

Building a Design Research Community

by Victor Margolin

More than one hundred and fifty years have passed since the British design promoter Henry Cole first published the *Journal of Design and Manufacture*. The journal, which lasted for only two years, was one of the first attempts within the emerging field of design to create a vehicle for design discourse; that is, for conversation about what design is and might be. The articles, similar to other design writing at the time, were opinionated and filled with moral judgments about design quality.

One might expect to trace a steady development of design thinking from that time until today but, in fact, this has not been the case. Only since the early 1960s have attempts been made to ground design thinking in a more systematic method and to introduce the idea of design research into the discursive process. We have seen the appearance of scholarly journals and societies for the promotion of research and are now at a point where research has become a dominant topic at design conferences, coupled with new questions about what a doctoral degree in design or design studies might consist of. In the spirit of pluralism that characterized the selection of papers for this conference, I would like to offer some thoughts about what a research culture for design might look like. I will make reference to notions of research in other fields and disciplines and raise questions about how useful those notions are in constructing a research culture for design.

Design, as various scholars have suggested, is a contingent practice whose techniques, goals, and objectives are continually changing. What is fixed about design is that it is an art of conception and planning whose end result is a product, whether that product is a material object or an immaterial service or system. Design is also an integrative activity that, in its broadest sense, draws together knowledge from multiple fields and disciplines to achieve particular results. It has both a semantic dimension and a technical or operative one.

There have been debates in the past about whether design is a science or a discipline with strict rules for the production of legitimate knowledge. These debates are yet to be resolved because a designed product has multiple dimensions which need to be accounted for. Design research is not only concerned with the techniques for planning and giving form to a product but also with use. Since products are made for people, the user response to a product is an essential part of the research field. Because the subject of design research, then, is not only

products but also the human response to them, the research techniques for design must of necessity be diverse.

When considering the organization of a future research community, it is also necessary to take into account the existing organizations that have been created for the purpose of design research and consider ways that they might be brought into closer relation with each other. Because these organizations have arisen to meet different needs such as education, production, and marketing, they have not developed in a coordinated way and some of them have even seemed to be at odds with each other. The question of where design history, for example, fits into a larger culture of design research has been on the table for some time and has not yet been addressed. The challenge to an emerging culture of design research is to accommodate multiple modes of investigation that derive from the humanities, social sciences, and the natural sciences. This is a rather unique challenge for a research community since the models that exist tend to be based on only one of these modes. Because design research draws on knowledge from so many fields, the construction of a research culture poses particular challenges that, one might argue, are almost without precedent.

However, if we as design researchers can meet this challenge, we will have accomplished something that few, if any, other fields or disciplines have achieved; that is, the integration of multiple types of knowledge within a research culture of diverse scholars who nonetheless share a related set of questions and issues. To accomplish this, we need not use the model of an established discipline in order to create our own standards. Historically this has resulted in a series of problems, particularly where emerging social sciences, for example, attempted to model themselves on the natural sciences and, as a result, created overly rigid research paradigms. These paradigms privileged knowledge that appeared most like that of the natural sciences and marginalized knowledge that was more interpretive or subjective. Even though disciplines such as economics and sociology originally gave the highest credence to quantitative research, today, due in part to the influence of French post-structuralism, rhetoric, and other theories that have challenged the objectivity of knowledge, they are much more pluralistic, even though some give less credence to anything other than statistical research than others. Sociology, for example, now gives greater value to historians and others who work in a more interpretive mode. Theory, within sociology, still retains an historical base and the grand theorists of the past—Durkheim, Weber, and Pareto, to name the most prominent—still serve as viable models for the construction of contemporary theory. Some sociologists like Anthony Giddens are concerned with macro-theory, while others do empirical work in particular communities. When issues, rather than methods, are central research concerns, then it is

possible to acknowledge different modes of research and give them value in terms of their contributions to a particular question or set of questions. Sociology is big enough to accommodate scholars with different interests ranging from history and theory to empirical investigation.

By contrast, the community of social work researchers has tried to legitimate itself by following a model that privileges empirical research and relegates other types of investigation to the margins. Students who are working for a PhD in social work, at least in American universities, are usually expected to do a research study that involves statistical analysis. Of course, there is concern about the legitimacy of the questions on which the study is based, but the demonstration of a particular method, that most valued in the hard sciences, is encouraged. The history of social work is taught in PhD degree programs, generally not by historians but by those trained in other areas. There is a PhD track for social policy but those oriented to this area are generally expected to do quantitative dissertations.

Where sociology and anthropology are practices of investigation, social work is a practice of service delivery, similar to design. Social workers also need to organize methods to provide services just as designers need to create processes for designing products. Within social work education, students who are preparing to be practitioners need a variety of knowledge ranging from history and policy to techniques of practice. To train a well-rounded practitioner, it might be argued, it would be best to expose students to experts in these various areas but if all PhD candidates are obliged to do quantitative research, then those who end up teaching history and policy to students will not be doing so with as strong a background as they might have obtained had they been able to do their doctoral research in those areas.

A model of privileging empirical work holds true in engineering as well. With the exception of a few scholars from fields such as philosophy and political science who teach in Science, Technology, and Society programs at some engineering schools, most schools do not have faculty trained in the history, theory, and policy of technology. Consequently, students have no exposure to these areas. There is, of course, an active community of historians of technology, as exemplified in the United States by the excellent articles published in the journal *Technology and Culture*, but this community has developed on its own terms and has not made a great impact on the content of engineering education.

Design need not follow these models, both of which place the highest value on empirical research methods. I want to argue here for a practitioner who can bring different kinds of knowledge to bear on a design problem, If anything, one might contend that design has not had enough empirical research but I believe, that as we move forward with the development of a

research culture and find ways to make empirical data useful to designers and design teams, we need to keep in mind the value of other kinds of knowledge, particularly knowledge that is more interpretive.

What is at stake in the creation of this new research culture, is an enlarged understanding of how design contributes to a greater sense of human well being, both individually and collectively. Despite a world filled to the brim with products, including those addressing visual communication such as billboards and signage systems, we still have only a sporadic sense of what kinds of policies might yield the most valuable design results. For the most part, product innovation is driven by market demand even though some design development such as traffic safety signs falls within the sphere of support for social services. Therefore, we can only measure design excellence by what has been produced thus far rather than by what we imagine might be produced.

Design research as I see it has two functions; one is increase our knowledge of how to make products and what, in fact, might be made and the other is to improve our understanding of how products function as part of the social world. The first function relates to the practice of design while the second links design understanding to the larger project, in which the social sciences and humanities participate, of understanding the dynamics and aims of human society. In order to address the first function, many different kinds of knowledge are needed. If we are to move the question of what is to be designed outside the confines of market-driven concerns, then we need ways of understanding better the relation of design to the satisfaction of human purposes. We are actually quite good at producing certain kinds of products—entertainment devices, furniture, and electronic appliances—but we have not done very well in designing others such as efficient means of transportation, products that put less strain on the body, objects that are simple to operate, and things that make more ecologically sound use of materials and components. We have done little to explore the systems of product support and disposal that would result in a more ecologically sound environment, nor have we thought enough about all the different motivations human beings have for acquiring and using products. Product acquisition and use is also integral to the construction of social identity and much more needs to be learned about this. As well, we need far better wayfinding devices to orient us as we move more and more frequently in unfamiliar territory.

There is no question that advances in technology are primary drivers of product development and we are now moving into an era where many questions are being raised about how to share social tasks with increasingly intelligent machines. As more research is done on

the mechanical aspects of these machines, we need to increase our understanding of how these new interfaces have the potential to contribute to our welfare.

Only by taking an integrative approach to design research will we be able to address questions that are becoming increasingly complex. What role should smart machines play in society? What are the implications of building smart houses that link many different functions to a central computing unit? What are the real effects on the human psyche of a greater engagement with computer technology? These are but a few of the questions that call for answers. And the best way to gain such answers will be to integrate many strands of specialist research.

Currently within the community of design researchers, we have no institutional structures for achieving such integration. Doctoral education is, of course, a very new phenomenon and we are yet to understand its relation to a wider research culture. But the way we structure such education will be extremely important as a means of providing new models of research. If we are not to make the mistakes that have been made in the social work and engineering professions, for example, we will foster a rich research culture that remains open to the contributions from many different types of design research. We need no hierarchy of methods, only a strategy for drawing on the work that various researchers do. What is crucial to the development of this culture, is the posing of important questions. Thus far, the field of design research has lacked these. At times, particular groups, such as the design methods researchers in the 1960s, formulated questions that they expected to become paradigms for the field. However, in the case of the design methods movement, the research strategy was too limited and thus the questions central to design methods never achieved comparable importance for the design field as a whole.

There is now an increasing number of conferences on design research ranging from design management to eco-design and artificial intelligence but as yet we have no forum where all these strands of research can come together. When we look to other fields such as anthropology and sociology, we note that national and international professional associations have existed for many years and that the meetings of these associations have been places where research is shared. Such meetings, by virtue of sessions organized by members, are sites where experience is tested, new questions are proposed, and conflicting arguments are debated. While consensus in an entire field or discipline is neither possible nor desirable, an arena for discourse is essential. Every group of researchers needs a place within which to survey the range of questions that are being raised in the field and to participate in the debates

that grow up around them. There is a need for a social body that somehow creates a space for a discipline's discourse without preventing anyone from speaking.

What we now have in design as I see it is a number of separate discursive fields which never or rarely come into relation with one another. There are journals such as *Design Studies* and *Design Issues*, which have cut across these fields to some degree but without the opportunity to present one's research to a live audience of colleagues, it is difficult to generate the kinds of immediate response and discussion that lead to more refined arguments and propositions.

As I have already mentioned, the community of design researchers is currently made up of sub-communities that develop their own questions, methods, and discursive strategies without relation to the others. Design history, as previously mentioned, has never been allied with the research fields that are more closely related to practice. It has been related instead to other fields that connect more to the second function of design research that I mentioned – the understanding of design in society. But there is also a role for historians to play in contributing to a more effective practice. To better understand what this role might be would require an engagement with other design researchers. Until now, the Design History Society in Britain, as well as other organizations of design historians have had little engagement with research groups such as the Design Research Society, and groups that study ergonomics, eco-design, or design management. Likewise, those focusing on management have not tended to consider a closer relation to more technically oriented or historically oriented researchers.

In the larger sense, the practices of designing and using tend to go unexamined. A much denser research culture would help us respond on a much deeper level to product innovations by thoroughly studying their effect on society. Design research must also account for the practice-led courses that lead to new products. Since design is ultimately about making things the demonstration of new possibilities is an important contribution.

Assuming that we agree on the value of a research culture that generates a collective process of investigation and facilitates the integration of new knowledge, how do we then work toward this goal. One way is to do just what we have done at this conference, provide a discursive space for researchers with different interests and methods to present together. From such experiences, questions for further investigation will arise and conference participants will begin to get a sense of what a larger, more diverse, research culture might be like.

A second approach is to consider whether a long-established organization such as the Design Research Society might open itself up to a wider range of researchers than it now includes. If the DRS became the primary organization for researchers, it could well serve as the

pluralistic forum I am calling for. A third approach is to create university programs that can train researchers with different specialties. We need cadres of researchers who specialize in different aspects of design, whether they are historical, sociological, anthropological, or technical.

What is most important is to understand that a research culture can not be designed from the top down by legislating aims and methods for everyone. It has to grow from the bottom up, through extensive discussion and debate. Until now, design researchers have lacked the forum for a broad engagement with multiple strands of research. If we can create such a forum, we can begin to mature as a research community. We will not only produce higher quality practitioners and educational programs, but we'll also introduce design research more effectively into the wider field of research on human culture and the achievement of personal and collective well-being.

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