Introduction

The first question that the editors of *Design Issues* ask of every manuscript submitted for consideration is "What is the design issue addressed in this paper?" We want to know what question drives the inquiry and deserves the attention of a reader. Is it merely a question growing out of the writer's personal curiosity, or is it a question that goes beyond personal curiosity and reflects the forward moving thought of the design community or of the field of design? Where is the issue located? What are the signs and evidence that the issue is significant? And if the community does not yet recognize the issue as significant, does the author merely assert its importance or does he or she make a reasonable case that the issue is important for new understanding? An issue well stated is the beginning of inquiry—and perhaps, as John Dewey suggests, an issue well stated is already halfway toward a solution.

Today, however, many of the issues in design research are as complex as the most complex problems of design practice. They often cross many disciplines of design as well as the larger body of surrounding academic disciplines that may contribute to our understanding of design. This is why the table of contents for *Design Issues* is often so different from those of other design journals. Instead of focusing on a narrow band of design problems within one or another area of specialization, *Design Issues* seeks articles that may have significance for anyone who is interested in the current state of design thinking and design practice. It is true that sometimes those articles come from within a relatively specialized branch of design, but they may also come from questions that cross disciplines, pointing toward *emergent* issues that are shaping the broad field of design.

This edition of the journal represents the exceptional diversity of issues that we believe is a signature of *Design Issues*. We begin with Johann van der Merwe's reflections on how we may "un-discipline" the disciplines of design in order to incorporate insights from other "disciplines." In "A Natural Death Is Announced," he describes the intellectual rebalancing that is underway at the Cape Peninsula University of Technology, South Africa, which was created by the merger of the Cape Technikon and the Peninsula Technikon. Such mergers are moving ahead in many parts of the world, but at the Cape, the merger led to a further merger of departments that yielded a Faculty of Informatics and Design. Van der Merwe discusses the changing research focus of the new unit and the deeper change in philosophy that underlies its work, pointing toward cybernetics and systems thinking.

In the next article, Bruce Hanington discusses the issue of human-centered research and its proper place in the education of designers. He provides a sophisticated discussion of an issue that is too often reduced to a simplistic polarized opposition of scientific methods and creative action. Hanington, a highly respected design educator with special expertise in the uses of a wide variety of methods and techniques of user research, reviews the many kinds of user research that can be employed in undergraduate as well as graduate design programs. His discussion of the balance of qualitative, ethnographic, and quantitative methods and techniques is a valuable overview of what is possible in introducing designers to the uses of research. The conclusion of this article is so timely in the development of the field that we repeat it here:

> It is not necessary for designers to become scientists, but they ignore the tenets of good science at their peril. Designers engaged in research need a comprehensive understanding of research encompassing the range of qualitative, ethnographic methods, as well as those of science and the experiment. This understanding is necessary to conduct good, credible research, to enhance the reputation of research in the design disciplines, to argue the merits of design research even in the context of critics from other disciplines versed in scientific pursuits, and to persuade others of the usefulness of design methods for their own use.

While Hanington's article focuses on design education as a preparation for professional practice, the next article, appropriately enough, focuses on the patterns of behavior displayed by designers at work. In "Shared Conversations Across Design," by C. M. Eckert, A. F. Blackwell, L. L. Bucciarelli, and C. F. Earl continue to mine the "Across Design" research project, a joint effort between Cambridge University and MIT begun in 2002. The current paper reports on key themes that emerged from the research, where small groups of professional designers from a diverse array of design professions were invited to discuss and report on one or another design project. The effort was not to discover general guiding principles of design practice but, rather, to understand how design manifests itself as seen from the perspective of those who take part in it. This project was discussed in "Witnesses to Design: A Phenomenology of Comparative Design" in *Design Issues*, Volume 25, Number 1 (Winter 2009). Both the method and the outcomes of this research project deserve careful consideration by educators and by others who seeks to provide theory about the nature of design. Once again, this article offers an insight that we are obliged to repeat here for its resonance with the observations of many others:

> Several of the designers stressed the shortcoming in design education, in that it does not set designers up for practically

running projects or businesses. One of the architects stressed that often the difference between a successful project and a failure lies in customer and client relationship. She has gathered much useful experience in the projects she is running, but felt that these skills were largely absent from design education. Similarly the engineers commented, that they were not trained to manage and lead people, but promoted for technical excellence. This was echoed by a furniture designer, who commented on the vital importance of learning how to interact with all people in design teams. For her it was critical for design students to learn to interact with the materials they use and the technicians who help them, rather than use entirely computer simulation.

Erin Friess finds the guiding issue of her inquiry in the uneasy relationship between the creative insight of the designer and the need to justify design decisions with empirical research. In "The Sword of Data," she briefly reviews the history of human-centered design before introducing the idea of rhetorical responsibility in creating effective and powerful design solutions. Discussing designer Douglas Bowman's account of his experience at Google, Friess observes that in some cases it appears that human-centered design has been replaced by empirically-centered design, with a loss of communicative power and a loss of the rhetorical resources of *ethos* and *pathos*. This article offers a sophisticated discussion of the place of rhetorical theory in understanding design and design practice, advancing a theme that may be traced back through the pages of *Design Issues* for many years.

In "White and Fitted: Perpetuating Modernisms," Kathleen Connellan discovers the issue of her argument by probing the connections among "white, modernism and rationalism in design," with an emphasis on power relations in a designed society. She observes: "'White and fitted' presumes a conformity and an anonymity associated with modernist standardization and rationalization in design." Can a person choose not to be "conscripted into normation (white and fitted)?" she asks. This is a thoughtful discussion that leads the reader through the perspectives of Foucault, Bourdieu, Daniel Miller, David Batchelor, and other authors, revealing "the ironies and tensions that are part of democracy and freedom; something much deeper than the color and form."

The next article is a departure for *Design Issues*, introducing an extended discussion of "functionality" from a philosophical perspective that is perhaps associated for some readers with engineering and technology studies. We include it in this edition of the journal because of its intrinsic interest as well as the opportunity for readers to explore a different way of thinking about design and a somewhat different way of building an extended argument about a design problem. The article, "Theories of Technical Functions," is

1 Anthonie Meijers, ed., *Philosophy of Technology and Engineering Sciences*, Vol. 9 of Handbook of the Philosophy of Science, ed. Dov Gabbay, Paul Thagard, & John Woods (New York: Elsevier, 2009).

by philosopher Peter Kroes, who served as associate editor of the eight articles compromising "Philosophy of Engineering Design," an important section of the recently published *Philosophy of Technology and Engineering Sciences*.[1] Functionality is a central theme in design theory and practice, but the nature of functionality is a complex issue. Kroes asks: "what does it mean to say that a technical artifact 'has' a technical function (or a functional property or feature)?" For the designer—whether an engineer or an industrial designer or another type of designer—the issue is pragmatic and practical. But for the philosopher who reflects on the nature of design, the issue is related to the notion of teleology—the study of purpose or, in Aristotelian terms, the final cause in poetics or productive science. In this paper, the first of two parts to be published in *Design Issues*, Kroes seeks to clarify "the general form of epistemic and ontological theories of technical functions." In the subsequent part, to be published in the next issue of the journal, Kroes discusses human intentions and technical functions.

Articles such as that of Peter Kroes remind us that design has become a subject of discussion in many other disciplines, each with their own evolving agenda and community of discourse. However, design itself has an evolving community of discourse, shaped as much by research and formal reflection as by professional practice and the challenges of education. This is the subject of the next article, "Doctoral Education in Design: Problems and Prospects," by Victor Margolin. The issue is "what is doctoral education" and "what is it for" in the context of design. Margolin reviews the history of doctoral studies in the field and then discusses what he regards as the central questions that must be addressed in establishing effective programs. As doctoral education continues to grow, this discussion is a fresh reminder of the need to establish firm foundations for our future work.

The next article is "The Idea of Socialist Design," by Fedja Vukic. It is an exhibition review of "Iskra: Non-Aligned Design 1946–1990," presented at the Architecture Museum of Ljubljana, Slovenia in 2009 and 2010. Exhibitions have long played an important role in the public perception and understanding of design, and the Iskra exhibition is no exception. In this case, it captures a period of central European development that is less familiar in the United States or other parts of the world. Iskra was an industrial company operating within the existing socialist system of Yugoslavia. Vukic's analysis is a useful discussion of some of the issues of creating "good" design in a socialist system.

The final article in this edition of the journal is a review article by Eduardo Vivanco, "Must They Mean What They Say?" It is an extended discussion of Aron Vinegar's *I AM A MONUMENT: On Learning from Las Vegas*. Though the subject is in part architecture, this essay casts a wider circle that we believe will be of interest to designers in all branches of the field. It also demonstrates how "reading" is a part of the field, whether in design practice or in

design research. This edition concludes with reviews of interesting books. Grace Lees-Maffei reviews *Judging a Book by Its Cover: Fans, Publishers, Designers, and the Marketing of Fiction*, edited by Nicole Matthews and Nickianne Moody. Brett Ommen reviews *Design for Democracy: Ballot + Election Design*, by Marcia Lausen.

Bruce Brown
Richard Buchanan
Dennis Doordan
Victor Margolin