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Introduction

Introduction

One of the persistent issues in design is the nature of a design problem. The issue is a touchstone that often distinguishes quite different approaches in theory and leads to different approaches in practice and education. In "The Logic of the Design Problem: A Dialectical Approach," Stephen Beckett briefly reviews some of the perspectives on this issue before suggesting that the relationship between a design problem and its solution may be explored as a single concept that evolves in the form of a dialectical logic thoughtfully illuminated through the work of Hegel. This is an interesting idea, and he works it out in enough detail that the argument deserves attention. He points out that the dialectical perspective on design process does not contradict rhetorical, abductive, or other approaches that also grasp the paradoxical nature of the design problem, but he does see a special value in a dialectical analysis: "The value of the dialectical approach lies in helping us recognize the distinction between the form of the design scenario and its content and the subjective nature of the designer's intervention therein." What is doubtful is whether this is "the best way" to explore the logic of the design problem, as the author asserts, and whether dialectic is really so unfamiliar in the design community as the author implies. Indeed, dialectic has become one of the most common forms of argumentation in contemporary design discourse, though the Hegelian form is perhaps not so common.

If there is an intelligent interplay in design among dialectic, rhetoric, logic and the various forms of humanistic and liberal arts, it should come as no surprise that design education has taken on greater significance than in the early days of the twentieth century. There is ample evidence that higher education in many parts of the world is undergoing a realignment of priorities, values, and goals, and design education plays a surprising—or perhaps not so surprising—role in seeking a new place for science, imagination, and human creativity to exist together in fruitful thought and action. Arguments for the STEM disciplines too often urge not the idealized value of knowledge for its own sake but the skills and techniques that are implicated in science, technology, engineering and mathematics for practical (typically commercial) ends—and notice the effort to co-opt design through the term "STEM-D," attempting

to turn design to their service. Standing against the battalions of the STEM disciplines are the more modest squadrons of the arts and humanities, ostensibly defending core human values of truth and beauty but, if truth can be told, sometimes merely frustrated that students (and resources) are moving away from the traditional disciplines of the arts and literature. Into this field of distrust and despair comes design education. Accused by one side for being too commercial and pragmatic and then accused by the other side for not being technical and "scientific" enough, design education quietly gains in significance. Yet, uncertainty remains about what role design can and should play in higher education. This is one of the central themes of Ali Ogulcan Ilhan's "Growth of Undergraduate Education in Design in the United States, 1988–2012." Drawing on an extensive database of institutions and programs, their changing size and positioning within the wide ecology of higher education, the author maps the growing significance of design education over a twenty-five-year period. We should be cautious in drawing any large conclusions from the data that Ilhan presents—whether design education is rising or falling, where it is recognized, and for what ends it serves. Rather, his study serves to mark a beginning of the changing place of design education in higher education.

In the next article, we turn to a topic that is as old as it is to be human and as new as contemporary social media. The topic is rumor, and the title is "The Rumor Mill or 'How Rumors Evade the Grasp of Research.'" In this article, Jimmy Schmid, Harold Klingemann, Boris Bandyopadhyay, and Arne Scheuermann explore the differences among graphic design, visual communication, and communication design with special attention to the design of "emotional information like rumors." While ultimately concerned with how design may shape and communicate rumors, the authors first turn to sociology and communication theory for useful distinctions in a discussion of rumor. Then, they discuss concrete studies of communication as a research enterprise. Readers of *Design Issues* are quite conscious of the deep ethical issues surroundings the design of information. What this article does is provide a useful link to the kind of interdisciplinary research that is both possible and needed in the development of our understanding of communication design.

Urban interaction design is the ostensive theme of Kristian Kloeckl's "The Urban Improvise," and if this theme requires any justification, it may be found in a quotation from Siegfried Kracauer that is cited by the author: "The worth of cities is determined by the number of places in them made over to improvisation." The article does, indeed, discuss hybrid cities and urban interaction design, but

the deeper theme of this important article is the nature of improvisation and its place in interaction design. With no intended irony, Kloeckl argues that improvisation can be regarded as a system, serving as a model for interaction design. The argument is thoughtful and the connections that it explores are worth careful attention for anyone interested in interaction design and user experience—or design in general.

When we speak of design as a new liberal art, we are speaking about the ability of design and designers to make connections that are surprising, creative, and often insightful into the mysterious new world in which we live. Old disciplines take on new relevance and new disciplines find grounding in problems that are long-standing in the human community. In short, design as a liberal art may free the mind to imagine new possibilities and opportunities, to be surprised and even amazed. The next article may accomplish this by exploring the connections among craft, textiles, and mathematical concepts. Nithikul Nimkulrat and Janette Matthews take us into the surprising world of mathematical concepts made concrete through the hand manipulation of materials. "Ways of Being Strands: Cross-Disciplinary Collaboration Using Craft and Mathematics" presents its study in the context of practice-based research or, following Frayling's overused phrase, "research through design." The authors explain that in their article "craft is used to identify neither a discipline in its own right nor a sub-discipline of art or design, but a method of logically and intellectually thinking through the hand's manipulation of a material, as in disciplines such as textiles and ceramics." Their ongoing study explores the communication of mathematical concepts through craft, and it is well anchored in the tradition of mathematics, itself—with a not-to-be-overlooked nod to mathematician Keith Devlin, whose recent book, *The Man of Numbers: Fibonacci's Arithmetic Revolution,* provides insight into the history of the liberal art of mathematics.

We began this issue of the journal with an article on the dialectical nature of the design problem, drawing on the philosophy of Hegel. There is perhaps some resonance now as we turn to another discussion of design problems, focusing this time on the theme of participation and legitimacy in the design process. In "Imagination and the Political in Design Participation," Daniel Opazo, Matías Wolff, and María José Araya briefly discuss the different definitions of participation in design literature and the difference between process and outcome that is often part of those definitions. (The authors point out the role of the "design methods movement" in elevating concern for participation in design process.)

They move on, then, to the issue of the politics of the artificial, with special attention to the debate in the Science, Technology and Society community about the relationship between social influence and determinism in the development of products, referencing authors such as Langdon Winner, Bernward Joerges, Bruno Latour, Cornelius Castoriadis, and Jacques Rancière. To illustrate the nature of imagination and the political involving participation, the article presents an example drawn from urban planning in Chile. (They refer to this as a "case study," but it is not really a case study in the precise meaning of the term—a misuse that is quite common in design literature.) It is an interesting example that demonstrates the emergence of political imagination in design.

The final article in this issue of the journal explores the "emotional conditions in buying products for expressive consumption." In "Unemotional Design: An Alternative Approach to Sustainable Design," Clemens Thornquist discusses the way emotion has often been treated in design literature and turns the idea of emotion in an unexpected and interesting way, toward anxiety. Based on his investigation, the author suggests "that anxiety has a key function in buying design, especially socially visible products related to an individual's appearance. Anxiety also appears to be a significant link between impulsive and compulsive buying, where impulsive buying is found to increase anxiety in consumers, which is linked to compulsive buying." The implications for sustainable design are intriguing.

It is a practice at *Design Issues* to conclude each issue with a small number of reviews of books and exhibitions, in addition to the section on Books Received, prepared with the support of Ryan Hageman and Victor Margolin. In this issue, Barbara Jaffee reviews *Moholy-Nagy: Future Present,* a book by Matthew Witkovsky and Carol Eliel. In this issue, Barbara Jaffee reviews *Moholy-Nagy: Future Present,* both an exhibition at the Art Institute of Chicago and a book by Matthew Witkovsky and Carol Eliel. Peter Jones reviews "The Ulm Model," an exhibition at Raven Row, 56 Artillery Lane, London. Teale Triggs reviews "You Say You Want a Revolution? Records and Rebels 1966–1970," an exhibition at the Victoria and Albert Museum.

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