Critiquing the North American Design PhD

A symposium exploring the institutional frameworks for practice- transforming design research.

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The briefing document explicitly mentions 'multi-modality' on two occasions. The first is in Laurene Vaughan's response to 'Q5 – Artifact vs Text as evidence of research' where she comments on the importance of a multi-modal PhD submission, offering "evidence through artifact, text and oral presentation" and that "this mix of forms represents the various literacies of practice: making, critiquing and discussing." (16) The second is in Cameron Tonkinwise's response to Q6 – 'Artefact vs Text as means for dissemination', where he points out that "designerly research only exists multimodally, in between texts and artefacts, texts-as-artefacts and artefacts as texts." (20) He points out the importance of this issue for breaking down the common distinctions made between dissemination and researching.

I am interested in picking up on these points as I believe the issue of multi-modality leads to the crux of the matter regarding the character and value of creative practice research. The three-part structure of the PhD examination process at RMIT is discussed with examiners as 'three parts of a whole'. In other words, each 'literacy of practice' (to coin Laurene's phrase) should not and does not stand-alone. This emphasis becomes particularly important in relation to the written component, where examiners more familiar with conventional, all-text PhD submissions will habitually tend to judge the written document as the primary evidence of achieving doctoral standards (or not), with other components being secondary. This is indeed a hard habit to break, as the primacy of the written word is deeply embedded in cultural assumptions, but through this shift a major contribution to the practice of research can occur.

Writing, making and speaking are all different forms of evidence and modes of reflection that work together to explicate

knowledge that is difficult, if not impossible to generate alone. This multi-modality goes on in all research but is veiled by, amongst other things, the problematic idea that there is a distinction between researching and disseminating. Doesn't writing a paper or a research report significantly affect one's understanding of the subject, generating ideas and realisations? Doesn't preparing and delivering a paper presentation also contribute to understanding, with the potential for live feedback that can inflect the research in profound ways? Maybe most importantly of all: isn't research fundamentally a collective activity that may be informed by, but never limited to, the solitary or small team activities in laboratories, studios, offices and the like? Wouldn't researching be impoverished if it was actually separated from 'dissemination'?

Bringing multi-modality to the surface of research activity is another way to acknowledge the collective status of research, in relation to both dissolving researching-disseminating divisions and to how different forms of reflection operate together to produce more than they could alone. This collectivity, I would argue, is not just about humans but also about the agency of all things involved in any given process, such as material agency, the action of systems, tools, speculative refrains, etc. Perhaps the greatest holy-cow that creative practice research can (a little ironically) help dismantle is the idea of the sole-author/genius as the single source of ideas and new knowledge. Once we open up the bag of actions, practices and processes and start to examine these with care and depth, the very distributed nature of knowledge production starts to become evident.

Perhaps the best way to both elaborate and conclude is to move to a highly specific example that can serve to partially embody and suggest how and why explicit multi-modality makes a difference. I will draw on one minor project from my PhD – a series of 'drawings' that I called the 'fur fields'.

From this project I am assembling three 'artefacts' or research 'objects', each of which offer different kinds of 'evidence' and modes of disseminating–researching:
1. an image of one of these drawings,

2. an audio file of myself speaking about the process of producing them,
3. an excerpt from the PhD text that discussed and theorized these drawings.

Across the three forms of evidence, different kinds of information circle around the same act – ie. the process of doing a particular kind of drawing – informing and inflecting each other, encouraging an understanding about this process that is both highly situated and abstract enough to become relevant beyond itself (and to what I was referring to as the 'art of emergence').

1. Image.
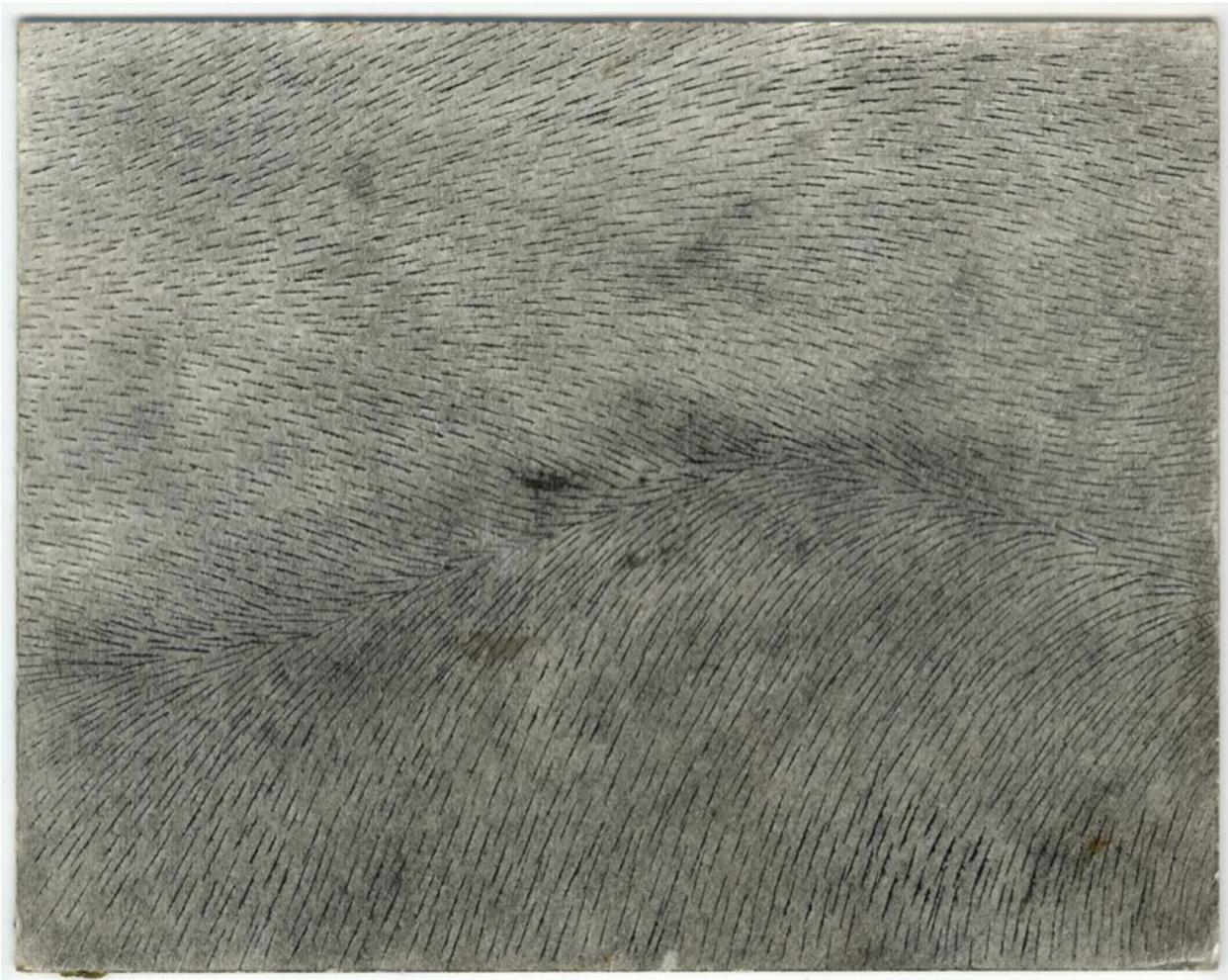
2. Audio.

3. Text

Through the process of drawing the 'fur fields' it became evident that the patterns or formations of the field could not be entirely pre-planned. If I tried to map out in advance, a general schema for the flow – a swirl here, a ridge there – I wasn't able to match the schematic as the lines gradually covered the surface. The flow seemed to have it's own 'push' or its own 'will' through the local relations of the lines. On the other hand, I did always need to operate with a sense of the flow formations that I wanted to tend toward. The process of making these surfaces was both "involuntary and elicited" , being squeezed out from between and across the global scale (the overall field and its internal differentiations) and the local scale (the particular marks and their relations with neighbouring marks). This tension between being carried away by the internal forces of the flow and pre-planning or designing the flow formations describes a defining aspect of the 'art of emergence'.

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[1] Massumi used these terms to discuss his concept of the 'biogram' through the perceptual 'maps' or 'diagrams' experienced by synesthetes, going on to say that biograms "cannot be entirely owned personally, since they emerge from and return to a collective darkness." (Parables for the Virtual: Movement, Affect, Sensation, Duke, 2002, p189). The process through which biograms appear is related to the process of producing this drawing and, by extension, to the act of creative production more generally.

Anne Burdick

Arts Centre College of Design

Creating a context that allows advanced research in design to thrive in the U.S. is vital. Introducing a practice-based PhD is but one way to get there. We need communities, spaces, practices, and discourse that match the rigor, excitement, and variability of design. But it is also important that such a development happen without invalidating research work done outside of the PhD credential. In the coming years, there will be many changes and challenges to long-standing models for higher education. In my opinion this calls for an outward-facing program that is engaged with multiple communities of practice and career trajectories rather than one that is inward-facing toward academia.

While I don't underestimate the extent to which policies can have wide-ranging impact, I think that in the context of this gathering, a discussion of the way in which standards get institutionalized would take our attention away from the challenges and exciting opportunities that redesigning this degree has to offer. In my opinion, the challenge is to design a model that is a unique response to the possibilities and limitations of CMU—a North American research university— combined with the specific issues that face not only academic scholarship based in design, but academic scholarship in general. At the risk of repeating arguments that both Cameron and Laurene make throughout their document, here are the issues that are foremost in my mind:

New modes of scholarly production and interpretation
Any practice-based design PhD has not only the opportunity, but I would say the responsibility, to model (and invent new forms of) multi-modal and cross-disciplinary scholarly production, interpretation, curation, exhibition, discourse, and

community/ies.

- The design research process incorporates movement in and between diverse modalities and media.
- Multi-modal scholarly production is already happening in classrooms across the U.S., from K-12 education to college-level Humanities and Sciences courses, motivated by learner-centered education theories and media literacy. The emphasis tends to be on the process of learning by making or on deploying various media for their discursive affordances—two areas that design is expert at (although much of this work is largely devoid of design expertise).
- The question of how one captures and shares design/ research that may be performative, action-oriented, or contextually contingent persists and is an area that is itself in need of further research and development. This is a question that goes much further than text vs. artifact.

Non-use-based design(ing)—i.e. design that is oriented toward discovery through making—requires a space for reflection and critical engagement that is attuned to the nature of the work itself. When displayed in the extra-ordinary space of the art gallery, such work is stripped of the ordinary, whose presence—tacit or otherwise—gives design its saliency. The science museum model, on the other hand, tends toward display strategies whose mode is largely didactic. Each environment brings its own discourse and history and with it expectations and interpretive modes that may or may not be relevant to the critique of design research. How do we design a context that allows for an audience to engage with the philosophical, theoretical, and/or rhetorical dimensions of design research artifacts and outcomes?

Making the most of the here and now
The contextual contingencies of designing a practice-based PhD in North America in 2013 could be useful as creative constraints. Just as the practice-based PhD is an attempt to "pivot away" from a humanities-based approach toward an approach specific to a practice-based field, so too could CMU's PhD develop a degree derived from its own peculiar context here in the U.S.

- In the European and Australasian contexts, government oversight and funding created its own set of motivations and assessment measures. By contrast, in the States, the push to develop a design-centered approach to a Design PhD comes largely from within design's academic community rather than from outside. The need to advocate for institutional understanding and infrastructure, as well as disciplinary understanding and infrastructure, will require the development of a very different value proposition.
- How might American constraints, such as the US Department of Education assessment standards for higher education, impact how you frame the PhD, its graduates, and its outcomes? How might an emphasis on employability outside the academy force an American practice-based PhD to expand upon what has been developed in other contexts in which academic research careers are the desired norm?
- How might the funding and sustainability challenges in the US context give rise to inventive models that have the opportunity to endure or at least contribute substantially for a long period of time?
- If the American PhD requires two years of coursework, how might you develop post-graduate level practice-based research courses that do not yet exist elsewhere?
- Might there also be the opportunity to build a research-oriented MFA that could count toward the completion of a practice-based PhD?

Inter-, intra-, and extra- disciplinary challenges and questions
The challenges that come with the multi-disciplinary aspects of design(ing) are well understood. I am repeating a few of them here because I believe they are central to the contributions that a practice-based design PhD can make to models of knowledge production. (I see similar questions vexing the interdisciplinary Digital Humanities community.)

- Humanities research is conducted and evaluated by humanities scholars. Scientific research is conducted and evaluated by members of the scientific community. Design research is conducted by design researchers, but how shall it be assessed and by whom, given that it engages a variety of

disciplines, communities, and contexts, by definition?
- Design methods and outcomes can be seen as strange to non-designers. How does design research explain its value and defend its validity outside of design?
- Doing advanced work as a designer requires deep understanding of a context or subject. Designers must become domain experts in other areas on top of being designers—and/or domain experts need to also become designers. How is such work given a 360-degree critique?

A quick note about the experiences that inform my position: I have recently had to characterize the kind of design research that my faculty and I are engaged in to four external sources, each of which is accustomed to research, but not the design kind:
- submitting an IRB application for designerly ethnographic methods investigating teenagers with chronic illnesses
- submitting an NEH grant proposal for speculative prototyping as a form of research into multi-modal knowledge production in the Digital Humanities
- submitting a proposal to UNICEF for research-oriented design work in a rural African village that may not lead to a product-based solution but rather to new questions or a new understanding
- submitting a proposal to a tech industry corporate research unit for inquiry-led design work that will lead to provocative prototypes rather market solutions

My own research-oriented design practice faces toward the Digital Humanities, not toward design. The Humanities has provided both the theoretical and interpretive frameworks that support and challenge this work. It is not that I find it unhelpful for this work to face toward design, it's that I have yet to find a design-based context in which the work can be understood and critiqued in a manner appropriate to the aims of the projects.

Selfishly my hope for CMU's PhD is that it has vitality and relevance, the effects of which would be felt outside the context of its own program. By that I mean that it contributes to the development, in the States, of the communities, spaces, practices,

and discourse that will allow advanced design research to thrive in many domains.

Hugh Dubberly
Dubberly Design Office

One goal shared by most PhD programs is to help build knowledge within their domain. In the case of design PhDs, one must then ask, "What constitutes 'design knowledge'?"

A slightly different framing is to ask, "What sort of knowledge changes the practice of design?" This framing leads to still another question, "What circulates within the community of designers?"

Presumably, what designers circulate affects their working—or at least they imagine that it might. What circulates includes:

– Manufactured artifacts

       Things other designers have made

       Photos of things other designers have made

       Standards manuals or other forms of "guidelines"

– Proposed artifacts
Sketches for things not built, e.g., the work of Dunne and Raby's or Rodolfo Machado. Some proposed artifacts are described only glancingly in books and movies, which nevertheless form a sort of canon, for example for UI design:

       – True Names, by Vernor Vinge

       – Neuromancer, by William Gibson

       – The movie Blade Runner

       – The movie Minority Report

"Pitch books" or presentation "decks"—formal design rationales
"Process books"—sets of developmental sketches

– Artifacts resulting from enactment of a method
For example, journey maps, terrain maps, concept maps, cluster diagrams,

persona posters. These artifacts need not be finished "work products" or "deliverables". That is, a method might have sub-methods resulting in interim-stage artifacts.

– Stories about how a method might be enacted
Method stories may be described as "cases", often beginning with definition of a "problem" or goal, followed by a description of methods and resulting artifacts, and topped off with a claim of efficacy (better, faster, cheaper, or convinced the CEO, assuaged engineering, or led to lucrative or socially beneficial insight, etc. More recently, skill-level methods (e.g., how to create masks in Photoshop) are being shared as Internet videos.

– Process maps describing methods
There are perhaps 125 to 250 maps of the design process in all the literature of design. Arguably, they all describe the same thing. Individual design methods are rarely mapped, but process maps of individual methods can be instructive. (Process maps are also the result of various methods, e.g., maps of software or service processes.)

– Diagrams of models
(Here model refers to an idea—a structure one has "in mind".) There are perhaps a dozen or two-dozen models of design (as a whole) in the literature about design.

There are other models that are useful in designing (e.g., Charles Morris' model of sign function or Shannon's model of communication). (Diagrams of models are also the result of various methods, e.g., ethnographic research may result in models, which are diagrammed.)

– Articles or books about designing
Most of these are about designed artifacts; some are stories about methods. A few, however, describe models or frameworks or ways of looking at design.
     For example:
     – "The Crystal Goblet," by Beatrice Ward
     – "Dilemmas In a General Theory of Planning,"
      by Horst Rittel

– "A Short Grandiose Theory of Design," by Jay Doblin
– Sciences of the Artificial, by Herbert Simon
– Design for the Real World, by Victor Papanek
– Designing Programmes, by Karl Gerstner
– The Interaction of Color, by Josef Albers

– Articles or books related to areas that touch design
A sort of literacy is expected in software design, for example:

– "As We May Think," by Vannevar Bush
– Computer Lib / Dream Machines, by Ted Nelson
– The Architecture Machine, by Nicholas Negroponte

It might be instructive to look at other "professions", namely medicine, law, engineering, and business, and to make a similar inventory. Would we find many more theoretical articles and articles about methods? If so, why? And is that situation desirable for design?
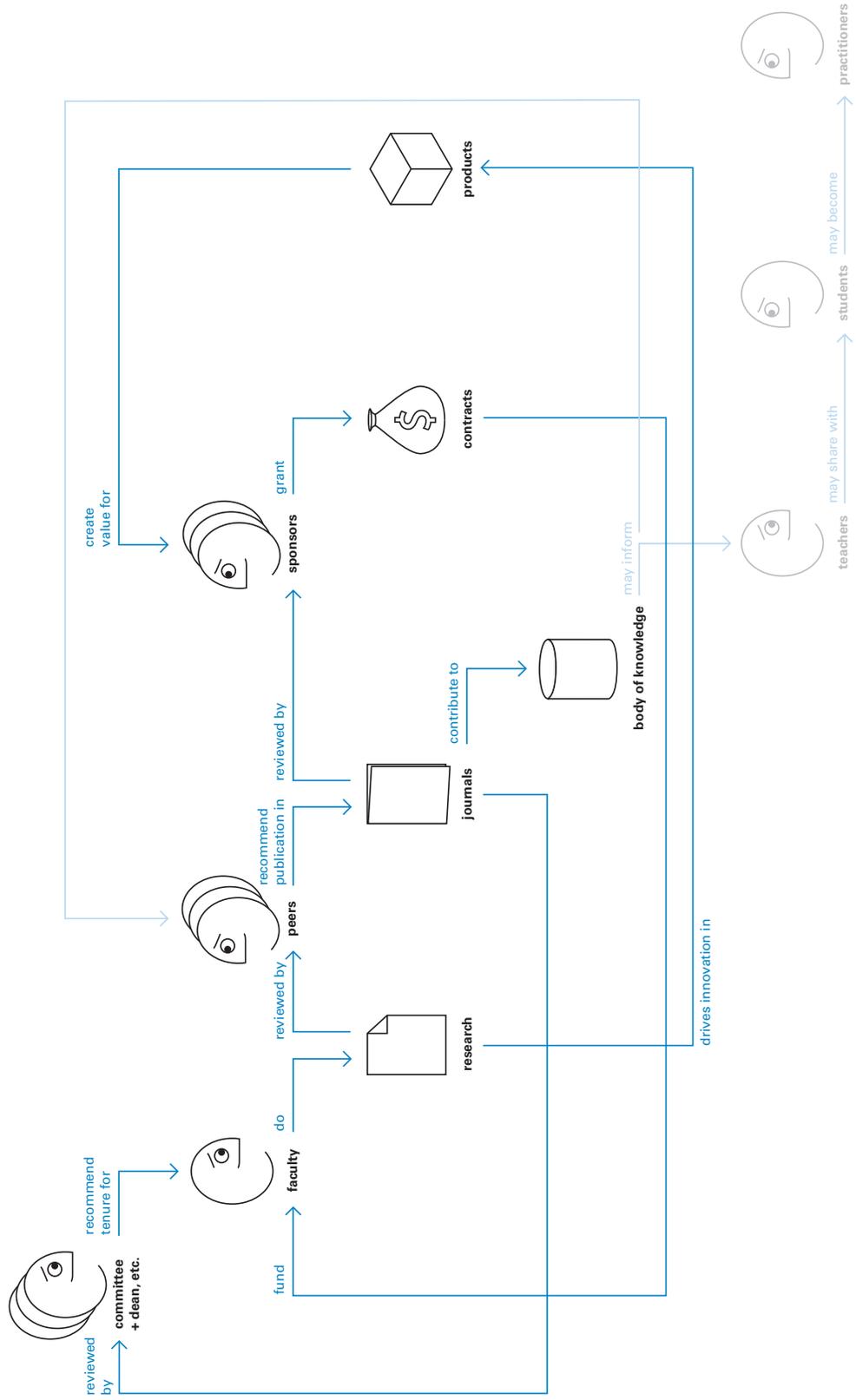
Two Types of Research

	Traditional academic research	**Practiced-based research**
Basis	Process-based reliability	Outcomes-based validity
	Verifiable	Performative
	Specialization within discipline	Trans-disciplinary, multi-modal
Assumption	Understanding requires critical distance	Congruence between practice + research = good
Starting point	Clear hypothesis	Wicked problem or tangled situation
Goal	Generalizable knowledge	Particular knowledge
Method	Reflection on action	Reflection in action
	Individual	Collaborative
Result	Text	Action + artifact + text
Evaluation	Peer review	Professional adoption
Status	Mature, respected	Emerging, unproven
Potential effect	Align design with rest of university	Transform university

Two Types of Design PhD Program

	Traditional North American	**Australasian + European**
Goals	Train academics	Inform practice
	Create theory	Foster social change
	Build credibility, mature discipline	Broaden knowledge of making
Stance	Understand before intervening	Intervene to understand
	Reflection on action	Reflection in action
Student background	Most enter as novices	Many enter as practicing professionals
Time spent	4 - 5 years	3 - 4 years
	40 - 60% on courses	< 25% on courses
	Develop expertise + research	Expertise assumed as basis for research
Reviewers	Tend to be internal—thesis committee	More emphasis on external experts

How Feedback Supports Research

committee + dean, etc.

reviewed by

recommend tenure for

faculty

fund

do

research

reviewed by

peers

recommend publication in

reviewed by

journals

contribute to

drives innovation in

sponsors

create value for

grant

contracts

body of knowledge

may inform

products

teachers

may share with

students

may become

practitioners

Pelle Ehn
Malmö University

Disciplined by design?
Thanks for your thirteen challenges and your thoughtful reflections. Each of them deserve further in depth elaborations. My response will cut across the challenges and only touch on two challenges of a practice based design PhD, namely the "designarly" and the "collaborative". This will be done as reflections on a few specific design PhD student situations and dilemmas.

My background for these reflections is as PhD supervisor. As member of the core faculty of the Swedish national design research education program, which commenced in 2007 and has had more than 60 PhD students with a wide variety of design and academic backgrounds. I have also been a main PhD supervisor for a good number of interaction design and social science students since 1991.

So one thing that has struck me is that students with a design school background (typically a MFA) have different struggles and do and communicate their design research different from students from engineering, social sciences or the humanities. This is maybe self-evident, but what are the differences? Can and should a more designerly way of doing design research be supported? What design research skills would it take to be able to "draw things together", to live up to the challenge put forward by Latour, actor–network theory and science and technology studies (STS).

With a background in participatory design, the other thing I want to elaborate on is the collaborative aspect of design and design research. Most design PhD students collaborate with all

kinds of actors (human and non-human) both outside of and within design and academic communities, but in the modernist design and academic tradition all focus is on the individual contribution by the designer or the researcher.

I once had two design PhD students (A and B) with an artistic background. They both collaborated with nurses at a hospital ward as well as with one another as designers and design researches. Their design, a support for informal learning at the ward, received the prestigious national "users award", but as designers they were in the background with the nurses and the collective on front stage. By most standards successful design and action oriented design research, especially since the individual recognition was secondary. They wrote separate PhD thesis on the "case". B's thesis was deservingly awarded for best thesis at his university that year. It was scholarly very strong, but the co-designers including the nurses and his colleague now where in the audience.

Can we imagine or see emerging complementary forms of appraising the collaborate and less designer/researcher focused efforts in the design PhD?

Staying with the collaborative, but now focusing on C+D. They are two design PhD students with an artistic orientation in their design practice, but also with a social science background focusing interdisciplinarity and feminist techno-science. As A and B they have jointly engaged in an action research oriented approach with a shared "case", which has also been well recognized and nationally awarded, but they wanted to go two steps further. First their research practice is an elaborate continuous collaborative and shared writing and reflection process. They programmatically write the thesis together and back this up with epistemological arguments. (Secondly, they in most interesting ways make the thesis text perform what it is exploring, which I will not discuss here.) Scholarly and artistically their work is of high standard, but creates quite a fuzz among faculty. Partly because of the collaboration that violates the academic rules of the individual contribution (no matter that the epistemological arguments for the collaboration

are sound). Partly because they for well argued reasons cross disciplinary borders, creating uncertainty and some hostility among their peers in the disciplines.

Should collaboration in practice based design PhD not only be collaborative in the meaning of co-design, but also as forms of research collectives employing designarly and collaborative epistemologies?

Now to the texts/artifacts as produced by design PhDs with a traditional design school background. I have suggested that their thesis works are different from design students with say a social science background. Sometimes the difference is clearly negative, as for example when product designer E (with an MFA) wrote a piece of poor sociology as her design PhD thesis. But the outcome can also be really interesting. F and G are both trained as product designers (with an MFA). Both have written PhD thesis that have been nationally recognized and awarded. F is today a well established professor at one of the major design schools in Sweden. G is a post doc and design teacher. F, maybe exaggerating a bit, claims that during his five years in product design training they did not read a single book. G refers a similar story from her design school. So they really struggled when starting out as PhD students with no formal scholarly training. In many ways it is fair to say that their degree is a double degree, joining designarly research practice with a more scholarly contextualization and reflection. This might not result in the most path-braking social sicence, but it has other qualities challenging the thesis changer. For example, besides in general being more visual, the format of the thesis is often less linear and more spatial. More drawing, map, collage, landscape than the traditional academic text, but still possible to discursively read and engage with as well as to contest the arguments. How do we make these, in design deeply rooted, writing practices more acknowledged? What would happen if sociologists and philosophers were trained as designers?

To sum up on these designarly and collaborative challenges, my own preferred frame for thinking about the academic challenge to design and design research goes in the following direction. I think, as mentioned above, that it has to do with

being able to literally "draw things together" as we have been rightly challenged by STS to do. But in doing so we have to give STS, with all its analytic power, a performative turn, much like how Marx turned Hegel's dialectics on its head, making the contradictions social and material. The paradox and the design and design research challenge is that just at socio-material Latour and other actor-network scholars are, their compositions remain analytic, the job for practice based design research is to turn STS on its head, to perform the compositions and participate in making and enacting the networks in designarly ways and being practicing reflectioners as we go along. Easy to write, harder to perform!

James Elkins
School of the Art Institute of Chicago

I suppose it would be best if I give an honest account of my confusion about several of the tenets of the document. What I say here might well be misguided, because I'm the odd man out here: I know nothing (really, nothing!) about design PhDs. I study exclusively studio–art PhDs around the world: I have a firm understanding of those programs in a number of countries (this year, I will have been to Tokyo, Singapore, Kampala, and Cape Town, visiting these programs) and I think I have a good grasp of the philosophic literature on what counts as research, knowledge, and assessment in studio–art PhDs.

But my experience with third–level design education is limited to a couple of theses on Emigré, and a number of years of desultory contacts with several colleagues who teach design. So what I have to say might just be misinformed or otherwise unhelpful, but I'll say it anyway in anticipation of conversations we may have.

1. Social purpose
I take it this paragraph is methodologically crucial:

The School of Design at CMU is currently restructuring its PhD Program. Our intention is to pivot the program somewhat away from its original humanities-based theorizing of design, toward the more practice-based approach that is common outside the USA. We want to do this to increase the role PhD study can play in transitioning the practice of design toward more complex social change work. We believe that a program that conducts research into designing through designing is more likely to be more effectively for designing.

I'm not sure how the practice-led or studio-art PhD mode can help orient a practice toward "social change." The reason is that the studio-art PhD is not related to social work; it has no determinate social or political agenda. Its motivation is to more interesting conceptual work and, ultimately, more interesting art practices. It happens that most of the interest in most programs is toward society, identity, and politics: but those interests are not in the administrative or philosophic literature that supports or theorizes the PhD.

Two smaller notes:

(a) I am also concerned about the expression "more complex": why is that a goal? Why not "more effective"? Or even "simpler and more effective"!)

(b) The last sentence in the quotation isn't grammatically correct: but even if I substitute "effective" for "effectively," it takes for granted a series of debated terms: research "through art," "into art," "for art," "in art," and "by art." As the sentence stands, I can't tell what the claim is.

2. The character of design research

It's a common problem in studio-art PhDs to define what makes knowledge, in the visual arts, different from knowledge in other fields. In that respect this is a crucial sentence:

[Laurene:] For me in relation to doctoral research through practice, Nigel Cross's definition of 'designerly ways of knowing', translates into a designerly approach that is a composition of: synthesis, proposition, process, 'materiality,' context and intention.

Here I would need definitions of each of these (and an explanation for the scare quotes around "materiality") before I could say how "designerly ways of knowing" might differ from what's claimed by other media and disciplines.
Cameron responds differently:

I have argued previously that designers could or should have unique insights into humans insofar as humans are always be- thinged in how they go about the world.

Here I'd want to know if this is Heideggerian (influenced by Clive Dilnot?) or if it's "thing theory" (influenced by Bill Brown).

Later there's also a claim about performativity:

This last point is important because Brad Hasemann has a very useful argument about the Performative needing to be understood as a third kind of research method, alongside the Quantitative and the Qualitative. Even though designs are more permanent than performances, it seems defensible to suggest that much design research is performative, or that, more radically, that designed artifacts manifest researched knowledge in the performed experience of their use.

This would also need explanation from my point of view (maybe it's transparent to people in design). I can't see how performativity is different, or constitutional, in design, any more than in other media.

Lisa Grocott Parsons The New School of Design

DESIGN RESEARCH: A BIGGER PICTURE

As a practitioner researcher I don't want to waste any more time.

For several decades design has navigated the debate around the legitimacy of the designed artifact as a research outcome. For at least another decade we have interrogated the opportunities and limitations of designing as a research methodology. I optimistically want to believe that decades of conferences, journals, books and symposia (with even a few design research projects on the side) has allowed the field to mature enough to take on a new focus to the discussion. This self-centered conversation has taught as a lot about the how's and what's of designing, writing and researching. But even I, (who loves nothing more than a reflexive conversation) am officially bored with this inward facing conversation.

I am going to take Cameron's observation that designing is fundamentally a process of criticism-through-creation-of-alternatives as an invitation to provocatively propose a model of design research that does not begin with the designer. I want to take a position that is no longer defensive, nor apologetic. I too am compelled by the challenge of developing a design PhD program deliberately sets out to transform the university. Which is why I begin by critiquing the contribution and relevance of a mode of knowledge production that was more about advancing the academic discipline than addressing societal problems.

BEYOND DESIGN

PRACTICE COMMUNITY

DESIGN STUDIES

THE REST OF THE ACADEMY

Lisa Grocott *Parsons The New School of Design*

While design has been engaged in the task of boundary setting and positioning the field as other to the domains that operate in paradigms so distinct from our practice, other disciplines have simultaneously been engaged in the task of critiquing their long-held methodological convictions to knowledge production. This offers a timely convergence where our newfound understandings of design can forge in new ways with research practices that seek to disrupt previous assumptions about who was benefiting from the 'contribution' of academic scholarship. As design sheds light on the merits of a methodological practice that promotes multi-modal explorations and the situated engagement of project-grounded research, other forces underscore the need for researchers that can have impact on the serious risks we face.

My interest in developing PhD's or research education more broadly centers around this shift from investigator-initiated and discipline-specific knowledge production to solution-focused and interdisicplinary research. I'm invested in educational experiences that ask how design researchers' might deploy the action-oriented nature of design to potentially disrupt the university's incapacity (and oftentimes lack of interest) in addressing systemic societal problems. Collaborative, project-based research even within the one discipline highlights the need for different graduate attributes, and yet it is still desirable (maybe even imperative) that we learn how to draw on the assets of multiple disciplines to address the transdisciplinary challenges that we acknowledge cannot be solved by one discipline alone. Just as the briefing document offered the counter to the homeopathic approach to design research, we can also embrace the experiential learning that comes from working in interdisciplinary research teams.

Lisa Grocott Parsons The New School of Design

Learning to collaborate across disciplines is only one footnote in the greater exploration of how challenges framed as transdisciplinary problems might help us to radically shake up research practices. The challenge to leave disciplinary egos behind, to be respectful and articulate about the contribution of different disciplinary approaches, might at times seem too idealistic. And yet. The promise of research teams that can ethically navigate the socio-political context of participatory research, while modeling the future-oriented speculations of situated design prototypes is pretty seductive. The research design of a project that reconciles the capacity of the scientist to analytically learn from failure with the designer's ability to opportunistically reframe the experiment might present a fragile balance of convergent / divergent thinking. Similarly, it is powerful to consider the amplified traction of research dissemination that makes evident the data while crafting a compelling story — all the time being mindful of the conditions that motivate real behavioral change.

Is it utopian to envisage an interdisciplinary team negotiating the discovery, translation, dissemination and adoption phases of a research project by engaging the broader stakeholder communities? If we want to address the incapacity of the research university to promote relevant, social action, then moving away from an emphasis on disciplinary-knowing to a learning culture that underscores the importance of knowing what to **value** and how to **act** seems a good place to start. My proposition is that we explore medicine's **translational research** framework (that seeks to explicitly address the desire for research to reach beyond the walls of the academy) as a participatory approach that aligns with the expertise of the design researcher.

BEYOND THE ACADEMY

DISCOVERY   TRANSLATION   DISSEMINATION   ADOPTION
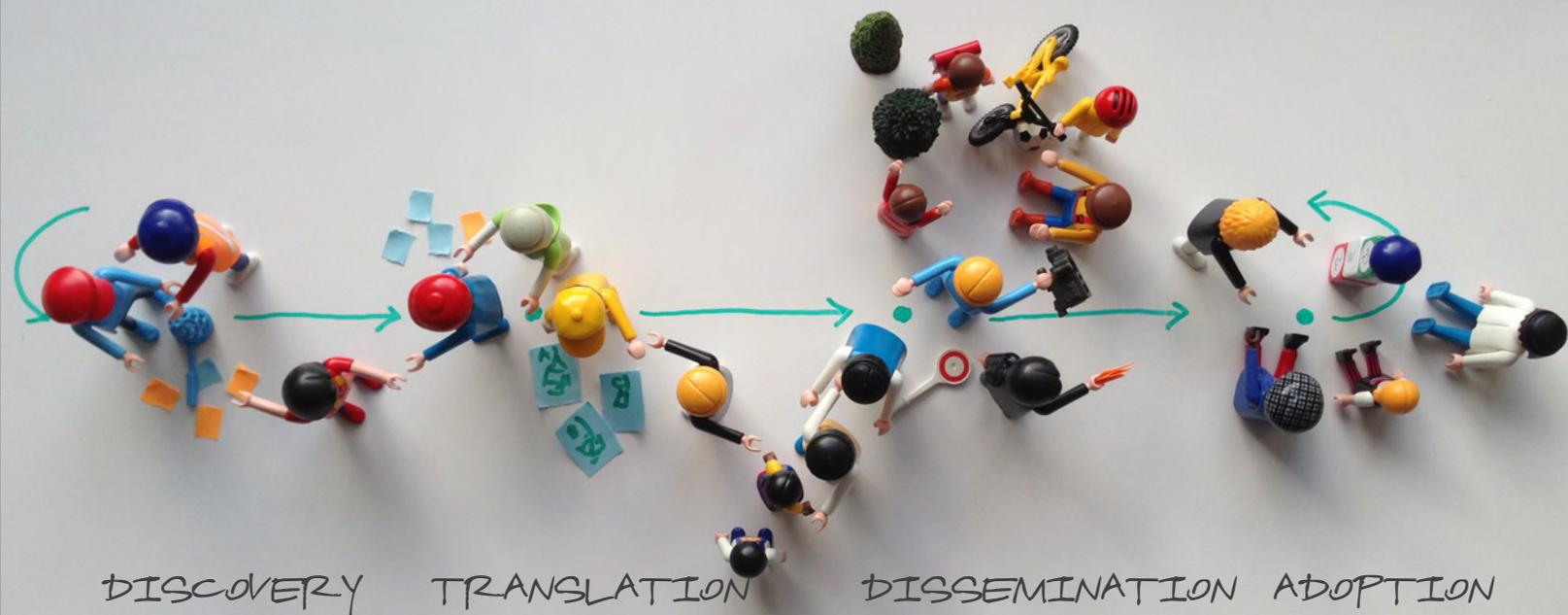
Andrew Morrison
Oslo School of Architecture and Design

Very many of the key aspects of designing and supporting the PhD in design are covered in the core texts and responses provided by Laurene and Cameron. My contribution to this dialogue - on what it is that matters for and specifies a PhD that is in design and through designing – crosses a number of these motivations. My views are based on experience in doing collaborative design research, running and contributing to an interdisciplinary and school-wide PhD programme, and especially the dynamics of close supervision and co-writing and publication with a wide range of students taking a doctorate in design.

One of the challenges in drawing up and implementing a PhD programme in design is to continuously support what it is that marks its pedagogy and inquiry as design related. All to easily we can slip into carrying through doctoral education in design as if it were one in a generic programme in the humanities or social sciences (or even informatics or engineering). Disciplinary or domain knowledges and practices naturally have an important place in offering and taking a PhD in design. Yet, again and again, when one comes down to the actual projects students pitch and then see through to elegant and rigorous completion, design based inquiry is marked by a need to engage with and communicate the conjectural. By this I mean that design inquiry is performative in a different sense to studies that are textual and contextual studies, or are cast in empirical and substantive verification. Design work engages with a mode of inquiry that enacts an oscillation and processes that are largely lodged in an abductive logic. It is typically chiasmic in character. It is emergent in and through processes of not only reflective but also reflexive inquiry. Further, it is characterised by its ecologically framed mode of both shaping and building knowledge. Design

inquiry demands multi–literacies, and its is increasingly realised through multimodal, electronic communication and tools. The artifacts we form, tease out, problematise and now often present as hybrid things that others may reshape and repurpose in cultural use orient us all to epistemic knowledge creation and exchanges that we do not see in writings and practices of mainstream hermeneutics or the working of the social sciences.

Yet, in the literature on design research, we seldom see mention of the conjectural nature of design inquiry. This may be one of the legacies of hard–eyed modernism. Or it may also be a result of a discursive entrapment in the conventions and formats of academic publication that we see a need to conform to or provide design with legitimacy. Or at a micro level, it may be a rhetorical repetition of the values and boundaries we seeks to escape simply because conferences demand we adhere to their electronic templates, inherited from other disciplines or organisations. In the fray of seeking positive reviews in we may find ourselves reiterating the very logics we seek to avoid yet what is it that helps us to assert, broadly and boldly, that design does, that design inquiry reconsiders and needs to communicate not merely through thick description or contextually located processes of making and use. Design artifacts, interactions, systems and services are realised via a conjectural stance. We work not only with what is known and given. We reach towards what is not–yet–in–hand or fully known in processes of collaborative co–creation. We engage in abductive shifts between allusion and the tangential, always however with an eye on the recombinatorial and how diffusion and diffraction may enable us to arrive at a different understanding, an enriched competency and points at which this may coalesce into a dynamic or a product for others to take up – and even revise or replace through similar means.

The conjectural in design spans the development of design works and practices to the mechanisms we include in researching design and designing. When we turn on the known processes and routes to criticality and reflection, those things that mark out we are conducting research, albeit it often in–the–making and with a design specific granularity and generality of

refection in- and on-action, it is the speculative as a mode of inquiry that needs our attention. This is what our students find difficult to legitimate in their written papers and theses. Do we secure examiners who are at once critical and demanding in their close readings of our students' work and also willing to engage in then risky performatives that much design research in fact enacts? What then of design writing and design criticism itself? What instances of speculative inquiry can we present to new researchers in design that will provide them with some of the scaffolding to negotiate their own shifts in learning towards independent and sharp analysis and informed critique that is not overwhelmed by the necessarily diverse literature they soak up – many fresh in from professional practice – slowly, doubtfully, and increasingly with a necessary scepticism. Design writing and criticism need to experiment with how to perform a rhetorics of the speculative that acknowledges the place of the conjectural in design inquiry. As design educators working at the doctoral level we also need to locate such claims within actual cases and examples of design research. But in addition, we need to also frame this pedagogically more carefully within a socio-cultural approach to learning that offers us a meta language for presenting discussing the dynamics of making with critical reflection.

Increasingly, we see how the conjectural, abductive and speculative are a challenge to other domain areas and interdisciplinary research. Design has much to offer outside the design PhD but its is a site for rich experimentation and collaboration, participation and contribution from design practitioners and academic researchers. We often read about design thinking and designerly ways of knowing but we now need to get inside that knowledge making beyond cognitivist models of mind and learning, outside the boundaries of protocol analyses of creative processes and over the horizons of design attempting to satisfy criteria of scientism or textual analysis that is unable to account for what is not only staring us in the face but staring us down in our classrooms and supervision sessions. We have knowledges and practices that need clearer articulation. We have opportunities to use the cultures and practices of the studio but also the field, to offer a pro-spective design

hermeneutics linked with the digital humanities and to literally design our socio-cultural analyses that are not simply reflections in- and on-action but critically constituted ones that evidence knowledge that is garnered through design work and respectful of modes of knowing that can no longer be relegated to the tacit or be placed to the side by well read critical theorists who cannot see where the 'text' even is.

To consider the conjectural in design education for the PhD is itself a conjectural discursive move. To assert it, for example, is to draw on the legacy of participatory design. It is to assert that inquiries into design and culture may encapsulate knowledge that is gleaned through contexts of messy, emergent use and knowledge. In doing this we are asking our students to take part in what design too rarely names as a learning culture. The PhD in design needs not only to be taught and examined, its also need to be researched as a fascinating domain of learning in its own right. This is a space for invention where construction and critique are constantly being reconfigured, yet must be accountable to others nearby and accessible to those further afield so that to conjecture is a deliberative act of informed but always wicked knowing.

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Often annoyingly predefined and disturbingly empty, 'design' is truly a challenging denominator. Even more so in an academic context and in relation to the so called third cycle of design research education. For what is expected of a higher academic degree is of course ultimately dependent upon conditions on the lower levels and even on conditions and utility criteria set by a changing extra-academic 'world'.

What I want to say with this is that it is not obvious to me what is being referred to when discussing a 'design PhD'. There is the preconception of a fairly homogeneous design education, offering basic schooling in a fairly consistent material/ conceptual design practice, thus delivering to a fairly consistent commodity-producing industry experts on the relationship between form and content. Yet, the situation is changing, requiring first of all a questioning of such preconceptions. My approach to the issue of the 'design PhD' is therefore primarily interrogative: What are the potentials or perhaps the tendencies of a notion like 'design research' in a situation where the understanding of design practice is undergoing dramatic change?

One of the conditional aspects of higher education today is convergence. As for the design field, this is often referred to as somewhat unsettling. 'Design' is today no longer thought of in terms of genre, but constitutes a facet of action in many professional fields. There are of course obvious problems, one of which is the commercial misuse of 'design' for aestheticizing purposes, resulting in material deskilling and qualitative short-sightedness. Yet, there are also benefits, one of which is an increased sensitivity to representational issues, mediation, sense-making and designation of "matters of concern" (Latour, 2005),

as well as the need to address the relationship between creativity, knowledge production, problem solving and societal formation.

Central to design research is therefore as I see it the critical and (self-)reflective situating of design practice in a wider cultural context of communication, experimentation and 'innovation'/transformation. Design research should not only engage in the interpretation, evaluation and improvement of artefacts, environments and services. It should also actively challenge and expand the fundamental program or framework underpinning or conditioning differentiation. Why do we need such a concept as design?

The basis for higher education within the design field as within other fields (and thus a requirement for future educators and tenured positions) is the combination of the critical and constructive, both in thinking and practice. A higher education is and should be 'theoretical', yet a critically theoretical education should (following Horkheimer) differ from a 'traditional' theoretical one in that it is linked to specific material and historical situations and purposes.

In line with this conception of research as not simply related to creativity but also to criticality, I am proposing a view on design research as a form of social inquiry which is combining rather than separating the poles of philosophy and the social sciences, literally dealing with both explanation and understanding, structure and agency, regularity and normativity. Just repeating the idea that design research should combine theory and practice is meaningless. Theory is a form of practice and theorizing (or speculating) a practical sense-making capability that within the design fields definitely needs intensified attention. Similarly, 'to be practical' is a far more moral and political (rather than instrumental) enterprise than what is normally suggested.

The consequences for the above proposed discussion are then that if we want to develop a design research relevant to current social and political situations, we need to stay away from what has been described as "disciplinary nationalism" and the idea of

a unifying and genre-specific design theory or design research canon supporting a predefined professional field, and rather embrace the idea of design agency as the capability of critically evaluating, materially handling and further developing theories or ideas about the future. Design research is in this sense a form of social inquiry or knowledge making, the challenge of which it is to tackle also the paradoxical materiality of theories, methods, and norms. Hence, there is in 'design' an ambiguity that we need to claim and emphasize, and that is the ambiguity of 'the practical' – in the sense of convenient, relevant, useful or beneficial – 'the practical' being a judgment of value or a habit of mind, which always depends on 'perspective-taking' and points of view, sometimes including complete negation and complex forms of action that design researchers, as self-critical field workers, must be able to take by virtue of their competence.

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First of all, I would like to commend Laurene and Cameron for taking the first steps in producing such a comprehensive draft document in order to facilitate the forthcoming conversations. The document provided a good overview summary and highlighted some of the key categories under which any critique of practice-based/led doctoral research might be discussed. Whilst we have a fairly robust programme of Design PhDs in the UK, I still believe there is much to be learned from examining other models. This is one of the reasons I was interested in participating in this event.

Positioning

My own background is in graphic design practice and history/criticism, and over the years my research has straddled both conventional forms of academic and journalistic writing: in addition, I have led interdisciplinary teams of researchers in the area of design for public spaces. My research is situated in communication/graphic design, feminism, design methods, criticism and critical practice, as well as the new field of information experience design. I am an experienced PhD supervisor and examiner in the UK and Australia, but have limited experience of American PhDs. The majority of my supervision has been of practice-led/based research degrees in design. I have also developed and facilitated research-training courses for supervisors.

The Document

Whilst there are a number of points to discuss in response to the position paper, I would like to focus on the following: 'Artifact vs Text as evidence of research'; and, 'Design Research by the individual or in collaboration and/or with commercial partners'.

Artifact vs Text as evidence of research

Reflecting on the role of writing in his research process, one of my PhD students wrote:

'Writing about practice can be more than a description of the steps taken in the design of some artifact; it can describe the phenomenological experience of the designer. When it does so there is the potential for it to become reflexive…awareness of these processes then becomes a tool for establishing principles to guide future designing.' – Phil Jones, University of the Arts London

In the case of practice-led/based PhDs, we might consider exploring the act of 'writing as reflection', where it becomes an integral part of the research process itself. Christine Bold, citing Mason (1994) (Bold 2012: 74) suggests this process is one of 'researching from the inside' as a way of stimulating inquiry into one's own practice. In this way, Bold suggests that 'incidents can become more significant as connections are made between them, thus raising further questions to explore.' (Bold 2012:74). Such reflexivity forms part of an iterative process, and, for designers (and writers) may provide a space to consider the way in which the process of writing might be applied as a method of inquiry.

The sociologists Laurel Richardson remarks in her 1994 essay 'Writing: A Method of Inquiry' that writing about qualitative research is a ' way of finding out about yourself and your topic.' (Denzin and Lincoln 1994: 516). She continues that 'writing is also a way of "knowing" – a method of discovery and analysis. Form and content are inseparable.' (Ibid.) If we substitute the word 'making' for 'writing', it is possible to suggest that the process of 'making' also equates a 'method of discovery'.

Questions: I'd like to explore the potential for the 'form' of writing – are there other ways of conveying the research undertaken that move beyond the conventional linear text? For example, mapping literature reviews through information visualisations? At the same time, should we as supervisors ensure that the written component of the PhD remains the 'traditional' form of dissemination?

Design Research by the individual or in collaboration and/or with commercial partners

I see four possibilities for models which may go some way to addressing points raised in this section. At the moment, the following models are operating in the UK.

Briefly these are:

a. Knowledge Transfer Partnerships (KTPs) - government sponsored and private industry collaborations, normally R&D with a research degrees student attached.

b. Practice-led/based research - adopting a case study approach where the student/designer develops their own artifact addressing the research question, prototype, tests and evaluates.

c. Professional Doctorate – integrating professional and academic knowledge normally addressing research questions related to 'real life' issues concerned with professional practice. Most developed in business (DBA), education (EdD) and the medical (MD) professions.

d. PhD by Published Work – a body of previously published work evidencing an understanding of research methods, original research/advanced scholarship, and a critical appraisal of said work.

e. Knowledge Exchange – collaborative partnerships with industry and research degrees student that facilitate and enhance knowledge interactions as applied to specific research areas.

One Example: The Creative Exchange (CX)

As the Design PhD community is relatively young, it also has the potential to develop innovative and 'applied' models which might anticipate and address shifting paradigms, economic contexts, government mandates and pedagogical positions.

Whilst co-design and participatory Design PhDs are on the increase (and especially as they relate to social design), other areas of collaboration - such as knowledge exchange within the creative industries, might also be considered. For example, the Royal College of Art in conjunction with Lancaster University and Newcastle University have partnered in the formation of the Creative Exchange focusing specifically on the overarching theme of the 'Digital Public Space'. Here industry driven

research & development and academic-led research come together, forming a new hybrid PhD.

At the RCA, Design PhDs link research expertise from our research cluster on Information Experience Design with that on social design/inclusion undertaken at the Hamlyn Centre. The basic premise is to bring together industry partners with a PhD student attached who will engage in a series of knowledge exchange 'interactions' or projects. The PhD student will bring to the group his/her own research interests and, at the same time enhance his/her research through project explorations/experiments with industry partners. The duration of each project is normally six months; the number of partners depends on the nature of the project. The PhD is comprised of practice-led work with a thesis which includes: asking what is brought to the collaboration/knowledge exchange as a practitioner (connecting), literature/practice reviews/ theory (contextualising), case studies (applying) and findings (conclusion). All underpinned by practice-led documentation. The student is expected to articulate their contribution to the partner projects, but also what they are able to draw from their collaborations back into their own research.

In all of the cases above, what holds them together is a common understanding of 'PhD-ness'. For the moment there is an expectation that the PhD must demonstrate systematic and rigourous research, an understanding of research methods as applicable to the subject, a contribution to new knowledge through original research or other advanced scholarship, and that the results can be disseminated to others.

Conclusion

The opportunities for Design PhDs in the UK are maturing. This has also meant the development of Masters in Research Degrees (MRes) and the Masters in Design (MDes) which have an emphasis on research methods, and which are often seen as preparatory degrees for PhD work.

As the political climate in the UK and shifts to the right, an impact agenda is taking hold whereby higher education degrees

have to 'prove' themselves in terms of their potential for placing students in jobs, their potential for making financial profit and their potential for social amelioration. Whether we like it or not Design PhDs have to respond to this, but, as we have seen, the very nature of the subject often lends itself to this kind of thinking. Which is not to say that knowledge for its own sake is invalid, or that we have to march to a government tune.

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