblage converters*. This is clearly identified in the form of the session chairs (§24). It may be useful to identify and map other key *operators* for the next RTD conference, particularly the "range of functions of the artifact in the submission process" (§49).

Post conference and conclusion

« 10 » For these operators to be fully explored and enabled, a more overt reference to methodology embedded throughout the conference would provide a theoretical and process-based armature on which to develop innovative conference practice. Mapping out transparent rules of assemblage would help match methodology to conference content, so that knowledge gained through design research is able to be re-constructed continually in a flexible *dialogical platform*, reflecting more closely current research activity. This would link closely to the RTD ethos and provide a structure for the conference network to grow outside of the limits of its event and geography. Transparency around theoretical frameworks would also enable the conceptual integration of both physical artefacts and service-design outcomes, with all actants recognised equally for the significance of their input. This could help balance the tension between the two main aims of the conference and restructure the division between the presentations and the delegates' comments.

« 11 » The RTD paper reflects the interesting tension between embracing a constructivist strategy that allows a range of actants, and the perceived traditional quality-gatekeeping issues that results from this. With a clearer and perhaps more overt methodology, mirrored more closely in the recording, archiving and dissemination of

design research, the issue of balancing the input of actants might largely be resolved. A unifying but adaptable structure would allow a range of content that would not over-prioritise some elements but would develop and adjust organically as research-through-design themes develop in the future.

Jane Norris at the time of attending the conference was Programme Leader for the BA Hons 3D Design Craft at Havering College of Further & Higher Education, 6 October 2015. Her research interests include polychronic objects – exploring alternative approaches to materiality in design and craft using digital theories of time through aerial viewpoints, crumpled time and object emergence. She is currently undertaking a Post Experience Program writing up the Polychronic Objects research as chapters for a book in the Critical Writing department at the RCA.

RECEIVED: 17 OCTOBER 2015

ACCEPTED: 1 NOVEMBER 2015

Research through Design as a Discursive Dissemination Platform

Nithikul Nimkulrat

Estonian Academy of Arts, Estonia
nithikul.nimkulrat/at/artun.ee

> **Upshot** • The aim of this commentary is to provide a perspective on the dissemination of practice-based design research in an international conference, namely Research Through Design (RTD), that utilized a discursive, experimental format. The content of the commentary includes the author's experience-centered account as a delegate at RTD 2015 and recommendations for future events.

Rooms of Interest: A place for discursive research dissemination

« 1 » Proposed by Christopher Frayling (1993), "research *through* art and design" is a distinctive model of research that permits creative practitioners to utilize their professional practice as a vehicle, meaning that they can maintain and make flourish their practice while advancing themselves into PhD education. Adopting this model and its name, the

Research Through Design (RTD) conference series explores an alternative to the conventional paper presentation format of academic conferences. However, it does not abandon the tradition of oral presentation completely. Instead of a didactic structure, the conference redesigns presentation sessions that facilitate interaction and dialogue between delegates and artifacts and among delegates themselves. Central to the interactive discussion in RTD is the artifact resulting from design practice performed as part of research inquiry and being presented in a curated exhibition during the conference.

« 2 » In this section, I reflect on my experience as a delegate who spoke at RTD 2015, including what worked well and what did not work for me, as well as my recommendations for future RTD events. I focus on the Rooms of Interest, the redesigned presentation sessions in RTD 2015.

« 3 » Supported by the roundtable format, oral presentations with the presence of artifacts in the Rooms of Interest created inclusive and friendly dialogue between delegates. The artifacts were temporarily taken from the curated exhibition to a Room of Interest to support the presentations. Although each Room of Interest started with a didactic structure, in which speakers verbally introduced their projects and presented slideshows on a screen, it became more interactive in the discussion that followed, which functioned in a similar way to design critiques. Rooms of Interest varied in success, depending on how they were facilitated by the session chair. To be able to facilitate and foster discussion in a suitable direction, the session chair has to be knowledgeable in the research areas of all presentations in the session and be able to find shared points between them and generate discussion accordingly. Reading all the papers in the session beforehand and preparing topics that could interest the speakers and other delegates collectively may be key to smooth facilitation that supports discursive momentum in the room so that everyone feels they can contribute to discussion. In one Room of Interest that I considered less successful, the session chair allowed the speakers to speak longer than the time limit, and at times led the discussion to specific issues with which one presentation was not concerned. The latter oversight created awkward moments

for the speaker and probably for some other delegates as well. For this reason, session chairs must be expert facilitators who are

- sensitive to any uncomfortable atmosphere, and
- skillful in creating inclusive conversation.

Documentation of the Rooms of Interest

« 4 » In every Room of Interest, scribes were among other delegates to document the presentations and discussion. I recognized the scribing activity as a research process in which scribes act as researchers observing the session and making research diaries. Through this, they examine the alternative discursive format of the Rooms of Interest, exploring how the concept of research through design can be shared and discussed in situ among delegates. Understanding it this way led me to an expectation of scribe materials being both descriptive and reflective. However, scribe materials were largely descriptive, documenting what was said and shown in the session. As there were several scribes in a Room of Interest, what could have been done after the session as a “research team” was to compare, discuss and interpret their scribe materials, which were data collected from observation. Revisiting their documentation collectively would support the scribes to find key issues discussed in the session to reflect upon, so that the existing scribe materials were highlighted or more texts and drawings were added. Unfortunately, the conference program did not enable such reflection activity between scribes to take place. This would be reflection-on-action (Schön 1983), taking place after the course of actual scribing actions has ended. This form of reflection may illuminate a shared understanding of research through design and its dissemination through the discursive platform of the Rooms of Interest. The shared understanding generated from the scribes’ reflection can then call for further reflection from other delegates.

« 5 » The sharing of scribe documentation with conference delegates to generate further interpretation was sound. However, presenting scribe materials as plenary slideshows on an auditorium screen gave a didactic atmosphere and did not support the delegates’ interaction with what they were seeing. For me, presenting them in

a less formal and a simpler way as sketchbooks displayed on a table or pages on a wall would persuade delegates to contribute their thoughts further by writing or drawing on the same materials. To make the scribing activity successful, the key factor is the recruitment of scribes who need to be experienced as researchers as well as scribes.

Making Space: Extension of the Rooms of Interest

« 6 » The curated exhibition in RTD 2015 that featured artifacts constituting research processes or outcomes was well crafted and tied into the conference, as mentioned in many delegates’ feedback to the online survey (\$48). It facilitated comprehensive and engaging conversation with delegates, especially during the Making Space session. Making Space was a separate plenary session arranged in the exhibition spaces. It encouraged delegates to interact individually with artifacts and to converse with one another by focusing on their personal experience with the artifacts. To me, it worked similarly to discussion in the Rooms of Interest. The main difference was that discussion in Making Space was between the presenter and a person or a small-group audience (2–3 people). This allowed the conversation to go deep into specific details that may not be of interest for the large audience in a Room of Interest.

« 7 » Most of the exhibited artifacts were completed; therefore, the role of artifacts as examples of research explorations was not evident. In my view, it is important for a research exhibition to emphasize the role of artifacts in conducting research, meaning the process of making needs to be transparent and demonstrable through the displayed artifacts. The quality of discussion in the Making Space session and the Rooms of Interest relied on this factor, particularly when the artifacts were diverse in design disciplines.

Conclusion

« 8 » RTD 2015 was a platform for constructivist learning, combining acts of creativity and rational thinking, as well as a platform for disseminating practice-based knowledge. Within this platform, designer-researchers not only shared and discussed their specific experiences, but also connected them and constructed a general understanding of practice-based design research.

«9» Although research problems in design research can be unique and difficult to generalize, reflective practice focuses on the designers' actions and endeavors (experience), with respect to conjectural conversations with the situation, to reinterpret and improve the problem as a whole (Schön 1983). In case of RTD 2015, the problem was how to compose a conference with an experimental and discursive format to disseminate research through design. It was reinterpreted by delegates' meaningful interaction with artifacts and with one another, so that knowledge about design research and roles of artifacts in research inquiry was generated and shared (§74).

«10» The creative yet rational exploration in the Rooms of Interest supported delegates' reflection on their thinking, actions and feelings as related to their experience of the conference – it is a critical process of reflection-on-action (Schön 1983: 275–283). When delegates' reflection-on-action in a Room of Interest was documented through scribing, the scribe documentation could become an activator for further reflection-on-action by the scribes who documented that Room of Interest and then by delegates who were not present there. Rooms of Interest served as performative exploration with an aim of constructing a model for research dissemination that combines linguistic with non-linguistic presentations and promotes interactive knowledge exchange.

Recommendations

«11» Although RTD 2015 was a success in my view as a delegate, there is room for improvement, with challenges ahead. A tension to be addressed is the inclusion of artifacts in the central exhibition. If RTD aims to focus on “design as a knowledge-generating activity” (§56), the conference ought to encourage presentations of artifacts in progress and documentation of their making process, rather than completed artifacts alone. This is to disclose how the artifacts actually arise from the process of design practice carried out for research inquiry and what purposes the practice has within the research, whether it (1) poses a research problem, (2) provides a context of inquiry, (3) serves as a research method or (4) provides evidence to support outcomes of research (Niedderer & Roworth-Stokes 2007).

By doing so, embodied knowledge that may not be fully articulated can be apprehended through artifacts, thus contributing to the advancement of design epistemology.

«12» The role of curation must be played in the peer-review stage to ensure the inclusion of design processes evidenced by ongoing artifacts, unsuccessful experiments and documentation of the processes, such as research diaries, videos, photographs, etc. The double peer review could be structured in a way that one reviewer (external) focuses on the submission's quality and rigor of argumentation that corresponds to academic criteria while the other (internal) concentrates on the curation of submitted artifacts and of “research, discussions, experiences and provocations” (§63), evaluating the quality of the artifacts as such and their roles in research.

«13» Organizers may examine other platforms for efficacious dissemination of practice-based research. An example that can be used as a starting point is the international conference series “The Art of Research” (AOR)¹ held biennially at Aalto University in Finland. By examining other similar platforms, some insight may be gained into how artifacts and their visual presentations can be combined with textual presentations to demonstrate:

- how knowledge may be embodied in artifacts and their creation; and
- how artifacts and their creation may be contextualized in a research process as outcomes and a method respectively – the epistemological challenges for this form of research.

Nithikul Nimkulrat intertwines research with textile practice, focusing on experiential knowledge in craft processes. Nithikul has worked at Aalto University (Finland), where she earned a doctorate in design in 2009, and Loughborough University (UK), and is currently Professor and Head of the Textile Design Department at the Estonian Academy of Arts (Estonia).

RECEIVED: 17 OCTOBER 2015

ACCEPTED: 19 OCTOBER 2015

1 | The first conference took place in 2005 under the name “CHIASMA2005: Combining Art and Design Practices with Research.” The conference series was rebranded to “The Art of Research” in 2007.

The RTD Community and the Big Picture

Jonas Löwgren

Linköping University, Sweden

jonas.lowgren/at/liu.se

> Upshot • The Research Through Design (RTD) conferences represent important steps towards more meaningful academic practices, not only within the field of research through design but potentially for many related academic fields. In order to realize this potential, I would like to take a step back and look at the RTD community in the context of a larger academic landscape.

«1» To start from the beginning: the account of the background and emergence of research through design that opens the target article is, to the best of my knowledge, comprehensive and accurate. It leads on to the suggestion that new dissemination platforms are needed (§15), which I strongly agree with. As I see it, academic knowledge production is nothing but an ongoing discourse in a research community, and it seems clear to me that the communicative infrastructures employed by a research community are going to have an impact on the form and qualities of its discourse.

«2» Like the authors, I have also found the predominance of text formats and conventionalized conference rituals to be a potential problem for design-based research. I was therefore very interested in the ideas behind the RTD conference when first hearing about it in the summer of 2014, and tried to put some effort into developing a strong submission in order to be accepted to the 2015 conference and have a chance to experience it first hand. I was fortunate to make it through the selection process, and thus I can give some comments on the article based on my trip to Cambridge in March 2015.

«3» In a nutshell, the sense I came away with is one of contributing to an emerging research community. This is also borne out in the article, where the authors reflect on two iterations of the experimental RTD conference format and discuss how it can/should be further developed as a “dialogical platform” for the research-through-

design community. I do not have much to add on the level of specifics – as already stated, I find the account of the genesis of the field accurate and I share the authors' concerns. But what I might be able to do is to take a step back and look at a slightly larger picture of growing a research community in a large academic landscape of existing research communities, norms, practices, funding schemes, degree structures, job opportunities and so on.

« 4 » The authors talk about the RTD conference as being experimental with respect to knowledge forms and dissemination media, recognizing the potential knowledge value of artifacts, performative pieces, etc. (§28). But perhaps we need to look at how such experiments are turned into progress for the research-through-design community. For me, the key to understanding research as knowledge production is in criteria for judging the quality of proposed knowledge contributions – this is really what is behind the prevalent emphasis on “scientific method” – but we need to think about for whom the criteria are formulated and by whom they are used. On a similar note, the authors' report on the RTD 2015 review process and how it was perceived by attendees (§43) suggests that an attempt was made to apply rigorous academic review and selective acceptance for an audience that in part lacks experience with such practices, and possibly also in part lacks the incentive to follow them. Again, there is a question of where the RTD experiment hopes to take the research-through-design community.

« 5 » I would like to try to address these questions by seeing the RTD conferences as part of an effort to grow a research community on research through design in the context of an existing academic landscape. This implies an inherent tradeoff between existing, established norms on one hand, and the needs and forms of practice that are specific to the nature of research-through-design work on the other. To lay out a few starting observations on research through design:

- Design practice is part of the knowledge-production process. This is non-negotiable, an essential property of the emerging community – but it is certainly not obvious to academia outside the community what it means.

- Artifacts carry knowledge – but not necessarily the kinds of knowledge that are intelligible outside the emerging community.

- It is the responsibility of the emerging community to agree on criteria for judging the quality of knowledge contributions – and those criteria could conceivably be quite alien to those used in neighboring academic communities.

« 6 » Coming back to the tradeoff, and simplifying rather drastically, we could discern two extreme-point scenarios: the emerging community could choose to (1) celebrate its uniqueness, by focusing on knowledge-production, dissemination and assessment processes that are meaningful to members of the community. Or it could choose to (2) situate itself in relation to the existing research landscape.

« 7 » Scenario 1 offers the convenience of collaboration among peers with shared beliefs, values and, most importantly, a shared language. However, as indicated in the starting observations above, my sense is that the research through design community on its own would develop in ways that would depart from the practices of surrounding communities. Since research through design is a rather small research community, I find this scenario less interesting due to the considerable risks of inbreeding and of withering from lack of critical mass.

« 8 » In scenario 2, the emerging community would, however reluctantly, accept the hegemony of text in the surrounding academic landscape. This would imply, among other things, a priority on textual articulations of research through design's epistemologies of practice (§59), much like the forms for artistic-research Ph.Ds, which seem to have converged on creative work plus exegesis in related research communities. It would also imply a continued focus on rigorous peer review and selective acceptance in order to establish the external value of the community in the only universal currency of the academic landscape, namely archival publications.

« 9 » Note, though, that scenario 2 does not only require the emerging research-through-design community to comply with existing norms. To the contrary, I think the RTD conference experiments point to a way forward that would also be of immediate

and great interest to many neighboring research communities. It is straightforward to see, for instance, how the design crit formats of the Rooms of Interest could improve the quality and attendee experience of many conferences in related fields (if the insights on facilitation that are reported in §§68–71 are properly taken into account). The importance of curation (§63) is another significant example of an immediately transferable insight.

« 10 » Finally, I think it follows that a conference offering the kinds of innovative format improvements demonstrated by the RTD has the potential to form a venue for situated production of knowledge that is significant to the whole research community, including the members who were not able to attend the conference. Thus we join the authors in arriving at the question of documenting the knowledge outcomes of the conference (which I find more relevant in the context of scenario 2 than “capturing the conference experience”). The authors' discussion of this topic in §§66f seems to concentrate mostly on incremental improvements to the RTD 2015 scribe format. However, to me, the most interesting opening is found in the attendee survey data, where some respondents mention their own potential ability to serve as scribes.

« 11 » From the point of view of scenario 2, it is possible to develop a vision of conference attendees sharing the responsibility for building the knowledge outcomes of the conference at the conference. This is not the place to address how it should be done in detail, and it would require breaking free from a whole range of established expectations on conference-going, but a fruitful starting point could be to integrate a layer of annotation and discussion into the Rooms of Interest, building on top of the published papers. One could imagine a facilitator role complementary to the session chair, having the responsibility for the annotation / discussion layer of the archival proceedings of the session in question, and using an appropriate shared platform for facilitating and formatting the collaborative construction of meaningful documented insights and reflections as the session happens. In effect, the co-constructed material would form part of the archival conference proceedings, connected directly to its conceptual point of

origin, thus potentially becoming meaningful and generative to the research community after the conference.

«12» As a closing reflection on the “Closing reflections” (§72), I have all sympathy for the aim to establish a commonly understood language, but it may be necessary to start by asking who is doing the understanding. In my simplified dichotomy above, is it the emerging research-through-design community (scenario 1) or is it the context in which the emerging community is situated (scenario 2)? I believe that the way forward and the decisions to be taken ahead are strongly contingent on the answer to that question.

«13» And personally, I think that it is much more important to build connections across research communities than to erect yet another silo, even if it means dealing with difficult tradeoffs.

Jonas Löwgren is professor of interaction and information design at Linköping University, Sweden. He specializes in collaborative media design, interactive visualization and the design theory of digital materials.

More information is at <http://jonas.lowgren.info/>

RECEIVED: 17 OCTOBER 2015

ACCEPTED: 19 OCTOBER 2015

The Making of a Conference

Peter Lloyd

University of Brighton, UK

p.a.lloyd/at/brighton.ac.uk

> **Upshot** • The practice of thoughtful conference design helps to preserve the research conference as a vital arena for knowledge construction and exchange.

«1» First things first, full disclosure: I am a serial conference organiser and am currently organising a large design research conference so am wrestling with the issues that the authors deal very effectively with in Abigail Durrant et al.’s target article. It centres around research that is conducted through design and how best to present and talk about it, but more generally in an age of high bandwidth and seamless connectivity we might ask: Why have an academic con-

ference at all? What knowledge and legacy does physically being together in a place generate, and how is that accessible to others? Arguably, the physicality of practice-based work makes being situated in the same place more important but still, why not figure out a way of putting the whole thing online?

«2» The case against is clear. Twenty years ago, without our mobile phones, iPads and laptops, a conference offered a place to listen and focus, to present unknown work, and discuss ideas free from day-to-day life, cosseted in a conference bubble. But the bubble popped a while ago. Look around you at a conference now and you see people that are barely present at all: sending quotations and opinion to their Twitter feeds, solving staffing problems back home, or emailing that important review for a deadline just missed. They are there but not there, participating but not contributing.

«3» The conference has become more of a flow than a thing. TED,¹ with a simple formatting move and nice take on design, has kick-started the attention-grabbing, inspirational, presentation that now plays out in commercial contexts at ever lower levels. Delegates leave inspired by a captivating story, but not necessarily any the wiser. And that brings us back to the point of an academic research conference: openness about method, subject, object, and process should (in theory) leave delegates with a head full of new ideas, a bunch of new connections, and the research community enriched until the next time. The conference, traditionally the start of new dialogue, now finds itself in the midst of continuing dialogue. The most it can do is to channel and record the flow of discourse.

«4» Against this context, I found the article a considered and informative account of a process to develop new formats for conference participation in the area of practice-

based design work. This is an area where the traditional paper-presentation format, in its “backward” reporting of results, limits what can be discussed about the “forward” potential of a design artefact. The “Rooms of Interest” (§47) central to RTD 2015, and the most fundamental attempt to get away from the traditional “lecture” format, represent a way to open up discussion around physical artefacts, and includes researchers operating in organisational contexts. The Rooms of Interest are positively assessed by the authors, though the participants are seemingly more ambivalent. That could be said of the other attempts at format-changing too (§33), and I think the reporting of audience response slightly diminishes the contribution of the article, the achievement of the conference, and the careful thought behind its many components.

«5» The target article does show how difficult it is to take the conventions and terminology of the academic conference (§60) and confound the expectations that these bring in a way that is both understandable and coherent to a broad range of researchers, who may only be partially engaged in the lead up to a conference. The ingredients that arguably make for an effective conference – good organisation, good chairing and facilitation, a few unexpected items, formal mixed with informal – evidently remain as important as they ever were (§47).

«6» I am of course biased by the conference I am attempting to design, and I use the word “design” very deliberately. What I think this article best presents is the *practice* of conference design, the process of working out what kind of things to specify for submission (§31), what kind of discussions and dialogues will fit the geography of place (§27), what the available technology can do to enhance understanding (§38), and how best to attract and corral participants. That requires thinking at a number of levels, but as the article shows, those levels need to be integrated and understandable, from the paper format, to the checkboxes at submission, to the communication of intentions throughout. The organisation of RTD 2015 is clearly shown to have developed from the prototype of RTD 2013 and I am sure RTD 2017 will develop further still in that ongoing flow of dialogue within the research through design and wider community.

1| According to the TED Website, <https://www.ted.com/about/our-organization>: “TED is a nonprofit devoted to spreading ideas, usually in the form of short, powerful talks (18 minutes or less). TED began in 1984 as a conference where Technology, Entertainment and Design converged, and today covers almost all topics – from science to business to global issues – in more than 100 languages.”

« 7 » There is a nice quote in Hilary Mantel's *Wolf Hall*, a novel about King Henry VIII of England, where the protagonist Thomas Cromwell is asked by one of his advisors what the King of France will get out of a proposed treaty with the Pope. Cromwell responds that:

“the making of a treaty is the treaty [...] it is the processions that matter, the exchange of gifts, the royal game of bowls, the tilts, the jousts and masques: these are not preliminaries to the process, they are the process itself.” (Mantel 2009: 391)

That sentiment is reflected in the way that conferences sit in the academic landscape now: the making of the conference – in the relationships that are formed between organisers and presenters, the dialogues that take place around formats, the ability to put more, and more complex, material online prior to the conference, and amend and update following the conference – is progressively becoming what the conference is. There is, as the target article demonstrates, the need for a “conference object” to sit in the flow of academic discourse around practice-based design research (as well as design research more generally), to create eddies and to pull the flow one way or another. The need for that “object” to be well-considered is pressing and I think is demonstrated in the article.

« 8 » I do, however, take issue with the distinction between practice-based research and research more generally that the overview of §§6–13 presents. The distinction has been around for some time, as the authors correctly reference, but is becoming less useful as doctoral training for design researchers increases in quality, and researchers considered “practice-based” are equally able to articulate, in text and argument, what they are doing, how they are doing it, and the knowledge they are creating. All types of design researchers are increasingly seeing their research as a form of creative practice, so research through design should keep the idea of what an artefact is as open as possible; theses and papers are also objects too. What I have tried to show, by highlighting the practice of conference design, is that practices of research and organisation everywhere can

be considered as creative, reflective, and critique-able activities.

« 9 » In conclusion, I think this article opens (or perhaps contributes to – I have to confess ignorance here) an important reflective dialogue about the practice of conference design, and effectively illustrates what the purpose of a (design) research conference is, and can be, in the world today.

Peter Lloyd is a Professor of Design in the School of Art, Design and Media at the University of Brighton and Associate Editor for the Journal *Design Studies*. He teaches in the areas of design methods, design thinking, and design ethics, with his research looking at all aspects of the design process. He is General Chair of the Programme Committee for the 50th Anniversary Design Research Society (DRS) Conference, to be held at Brighton, UK in June 2016. Blog: <http://iprofessdesign.wordpress.com>, orcid: <http://orcid.org/0000-0002-6790-9054>, conference: <http://www.drs2016.org>

RECEIVED: 20 SEPTEMBER 2015

ACCEPTED: 1 NOVEMBER 2015



Platform and Habit of Inquiry

Rosan Chow

Muthesius Academy of Fine Arts and Design, Germany
chow/at/muthesius.de

> **Upshot** • My comments should contribute to making the next RTD conference even more “successful.” If we are to advance design research, changing the format of conferencing is secondary to changing the culture of inquiry, although they surely intertwine.

« 1 » I must start with an apology and a declaration: I am not writing necessarily from a constructivist point of view, and there are more opinions than arguments in my short commentary. I have co-organised a 100-person conference, a 70-person one, and two small symposia in design research, and have followed the debates on research through design for the past 15 years. My commentary, based on my experiences, is meant to encourage and support not only the authors but also anyone who is

genuinely interested in advancing design research by organizing a conference or a similar event.

« 2 » In terms of design research (conferences) generally, if there is one thing to improve, then I will suggest it is the culture of inquiry. What I refer to is not epistemological positions or methodological rigour, but rather the practice of *collective* inquiry. The habit of knowing, correcting, and building on existing research/knowledge is at its weakest in the cultural practice of design research. (For instance: at the EAD'06 conference “Design System Evolution” in 2005, as a co-organiser, I noticed that there were different ideas on design presented; these ideas overlapped with or repeated other previous ones and yet the authors seldom examined these other similar ideas; see Chow 2005). Unless this is changed, the contribution made by changing the format of conferencing alone is very limited. I will use Abigail Durrant et al.'s target article as an example to clarify what I have in mind.

« 3 » The article is a very detailed, well written, careful description and reflection on experimenting with some new formats for a new conference series. The discussion covers pre-conference review and selection, on-site process and set up, and goes all the way to post-conference documentation and dissemination. One feels that one can take this article, follow it, and run a conference. Valuable as it is, changing or adding one thing would greatly enhance the article and the design of future conferences.

« 4 » The authors are aware of different understanding or meanings of “research through design”; however, I hope it is fair to say that they seem to focus mainly on “tacit knowledge” gained from practice, and physical or material artefacts as embodied knowledge. These are the main issues for and around which their alternative conference formats are designed. However, these issues are not new, nor is the discussion on alternative conference formats.

« 5 » I wish that, instead of writing a general account of the evolution of research through design, they had had gone into a much deeper critical review of other conference series focusing on “tacit knowledge” and “embodied knowledge.” Two come to my mind: the older “Research into Practice”

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.

RECEIVED: 17 OCTOBER 2015

ACCEPTED: 26 OCTOBER 2015

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

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>

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
<p>Into</p> <p>“the most straightforward, and [...] by far the most common:</p> <ul style="list-style-type: none"> ▪ 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. <p>[...] there are countless models – and archives – from which to derive its rules and procedures.”</p>	<p>Into/about</p> <ul style="list-style-type: none"> ▪ 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)
<p>For</p> <p>“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.”</p>	<p>For</p> <ul style="list-style-type: none"> ▪ Design as applied science (no theory), ▪ complex, sophisticated projects ▪ (research and development)
<p>Through</p> <p>“less straightforward, but still identifiable and visible.</p> <ul style="list-style-type: none"> ▪ 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.” 	<p>For</p> <ul style="list-style-type: none"> ▪ 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).

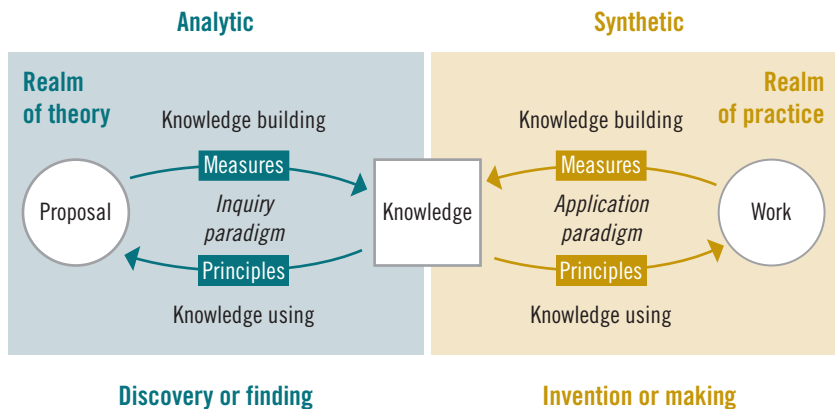


Figure 1 • A pragmatist model of building and using knowledge (Owen 1998).

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 Weber’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.

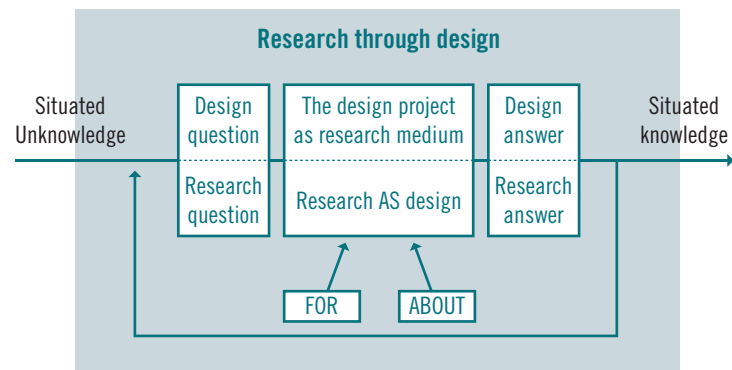


Figure 2 • Research through design means the reflected, purposive, and playful use of observer modes during the design research process (Jonas 2014).

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-

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
	<ul style="list-style-type: none"> Observer is situated outside the design/inquiring system Emphasis on the analytic aspects of the research/learning cycle? producing facts 	<ul style="list-style-type: none"> 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
Observer looking outwards	Research FOR design 	Research THROUGH design
Observer looking inwards	Research ABOUT design 	Research AS design(?)

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."

RECEIVED: 17 OCTOBER 2015

ACCEPTED: 22 OCTOBER 2015

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

as open activity, something that – rather counter-intuitively – requires a careful balance between choice and structure. Finding that balance in any given situation is easier said than done, of course; it requires sensitive judgement of the context, and the attitudes and aptitudes of the people involved.

Translating ideas about openness

« 8 » Can we make a link between open design projects such as mine and RTD? I believe so: on a conceptual level there are distinct similarities. The organisers wanted to create a bespoke conference experience that “provides a dialogical format for knowledge generation around people and their designs, and helps scaffold a pertinent debate on epistemology in design” (§2) – in contrast to conventional formats that are built to facilitate straightforward dissemination. Furthermore, given this emphasis on knowledge generation, it was necessary to create a space to bring the participants’ understandings and interests to the fore, rather than the organisers imposing their own agenda.

« 9 » The article reveals the organisers’ approach to openness in relation to the various elements of the conference: papers, artifacts, presentations and discussions. This thinking is most explicitly demonstrated in terms of the conference papers: the authors describe “balancing the need for clear criteria and formatting standards (for assessing quality and rigor in submitted work) with the ‘openness’ of the submission template and formatting guidelines” (structured abstract). Here, openness is understood as freedom and open choice, and sits in tension with the structure that is required to deliver consistency and coherency. As the organisers found, it is difficult to strike the right balance in this situation; despite their efforts to encourage experimental formats and visual argumentation, the feedback showed that some participants felt there had been insufficient guidance and most did not stray far from the established norm (§42).

« 10 » I suggest that an alternative understanding of openness – as open activity, rather than open choice – yields a useful new perspective, which could be applied to the organisation of RTD and may also prove beneficial for other conferences taking a similarly constructivist approach. From this viewpoint, openness does not sit

in opposition to structure; instead, structure and choice are balanced in order to construct openness. In my own project, this understanding enabled me to approach the creation of materials to support re-knitting activities – such as visual and written instructions and knitted samples – with a positive mindset, where previously I had seen this task as a stressful exercise in limitation.

« 11 » If this perspective were to be applied to the RTD conference papers, the organisers might decide to provide a flexible template with a few fixed parameters, along with inspiring – and non-prescriptive – examples of the ways in which it might be adapted. In terms of the facilitation in the Rooms of Interest, the authors have already described a more explicit structure that could be suggested to future session chairs (§69); in addition to specific guidance in terms of time management, they may wish to provide a scaffold in the form of carefully conceived open-ended questions, to be addressed at each session. These questions would kick-start discussion and provide continuity, yet provide space for the conversation to wander according to the interests of the participants.

« 12 » This shift in thinking about openness reframes the development of structures and scaffolds as a satisfying metadesign challenge; thus, it positions conference organisation as a creative and constructive process. In fact, the conceptualisation of conference organisation as metadesign creates a productive resonance between experimental design practice and progressive design research. It encourages us to develop design conferences using design skills, and to apply insights gained from design research to this task – rather than, as is often the case in this relatively new field, borrowing from more established academic disciplines. This link would surely make a dynamic contribution to the development of research through design as, together, we seek to establish it as a distinctive and rigorous area of practice-based enquiry.

Amy Twigger Holroyd is a designer, maker, and researcher who has explored the field of fashion and sustainability since 2004. She is a postdoctoral research fellow investigating “culturally significant” designs, products and practices.

RECEIVED: 17 OCTOBER 2015

ACCEPTED: 19 OCTOBER 2015

Authors’ Response Balancing Openness and Structure in Conference Design to Support a Burgeoning Research Community

Abigail C. Durrant,
John Vines,
Jayne Wallace &
Joyce Yee

> **Upshot** • We focus on the following issues: our intentions behind establishing the new Research Through Design conference series; epistemological concerns around “research through design”; and how we might find a balance between openness and specificity for the conference series going forward.

« 1 » There appears to be agreement among the commentators about a need for a dissemination platform to support, galvanize and continue debate on research through design. Many of the commentators also highlighted the importance of doing this through an event that brings people together physically. We are appreciative of **Carl DiSalvo**’s point that the process of “composing” a conference such as this is rarely documented as comprehensively as we have endeavored to do, with empirical grounding (§3). In our response herein, we address some of the key issues raised by the commentators that we believe are important to foreground for developing the conference series – in both conceptual and practical terms. We will focus our response on three areas:

- 1 | our intentions behind establishing this new conference series;
- 2 | epistemological concerns around “research through design”; and
- 3 | how we might balance the openness and specificity of the conference series going forward.

For our purposes herein, we refer to the discourse on and practice of “research through design” as “RtD” to distinguish it from the conference name that takes the RTD acronym.

Our intentions in establishing the Research Through Design (RTD) conference

« 2 » Several of the commentators offered ideas about what role the RTD conference could play in the academic research landscape. In many cases, this was based on personal experience of attending and presenting at RTD 2015. **Liz Edwards** described feeling a sense of community from being at the conference and that this grew as she tacitly “learned” her way in to the novel format (§3). It appears that the submission options communicated a sense of inclusivity and openness for **Jane Norris** (§5). **Nithikul Nimkulrat** (§3) appreciated the prominence of the oral presentation in the Rooms of Interest sessions, with chairs fostering the face-to-face dialogue and “discursive momentum” (so long as the session chair is “prepared” and “knowledgeable”). And **Jonas Löwgren** saw potential in the format to offer something new:

“[A] conference offering the kinds of innovative format improvements demonstrated by RTD has the potential to form a venue for situated production of knowledge that is significant to the whole research community, including the members who were not able to attend the conference.” (§10)

Such comments align with the organizers’ pragmatic intentions to create an inclusive, dialogical and experimental (alternative) platform for disseminating RtD that is conducted by or in collaboration with creative practitioners. These three key features of RTD describe a motivation to energize and extend debates about what this kind of research could look like and how it may be disseminated within and in relation to academic communities of practice. Significantly for our target article’s argument, the practical process of “making” (after **Peter Lloyd**) the conference and configuring a setting for it concretely to “take place” arguably extends the debate in a new way that is about situated, embodied interaction around people and things.

« 3 » It is very helpful to have the external perspectives of those who did not attend RTD 2015 (i.e., from **Rosan Chow**, **Wolfgang Jonas** and **Peter Lloyd**) to position these endeavors (for setting up the conference) further in the historical context of previous

conference design efforts and extant design research discourse. We appreciate **Lloyd’s** comment about the importance of physically communing at the conference – the experience of being present – for contributing to academic discourse and practice (§2). **Chow** also offers a valuable lens for approaching the conference design, in terms of developing a culture of “collective inquiry” (§2) that rigorously examines and builds on extant understanding.

Epistemological concerns around disseminating research through design

« 4 » Many commentators pointed out that discourse on what RtD is and what forms of knowledge it engages remains underdeveloped, with implications for how efficacious RTD can be as a dissemination platform. To what extent the RTD conference series could actually advance understanding on that discourse, regardless of its organisers’ aspirations, remains an open question; RTD as a conference may well define its own concerns for representing design as a form of inquiry, connecting, to a lesser or greater extent, with existing discourses.

« 5 » In his commentary, **Jonas** expressed concern for how we (the organizers and the target article’s authors) may be inappropriately trying to mix a desire for disseminating RtD with epistemological concerns: “There is a fundamental difference between the problem of disseminating RTD outcomes and the issue of developing a consistent concept of RtD” (§2). Responding to this, we wish to emphasize that our primary intention with this article was to describe the exploratory, critical-reflexive process of “composing” the conference, in a way that deals with the practical reality of giving voice to RtD practitioners while being open to the potential for this experience to invite new articulations of what RtD could be. While we understand the position put forward by **Jonas**, we argue that practices of disseminating and articulating RtD are fundamentally epistemological concerns as well. Conference talks, their associated papers, journal articles and other modes of dissemination are the means through which knowledge within a community of academic practice is articulated, expressed and built

upon. Modes of dissemination explicitly and implicitly influence how we talk about our research; they have a tendency to reify specific modes of expression (e.g., the textual), influence the ways in which research is conducted (i.e., designing studies and writing them up in a manner to fit extant discourses rather than being responsive to a context or accurately portraying work) and can exclude specific community members from expressing their work. In composing RTD as we did, we attempted to support modes of communication and expression that were inclusive of a wide range of potential voices and contributions. As such, we purposely avoided precisely defining what RtD and its associated methodologies are, but rather invited further appreciation and scrutiny of its diversity and to find connections therein. We agree with **Jonas** (§16) that we need to raise the academic standard and reputation of RtD; however, it is important to ensure this is done in a manner that is accepted, recognized and understood by those designer-researchers practicing and undertaking RtD first. Thus, making this legible and attractive to other disciplines is a secondary concern, albeit still an important one, and (after **Löwgren** §13) we must be careful not to construct yet another disciplinary silo that is inaccessible to anyone other than design researchers.

« 6 » We should clarify how we conceive the role of artifacts, objects and outcomes at the RTD conference, and in RtD processes more generally (after **DiSalvo** §5). Several of the commentators noted how we appear to subscribe to a view that artifacts are carriers of knowledge (**Jonas** §15), the tacit knowledge gained from practice and how this is embodied in objects (**Chow** §4) or practice-based (**Lloyd** §8) orientations to RtD. We fully appreciate how our presentation of the RTD conference, with its emphasis on artifacts and materials to be exhibited and brought into Rooms of Interest, sets this expectation. However, it is important to emphasize that we *do not* subscribe to a view that designed artifacts in-and-of-themselves are the representation of knowledge. At RTD, the role of exhibited artifacts is to act primarily as a ticket to talk, to promote conversations, discussion and connections between the work presented and to present opportunities for new forms of interaction with authors’ work

beyond the didactic modes of presentation that can often occur at academic conferences. **Lloyd** (§8) noted that theses and papers are objects too – and we completely agree, as we do with **Jonas's** claim (§15) that it is the process of RtD rather than the outcomes that are of most critical importance. Indeed, many of the artifacts brought to RTD were examples from experimentation during design processes, tools used to create artifacts or materials that documented methods of participant engagement, acting as ways into talking about the mode of enquiry rather than just its outcomes. However, what we acknowledged about the common dissemination landscape is that objects such as theses and papers *are* those that are most prevalent and that the wider, richer materiality of objects that have a life in all stages of the research process are much less commonly witnessed, let alone *handled* or physically experienced during RtD dissemination. It is this wider materiality that we wanted to welcome into the center of our conference format and what we saw to be a significant departure from a more scientific model of presentation and reliance on the spoken or written word.

« 7 » With this mindset, we remain open to the potential for RtD to be represented partially through presentations of artifacts, while acknowledging and being interested in the tensions this may bring, as noted by **Chow, DiSalvo, Nimkulrat** and even ourselves in our article. We emphasize that RTD dissemination requires a *presentational context* and that this necessitates an active engagement on the part of the designer-researcher(s) to consider the articulation and communication of knowledge between people and things. As such, we connect with **Jonas's** view of “conceiving the design process as a unique epistemological and methodological medium/device for knowledge generation, different from other disciplines’ instruments” (§15). We also greatly appreciate **Chow's** recommendation to consider a “much deeper critical review of other conference series focusing on ‘tacit knowledge’ and ‘embodied knowledge’” (§5), which may inform RTD endeavors going forward; this seems important for contextualizing the “culture of inquiry” that RTD may develop – inculcate, even – because, as **Löwgren** points out:

“[A]cademic knowledge production is nothing but an ongoing discourse in a research community, and it seems clear to me that the communicative infrastructures employed by a research community is going to have an impact on the nature and qualities of its discourse.” (§1)

Going forward: Balancing openness and specificity

« 8 » A number of the commentators raised a key tension in “composing” the RTD conference: how its design draws on established academic criteria and traditions while trying to be experimental and inclusive in its format. The challenge in **Norris's** words is:

“how to maintain traditionally recognized and accepted academic standards, whilst also employing new formats of presentation and debate-recording that allow a wider range of less controlled actants to become involved in the network of the event.” (§2)

What **Norris** highlights here is not just a tension in how to connect with academic traditions, but how to, in a socio-political sense, create new means for people to self-identify with RTD, to participate and have influence. This leads us to consider the socio-political dimensions of composing the conference – as both a series of events and as a dialogical dissemination platform. **Amy Twigger Holroyd** viewed this as a “metadesign” challenge (after Jos de Mul) of how to promote openness in the dissemination platform while providing a helpful and supportive structure (§7). **Twigger Holroyd** suggested drawing upon the sensibilities and strategies of open design to advance thinking about how RTD develops and emphasizes democratic values for knowledge sharing; this approach could shape what is afforded by the conference format, starting to address **Di Salvo's** question of “how the structure of the conference might appropriately serve the needs of sharing research through design knowledge?” (§2). Here, we briefly reflect on this metadesign challenge for RTD in relation to other commentators’ views on specific features of the conference design for 2015.

« 9 » When referring to the submissions process, **Norris** (§5) identified this tension between structure and openness at play, with the “*authoritative academic voice* (quality)” of guidelines and review criteria juxtaposed

with the “*horizontal assemblage* (democratic)” of paper formatting and experimental forms of visual argumentation. She found the “*transparent rules of engagement*” fostered by the RTD peer review process encouraging, but recognized that, at a “granular level” (of paper formatting), the more open format was “confusing” (§5); a “clearer ... methodology” needs to be developed for future events, to guide the submissions process (§11). Commentators also noted how the tension between openness and structure was reproduced in the documentation of proceedings, with implications for who was given a voice. In considering the “scribing” practice at RTD 2015, some commentaries offered valuable ideas for “remedying” the “*authoritative voice of the scribe*,” for example by creating room in the programme for both delegates and scribes to reflect collectively on and highlight materials for further working (**Nimkulrat** §4). **Löwgren** suggested that new roles may be created for nominated conference goers to have responsibility for annotating and constructing a discursive layer related to specific sessions that are then archived within the proceedings (§11). He added:

“In effect, the co-constructed material would form part of the archival conference proceedings, connected directly to its conceptual point of origin, thus potentially becoming meaningful and generative to the research community after the conference.” (ibid)

« 10 » This was echoed by **Norris**, who advocated finding ways to keep the discussions at the conference “open” by “allowing *rings of content* to be assembled in an ongoing process after the event” (§8). **Norris** suggested we map out “transparent rules of assemblage” in such a way as to enable the knowledge being created and handled to be “re-constructed continually in a flexible *Dialogical Platform*” (§10). Our efforts to introduce scribes at RTD2015 was without doubt an experiment on our part to see if we could start to think how we could capture some of the dialogical richness from Rooms of Interest that had been highlighted by delegates at RTD 2013. From RTD’s inception, we have thought of the conference as an experimental forum for the trial of new ideas and we seek to maintain this ethos as the series progresses, rather than aiming to refine

a format that then becomes a set template for future RTDs. The scribe role was never conceived of as giving a set of people an authoritative voice, and indeed this undermines the dialogical potential of the activity. We most definitely welcome ideas on how delegates can be involved more dialogically in the scribe activity at RTD2017 and beyond. By publishing RTD 2015 proceedings online through creative commons options, and by introducing scribing in the Rooms of Interest sessions, we (the organizers) embraced ideas of openness with regards to documentation. However, we agree with these commentators that there is potential to go much further with this, and there is still much to be done to make the knowledge and discussions held within the conference event itself accessible to others unable to attend.

« 11 » Addressing the challenge to balance openness and structure in conference design is further challenged by the diversity of design practices that might participate in RTD and undertake RtD. While there is a great temptation for us to look to the community of researchers to start collectively developing criteria by which submissions may be judged and contributions made, this is challenging because, as Edwards points out, the community is “drawn from disparate research traditions” (§4). As such, finding common ground may be difficult; dwelling on “coalescence” rather than “divergence” may be more helpful but the differences are important to note because the conference design requires careful negotiation as a result (Edwards §6).

Conclusion

« 12 » We thank all of the commentators for their constructive and critical comments on both our target article and, in the case of those who attended RTD, valuable reflections on their experience as well. In the analysis presented in the article, we endeavored to focus on the more critical and problematic aspects of the conference in order to avoid seeming somewhat self-congratulatory, and also to develop the series constructively with a “culture of inquiry” that is collective (Chow §2) going forward. In the spirit of the 2015 conference, we will take the reflections and commentaries into account when composing the next conference in Edinburgh, Scotland in early 2017.

RECEIVED: 22 OCTOBER 2015

ACCEPTED: 4 NOVEMBER 2015

Combined References

- Anderson C. (2013) *Makers: the new industrial revolution*. Random House Business, London.
- Archer B. (1995) The nature of research. *Co-Design* 2(11): 6–13.
- Biggs M. (2000) Editorial: The foundations of practice-based research. *Working Papers in Art and Design*, 1, 2000.
- Biggs M. & Büchler D. (2007) Rigour and practice-based research. *Design Issues* 23(3): 62–69.
- Blevins E., Hauser S. & Odom W. (2015) Sharing the hidden treasure in pictorials. *Interactions* 22(3): 32–43.
- Bowers J. (2012) The logic of annotated portfolios: Communicating the value of “research through design.” In: *Proceedings of the Designing Interactive Systems conference*. The ACM Press, New York: 68–77.
- Callon M. (1991) Techno-economic networks and irreversibility. In: Law J. (ed.) *A sociology of monsters: Essays on power, technology and domination*. Routledge, London: 132–161.
- Chow R. (2005) Evolution, epigenesis, and recycling in design theorizing. In: Jonas W., Chow R. & Verhaag N. (eds.) (2005) *Design – system – evolution: The application of systemic and evolutionary approaches to design theory, design practice, design research and design education*. *Proceedings of the 6th International Conference of the European Academy of Design (EAD06)*. Available at <http://ead.verhaag.net/conference/>
- Chow R. (2010) What should be done with the different versions of Research through Design. In: Mareis C., Joost G. & Kimpel K. (eds.) *Entwerfen. Wissen. Produzieren. Designforschung im Anwendungskontext*. Transcript Verlag, Bielefeld: 145–158.
- Cross N. (2001) Designerly ways of knowing: Design discipline versus design science. *Design issues* 17(3): 49–55.
- de Mul J. (2011) Redesigning design. In: van Abel B., Evers L., Klaassen R., & Troxler P. (eds.) *Open design now: Why design cannot remain exclusive*. BIS Publishers, Amsterdam: 34–39.
- DeLanda M. (2006) *A new philosophy of society: Assemblage theory and social complexity*. Academic, Bloomsbury UK.
- Deleuze G. & Guattari F. (2004) *A thousand plateaus*. New edition translated by Brian Massumi. Continuum, London. French original published in 1980.
- Dewey J. (1986) *Logic: The theory of inquiry*. Southern Illinois University Press: Carbondale.
- Dunne A. & Raby F. (2013) *Speculative everything: Design, fiction, and social dreaming*. MIT Press, Cambridge MA.
- Durling D. (2000) *Reliable knowledge in design*. *Working Papers in Art and Design* 1. Available at https://www.herts.ac.uk/_data/assets/pdf_file/0019/12286/WPIAAD_vol1_durling.pdf
- Durling D. (2002) *Discourses on research and the Ph.D in design*. *Quality Assurance in Education* 10(2): 79–85.
- Fallman D. (2003) *Design-oriented human-computer interaction*. In: *Proceedings of the SIGCHI conference on human factors in computing systems*. The ACM Press, New York: 225–232.
- Fallman D. (2008) *The interaction design research triangle of design practice, design studies, and design exploration*. *Design Issues* 24(3): 4–18.
- Findeli A. (1998) *A quest for credibility: Doctoral education and research in design at the university of Montreal*. In: Buchanan R., Doordan D., Justice L. & Margolin V. (eds.) *Doctoral education in design*. *Proceedings of the Ohio conference* 8–11 October 1998: 99–116.
- Findeli A. (2008) *Research through design and transdisciplinarity: A tentative contribution to the methodology of design research*. In: *Proceedings of Swiss Design Network Symposium “Focused,” Berne, Switzerland*: 67–91.
- Findeli A. & Bousbaki R. (2005) *L’éclipse de l’objet dans les theories du projet en design*. *The Design Journal* VIII(3): 35–49.
- Findeli A., Brouillet D., Martin S., Moineau C. & Tarrago R. (2008) *Research through design and transdisciplinarity: A tentative contribution to the methodology of design research*. In: Minder B. (ed.) *Focused – Current design research projects and methods*. Swiss Design Network, Berne: 67–94. Available at <http://>

- swissdesignnetwork.ch/src/publication/focused-current-design-research-projects-and-methods-2008/Focused_SDN.pdf
- Frayling C. (1993) Research in art and design. Royal College of Art Research Papers 1 (1): 1–5.
- Friedman K. (2003) Theory construction in design research: Criteria: approaches, and methods. *Design Studies* 24: 507–522.
- Friedman K. (2008) Research into, by and for design. *Journal of Visual Art Practice* 7(2): 153–160.
- Gaver W. (2011) Making spaces: How design workbooks work. In: Proceedings of the SIGCHI conference on human factors in computing systems. The ACM Press, New York: 1551–1560.
- Gaver W. (2012) What should we expect from research through design? In: Proceedings of the SIGCHI conference on human factors in computing systems. ACM Press, New York: 937–946.
- Gaver B. & Bowers J. (2012) Annotated portfolios. *Interactions* 19(4): 40–49.
- Gedenryd H. (1998) How designers work: Cognitive studies. Ph.D dissertation, Lund University. Available at <http://www.lucs.lu.se/People/Henrik.Gedenryd/HowDesignersWork>
- Glanville R. (1997) A ship without a rudder. In: Glanville R. & de Zeeuw G. (eds.) *Problems of excavating cybernetics and systems*. BKS+, Southsea: 131–142.
- Ingold T. (2013) *Making: Anthropology, archaeology, art and architecture*. Routledge, Abingdon.
- Jonas W. (2007a) Design research and its meaning to the methodological development of the discipline. In: Michel R. (ed.) *Design research now*. Birkhäuser, Basel: 187–206.
- Jonas W. (2007b) Research through DESIGN through research: A cybernetic model of designing design foundations. *Kybernetes* 36 (9/10): 1362–1380.
- Jonas W. (2014) A cybernetic model of design research. Towards a trans-domain of knowing. In: Rodgers P. A. & Yee J. (eds.) *The Routledge companion to design research*. Routledge, London: 23–37.
- Jonas W. (2015) Social transformation design as Research Through Design (RTD): Some historical, theoretical and methodological remarks. In: Jonas W., Zerwas S. & von Anshelm K. (eds.) *Transformation design: Perspectives on a new design attitude*. Birkhäuser, Basel: 114–133.
- Jonas W. & Meyer-Veden J. (2004) *Mind the gap! – On knowing and not-knowing in design*. Hauschild-Verlag, Bremen.
- Kolb D. A. (1984) *Experiential learning: Experience as the source of learning and development*. Prentice-Hall, New York.
- Koskinen I., Zimmerman J., Binder T., Redstrom J. & Wensveen S. (2011) *Design research through practice: From the lab, field, and showroom*. Elsevier, New York.
- Latour B. (1993) *We have never been modern*. Translated by Catherine Porter. Harvard University Press, Cambridge MA. French original published in 1991.
- Löwgren J. (1995) Applying design methodology to software development. In: Proceedings of the SIGCHI conference on designing interactive systems. ACM Press, New York: 87–95.
- Mantel H. (2009) *Wolf hall*. HarperCollins, London.
- Nelson H. G. & Stolterman E. (2003) *The design way*. Educational Technology Publications, Englewood Cliffs.
- Niedderer K. (2007) Mapping the meaning of knowledge in design research. *Design Research Quarterly* 2: 5–13.
- Niedderer K. & Roworth-Stokes S. (2007) The role and use of creative practice in research and its contribution to knowledge. In: Proceedings of the Second Conference of International Association of Societies of Design Research. Polytechnic University, Hong Kong: 1–18. Available at <http://niedderer.org/IASDR07SRS.pdf>
- Owen C. (1998) Design research: Building the knowledge base. *Design Studies* 19: 9–20.
- Pierce J., Sengers P., Hirsch T., Jenkins T., Gaver W. & DiSalvo C. (2015) Expanding and refining design and criticality in HCI. In: Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems. ACM Press, Seoul (South Korea): 2083–2092.
- Read H. (1943) *Education through art*. Faber and Faber, London.
- Rittel H. W. J. & Webber M. M. (1972) Dilemmas in a general theory of planning. Institute of Urban and Regional Development Working Paper 194. University of California, Berkeley.
- Rittel H. W. J. & Webber M. M. (1984) Planning problems are wicked problems. In: Cross N. (ed.) *Developments in design methodology*. John Wiley & Sons, New York: 135–144. Originally published in 1973.
- Rust C. (2007) Unstated contributions – how artistic inquiry can inform interdisciplinary research. *International Journal of Design* 1(3): 69–76.
- Rust C., Mottram J. & Till J. (2007) AHRC research review practice-led research in art, design and architecture. Arts and Humanities Research Council, UK. Available at <http://shura.shu.ac.uk/7596/>
- Schön D. (1983) *The reflective practitioner*. Basic Books, New York.
- Schön D. (1991) *The reflective practitioner*. Paperback Edition. Ashgate, Farnham UK. Originally published in 1983.
- Simon H. A. (1969) *The sciences of the artificial*. MIT Press, Cambridge MA.
- Stirling B. (2005) *Shaping things*. MIT Press, Cambridge MA.
- Stolterman E. (2008) The nature of design practice and implications for interaction design research. *International Journal of Design* 2(1): 55–65.
- Swann C. (2002) Action research and the practice of design. *Design Issues* 18(1): 49–61.
- Twigger Holroyd A. (2015) Re-knitting: Exploring openness through design. In: Proceedings of the Second Biennial Research Through Design conference, 25–27 March 2015, Cambridge UK: Article 33.
- van Abel B., Evers L., Klaassen R. & Troxler P. (eds.) (2011) *Open design now: Why design cannot remain exclusive*. BIS Publishers, Amsterdam.
- Wallace J., Yee J. & Durrant A. (2014) Reflections on a synergistic format for disseminating research through design. In: Extended Abstracts of the SIGCHI conference on human factors in computing systems. ACM Press, New York: 781–790.
- Wolf T., Rode J., Sussman J. & Kellogg W. (2006) Dispelling “design” as the black art of CHI. In: Proceedings of the SIGCHI conference on human factors in computing systems. ACM Press, New York: 521–530.
- Yee J., Jefferies E. & Tan L. (2013) Design transitions: Inspiring stories. Global viewpoints. How design is changing. BIS, Amsterdam.
- Zimmerman J., Stolterman E. & Forlizzi J. (2010) An analysis and critique of Research through Design. In: Proceedings of the 8th ACM Conference on Designing Interactive Systems (DIS’10). ACM Press, Aarhus (Denmark): 310–319.