

Volume 34, Number 2  
Spring 2018

## Contents

- 1 Introduction
- Philip Luscombe**
- 5 Rulers & Dividers: A Technology of Design
- Maria Göransdotter, Johan Redström**
- 20 Design Methods and Critical Historiography: An example from Swedish User-Centered Design
- Miso Kim**
- 31 An Inquiry into the Nature of Service: A Historical Overview (Part 1)
- Maliheh Ghajargar, Mikael Wiberg**
- 48 Thinking with Interactive Artifacts: Reflection as a Concept in Design Outcomes
- Matthew W. Easterday, Elizabeth M. Gerber, Daniel G. Rees Lewis**
- 64 Social Innovation Networks: a new approach to social design education and impact

## Document

- The World Design Summit**
- 77 Montréal Design Declaration

## Reviews

- Federico Campagna**
- 83 *Games | Game Design | Game Studies: An Introduction* by Gundolf S. Freyermuth (book review)
- Adam Kallish**
- 84 *Make it New* by Barry Katz (book review)
- Dimitry Tetin**
- 87 *Milton Glaser: Modulated Patterns*, Binghampton University Art Museum, Binghampton University, Binghampton, New York, USA (March 31–May 20, 2017), curated by Blazo Kovacevic, exhibit and catalog designed by Blazo Kovacevic (exhibition and catalog review)

## Contributors

**Félix Beltrán** is the cover designer for this issue of *Design Issues*, Volume 34, No. 2 (Spring 2018). He studied at the School of Visual Arts, New York and other institutions. He has received a scholarship award and Doctor's Degrees Honoris Causa and celebrated solo exhibitions around the world. He is Distinguished Professor of the Universidad Autónoma Metropolitana, Mexico City.

**Federico Campagna** is an Italian philosopher based in London and a PhD candidate at the Royal College of Art, with a project on "Metaphysics in the Design of Strategy Video Games." His work revolves mainly around the notion of "reality" and the metaphysics of reality-making. Federico's latest English-published books are *Technic and Magic: The Reconstruction of Reality* (Bloomsbury, 2018) and *The Last Night: Anti-work, Atheism, Adventure* (Zero Books, 2013). He has discussed his work in institutions such as, The Serpentine Gallery (London), Documenta 13 (Kassel), MACBA (Barcelona), and 57th Biennale di Venezia (Venice). [Federicocampagna@yahoo.it](mailto:Federicocampagna@yahoo.it)

**Matthew W. Easterday** is an assistant professor in the School of Education and Social Policy at Northwestern University. His research focuses on conducting design-based research on interventions to prepare the next generation of Civic Innovators. Dr. Easterday received a Masters and a PhD in Human-Computer Interaction from Carnegie Mellon University. He is a co-director of the Delta Lab, an interdisciplinary design studio and research lab based out of Northwestern University's Segal Design Institute.

**Elizabeth M. Gerber** is an Associate Professor of Design in the Schools of Engineering and Communication, Director of the Design Research Cluster, at the Northwestern University, and the Faculty Founder of Design for America. Dr. Gerber researches and designs technology and organizations to support innovation. She received her PhD and MS in Management Science and Engineering and Product Design from Stanford University. She is a co-director of the Delta Lab an interdisciplinary design studio and research lab based out of Northwestern University's Segal Design Institute.

**Maliheh Ghajargar** is a PhD candidate in the Department of Architecture and Design at Politecnico di Torino, Italy. She is currently working as a PhD visiting student, at the Department of Informatics, Umeå University, Sweden. The primary focus of her PhD research is in the design of reflective interaction between users and computer-enhanced artifacts.

**Maria Göransdotter** is lecturer in design history and Vice rector at Umeå Institute of Design, Umeå University, Sweden. She is interested in the relation between design history and design practice, with a special focus on the 20th century: things, ideas and agency in everyday life.

**Adam Kallish** is Design Principal in IBM Systems and has dedicated his career to the relationships between markets, design and technology.

**Miso Kim** is an assistant professor of Experience Design in the College of Arts, Media and Design at Northeastern University. She holds a PhD in Design, an MDes in Interaction Design, and an MDes in Communication Planning and Information Design from Carnegie Mellon School of Design. Prior to joining Northeastern, Miso was a senior user experience designer at Cisco Systems in Silicon Valley. Her design research investigates dignity, autonomy, and participation in service

**Daniel G. Rees Lewis** is a 4th year Learning Sciences PhD in School of Education and Social Policy at Northwestern University. His research focuses on creating sociotechnical systems for novice designers. He is a member of the Delta Lab, an interdisciplinary design studio and research lab. He holds a Masters in Learning Sciences from Northwestern University.

**Philip Luscombe** is a furniture designer, woodworker and tutor at Northumbria University's School of Design. He is currently writing a doctoral thesis that investigates the role of tools, techniques and material engagement during the making of designs.

**Johan Redström** is Rector and Professor at Umeå Institute of Design, Umeå University, Sweden. Redström's main research interests are experimental and emerging forms of design, combining research through design with design philosophy.

**Dimitry Tetin** runs an experimental publishing practice, *Metrodogs Publications*, and works independently and collaboratively on publication, web, identity, motion, signage, and wayfinding projects for clients in the commercial and not-for-profit sectors. Prior to moving to the Hudson River Valley to teach and do research at SUNY, New Paltz, Dimitry freelanced independently in New York with studios like Trollback+ Company, Whitehouse & Company, and C&G Partners, where he also taught at Rhode Island's The New School of Design at Parsons School for Design.

**Mikael Wiberg** is a full professor of Informatics at Umeå University, Sweden. He has held positions as chaired professor in HCI at Uppsala University and as research director for Umeå Institute of Design. His research focuses on the materiality of interaction. Wilberg is author of *Interactive Textures for Architecture and Landscaping*.

Section Two looks at the past history and present prospects of the field of game design. Consistent with his historicist approach, Freyermuth considers game design first in terms of its historical development, and then in reference to its constitutive areas. In the latter, he follows noted video game designer Jesse Schell's categories of mechanics, story, aesthetics, and technology. The rest of Section Two then discusses the processes of game design, devoting equal attention to theoretical notions and to practical concerns, such as best practices in play-testing (featuring a contribution by renowned theorist, Eric Zimmerman).

Section Three of the book introduces the reader to the field of Game Studies. Again, this introduction is not neutral, but is geared toward a call to overcome the existing "schisms" in game studies in the direction of a more holistic approach. After a brief overview of game theories (from Leibniz, through Marshal McLuhan, to the present debate between ludology and narratology), Freyermuth enumerates the internal divisions that plague the field: the schism between the humanistic, social science, and design approaches, and the separation between theorists and practitioners. According to the author, overcoming these divisions and moving in the direction of a greater integration make a "common ground" possible—and in this space, the whole field of games studies might finally evolve to full "maturity."

The epilogue addresses directly the academic audience of the volume, dissecting the structure of six university courses on game design from five countries; it also includes a final sub-chapter on the Cologne Game Lab in Cologne, which Freyermuth co-founded in 2010. Concluding the book and summarizing his findings, Freyermuth points toward the need to enhance "game literacy" among students, theorists, and practitioners alike:

"The term literacy [...] denotes the ability to confidently navigate a complex and culturally influenced medial system and to recognize connections in meaning and context. [...] If and when this is accomplished [we shall witness] an artistic as well as economic evolutionary push, following by a maturing of the medium" (262).

Freyermuth's book is both a useful introduction and a precise manifesto for the creation of a unified field of game design *and* game studies—at once theoretical and practical and equally composed of humanities, social science, and design. That the author neglected to call for the inclusion of another major methodology—that of philosophy—is a little surprising. Perhaps the conspicuous absence of the method of the "discipline of disciplines" in contemporary debates on game design and studies is further proof that the field is still emerging.

#### Adam Kallish

*Make It New: A History of Silicon Valley Design* by Barry M. Katz with Foreword by John Maeda (Cambridge, MA: The MIT Press, 2015), ISBN 9780262029636, 280 pages, illustrated, hardcover (\$30.95); ISBN: 978026253359, paperback (\$19.95); ISBN: 9780262330916, ebook (\$13.95).

How did a small peninsula between San Francisco Bay and the western rolling hills of California become the backstory of human-centered pioneers who continually invented technological breakthroughs and breakaway products by design? Silicon Valley is a place where reach, in many cases, exceeded grasp, thus propelling, pivoting, and at times derailing people and ideas within a microcosmic diaspora. Barry M. Katz's book, *Make It New*, describes in exacting—and at times dense—detail the corporate culture and timing that created the products we know, as well as many that never made it to market.

Katz states that design arrived in Silicon Valley in an engineering-dominated world. Designer Carl Clement joined Hewlett Packard's production engineering group in 1951 and demonstrated that design could improve the visual appearance, function, and operation of HP products with a systematic approach. While this development might sound as if design at HP achieved parity with engineering, it did not; design was still viewed as an "auxiliary service." As HP VP Bruce Wholey told HP's future manager of corporate design, Allen Inhelder: "If you irritate my

engineers, you are outta here.” This view led to an atmosphere in which “...designers waged an ongoing guerrilla campaign to gain a hearing from their engineering overlords.”

Illustrating how the role of design has evolved in Silicon Valley, Katz defines three waves of design firms. First wave design consultancies in the 1970s and 1980s focused on engineering-based projects supported by design. Second wave consultancies in the 1990s and 2000s embraced problem-solving by collaborating in new ways with marketing and engineering. They used digital technologies to prototype and release solutions. The third wave, in the 2010s, is represented by corporations and design consultancies operating in a fluid post-industrial landscape. Designers, engineers, and marketers worked together to focus on the simplicity and speed of digital services. Ideation and creation “...may be crowd-sourced or cloud-sourced, solar-powered or sensor-activated, portable, wearable, implantable, and of course networked.”

In parallel to this, Katz outlines how research labs and think tanks created an environment for innovation. The synergy between Silicon Valley institutions—Xerox Palo Alto Research Center (PARC), founded in 1970; Systems Science Lab; and the Stanford Research Institute’s Augmented Human Intellect Research Center—provides a good example of a corporate/academic alliance. Research labs were not just focusing on emerging technologies, but also exploring emerging media of human-computer interactions that affect the way we work.

The 1960s was a tipping point in the balance between computing and the foundation of personal computers. Douglas Engelbart’s oN-LineSystem (NLS) spurred two differing initiatives at Xerox PARC: 1) PARC On-Line Office System (POLOS) envisioned office machines that would “time share” their computing with a small number of Nova minicomputers, while 2) Alto envisioned personal computers that had graphic user interfaces networked together. These rival philosophies were tested in 1973. Alto demonstrated more promise as a paradigm within which users did not need to program a computer. The resulting development of the Xerox 8010 Information

System (STAR) “...marked a fundamental shift in the balance between hardware and software....” These efforts sowed the seeds of fundamental questions involving the relationship between hardware and software, the definition of usability, and the difference between specialized and consumer computing.

Unfortunately, Xerox PARC did not capitalize on these advances and lost key staff through “...a dispersal of core talent that rivals the flight of Greek scholars during the declining years of Byzantium....” As *Make It New* repeatedly illustrates, the concepts from these labs would be dispersed and iterated upon by other design consultancies. The consultancies were able to integrate research methods and design practice to innovate and release successful products at a much faster pace.

The computer game market, the rise of which was initiated by Atari in 1972, was an early transformational innovation that benefitted from the integration between research labs, corporations, and design consultancies. Its new model of storytelling poured the foundation of interaction design where (“...sorcerers practiced a dark art for which precedents did not exist and parameters had yet to be defined”. Market appetite accelerated the expanding the power and sophistication of gaming which caused Atari’s to hire Alan Kay of Xerox PARC to become Chief Scientist at Atari Systems Research. This new confluence of cognitive, behavioral, and learning areas propelled many applications using game play as a force. In parallel, Bill Moggridge, from ID Two, hired and mentored Tim Brown and Jane Fulton Suri. These designers were a new breed who focused on human factors to define the new field of interaction design.

The growing importance of interaction design and the transition to software applications led to a new perspective: “...The idea that design might drive engineering and marketing decisions—rather than be driven by them—represented a dramatic reversal of the sequence that prevailed in even the most progressive companies.” A new breed of T-shaped designers had a strong major focus and several minor skills and could radically collaborate with other disciplines for iconic outcomes. The increased

importance of observational research would create tension between data-driven market research and qualitative field research as design gained more visibility and legitimacy within companies.

As a result of the shift from physical hardware to the conceptual universe of software solutions, delivered through software-as-a-service and the Internet-of-Things, "...connectivity has eclipsed materiality." This shift was – and still is driven in large part by the increased abstraction of infrastructure from bare metal (on-premise single server) to Internet protocol (IP) and virtualization (through cloud data centers); design could focus on inventing situational experiences supported by these flexible software-defined environments. Divisions between work and personal platforms have blurred and are now infinitely customizable, social, and increasingly cognitive.

Emphasized throughout the book is the continued need in larger corporations for centralized design efforts from a strategic planning perspective, as well as the need in design firms and smaller companies for decentralized efforts. The drive to centralize and streamline at Apple through Rob Gemmell's "Project Snow White" brought order and defined Apple's design language. In the 1990s, HP hired Sam Lucente as its first VP of Design created a coherent product line through the program, "HP Design Attitude," by working strategically with only a few external design firms (Lunar, IDEO, frog, and Astro). Meanwhile, Chris Wiggins at Google launched "Project Kennedy," respected "...the engineer's devotion to 'complicity and speed' with the designer's quest for 'beauty and cohesiveness'" allowing the system to organize the wide variety of Google products.

A pervasive global desire to emulate Silicon Valley has led to Silicon Alley in New York, Silicon Prairie in Chicago, and Silicon Wadi in Israel. This attempt to imitate raises the question: What is so unique about Silicon Valley? It was the first of its kind and continues to be the most important center of design and technology. In this place, we can "... track the entire developmental cycle of a new product—from laboratory science to engineering prototype to design, testing, and marketing—all within a

fifteen-mile radius." This system is supported by the coordinated efforts of venture capitalists, law offices, trade publications, universities, and the social and economic forces of the Bay Area.

Although the book is seemingly brief at 191 pages, the sheer amount of detail and names of players at times overwhelms the narrative (and requires 52 pages of footnotes). However, Katz's goal to "... trace products upstream to the research laboratories where they may have had their origins and follow them downstream to the clients who will sell them and the customers who will use them" succeeds in making the story worth the effort. Katz illustrates in great detail how nothing was predictably certain, and few had any inkling of the enormity and influence of the ideas, technologies, and solutions that are now hallmarks of Silicon Valley.