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Re-reading Design Methodology and the "Toolbox" Metaphor

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ABSTRACT   In 2006 Paul Dourish gave a paper about ethnography and its implication for creating design intervention and form. This is part of the basis of this paper, which illustrates the need to develop critical interrogations of what Dourish called a "toolbox of methods." The paper argues that the metaphor of the "toolbox" suggests a departure from the reflexivity of the social sciences, where theory and method are continuously questioned and interrogated. The article concludes with a recommendation for how design practice might benefit from such reflexivity.

KEYWORDS: design methods, design practice, boundary object, social science

Designers today are increasingly called to intervene in large and complex systems of service design, interaction design, and information. Such intervention requires understanding people and their relationships to each other and to their environments. Explicitly or otherwise, designers "theorize"

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and act on people and settings. To do this, design practice has consistently imported theories and methods from other disciplines. But as designers look for direction from other disciplines and extract their "implications for design," they risk eliminating the critical interrogation to which many of those practices are subjected.

Take, for instance, ethnography. Paul Dourish has pointed out how what has been termed "design ethnography" is enmeshed in anthropology – a discipline that is inherently interpretive and filled with ongoing debate and discourse. Dourish (2006, 543) argues for a critical interrogation of ethnography and its fit or relationship to design:

> In reducing ethnography to a toolbox of methods for extracting data from settings … the methodological view marginalizes or obscures the theoretical and analytic components of ethnographic analysis. Ethnography is concerned with the member's perspective and the member's experience, but it does not simply report what members say they experience … ethnography makes conceptual claims; it theorizes its subjects, even if the theories presented are the subjects' own.

More pointedly, Lucy Kimbell (2011) identifies a number of concerns about design ethnography in her survey and critique of design thinking.[1] As part of her discussion, she questions the position of Tim Brown (2009) on the designer's role as interpreter of user needs through ethnographically inspired techniques. She observes that, in practice, the designer's use of ethnography to interpret user needs:

> shows little of the reflexivity of the social science traditions. In contrast to much contemporary design practice and education, social scientists are trained to question what theoretical, political or other commitments they bring to their work and how these shape their research findings. (Kimbell 2011, 295)

Rather than tools to be mobilized in design practice, theories and methods are social practices in their own right. In disciplines like anthropology, ethnographic methods are reflexively interrogated. Many regard them as a reflection of who is writing the ethnography, and the audience for which it is written (Anderson 1994). In a broader sense, the social sciences have come to view theories as products of both a socio-historical context, and subjectivity in observation and perception (Kuhn 1962). And yet design frequently views them as ready-made tools.

The tool metaphor is a product of the pressures exerted on design to find expedient solutions in complexity. (In fact, this is the case for many practice-based disciplines.) For example, design research in fields like information design, software, and design management often uses the concept of boundary objects to

understand social interactions in organizations (Mark, Lyytinen, and Bergman 2007; Rhinow, Köppen, and Meinel 2012). Originally theorized by Susan Leigh Star and James Greisemer (1989) as a framework for interpreting the archives of an early twentieth-century natural history museum, a boundary object "is something that people act toward and with" (Star 2010, 602). In their article, the term was used to describe items like notes and diagrams, which served as points of reference that permitted different people and groups with different points of view to communicate with each other.[2] Boundary objects are references shared between people "getting things done" without consensus.[3] The concept has been used as a potentially helpful tool in understanding complex social organization with diverse stakeholders and particular social complexities.

But Star's more recent writing on the boundary object contests its use as a tool to be applied to social contexts. Before she passed away in 2010, Star wrote about the contingent and subjective qualities of her own experience in authoring (and rethinking) the idea. She writes of her "initial inquiries into the nature of scientific knowledge," which began as "ethnographic journeys" that were also influenced by her institutional affiliation during a particular time and at a particular place: "I was predisposed to look at the ecology of the workplace … symbolic interactionism and/or the Chicago School of sociology, cherishes this as hallmarks" (Star 2010, 605). Following its initial conception, the concept, she explains, has gone through a "growth and death." It served not only as a tool for inquiry but as, itself, an object of inquiry that led her and other colleagues to refine related ideas, discuss the use and suitability of other's approaches, and to posit that the idea may have been exhausted through multifarious application over several decades. Star's description of the boundary object's evolution is at odds with the toolbox metaphor.

For any discipline to move beyond technê requires both ongoing critical response and speculative ideas that contribute to knowledge production. Whether design can develop its own culture of knowledge production – whether it can it develop a reflexive (to borrow Kimbell's and Anderson's term) relationship in constructing knowledge – remains an open question. In the absence of developing such a culture, the discipline risks a hegemonic subordination of social differences in the sense of "acting on" complex social relationships, and claiming effective outcomes, even when the outcomes may be ambiguous for some groups. But there is an alternative. Design can attempt to theorize, speculate, and work within social environments. Designers can create a reflexive way of working in design practice and research inquiry. They can treat various "tools" as both investigatory and critically subordinated to situational design thinking, and they can work to communicate those ideas and positions.

In my own work in communities in Florence, Belgrade, and Greece, I work with communities using maps and other artifacts in order to understand local situations and how specific communities

interpret the politics and economics of globalization. I draw, in part, from the concept of boundary object. In some instances, this method allows individuals to map spaces and compare their own maps with those made by others from different groups who share the same space. Here, I draw from Star's (2010) original idea of the boundary object as a way to figure collaboration without consensus. However, boundary objects ended up being ineffective in certain contexts. For instance, they proved inadequate in describing the complexity of social identity across communities in conflict. In these cases, what might have constituted a boundary object may be better theorized through theories of hegemony (Bates 1975; Gramsci 1996; Laclau and Mouffe 2001). Hegemony is the domination of unique or contextual viewpoints, eliminating differences between dominant and subordinate groups. The dominant way of "seeing the world" becomes internalized in social and individual identity. When social actors play different roles as they move across communities, and where stakeholders have a very different history of accommodating conflict, the function of objects may shift between collaboration and manipulation. In the situations where I worked, the very same objects functioned as boundary objects in certain circumstances, while still also being a part of a community's controlled ideological narrative and history (such as domestic objects displayed in a Tito-era "ethnography museum" in Belgrade), which is dated and nostalgic but still ongoing in the minds of participants. The paradox is that both consensus and conflict can be expressed through particular objects depending on their situational context. The situation required rethinking the boundary object framework, as an interpretive method and as the underlying theory or hypothesis.

In conclusion, the toolbox metaphor contains a nexus of problematic assumptions. Designers act upon the world, in "changing existing situations into preferred ones" (Simon 1996, 111). But without the kind of reflexivity briefly outlined above, designers may miss out on crucial facets of new knowledge creation. When used indiscriminately, the "toolbox" approach risks the indiscriminate use of familiar concepts and practices in diverse social systems without consideration of their appropriateness or usefulness. This may unwittingly reinforce design as a new form of technê. Design can do better than that.

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Notes

1. Kimbell (2012, 131) writes of her project that the "distinctive feature is to propose shifting the level of analysis in research away from individuals to practices, conceived of as a nexus of minds,

bodies, things, and the institutional arrangements within which designs and their users are constituted".

2. In their 1989 text, Star and Greisemer discussed boundary objects as repositories, or collections of objects ordered in a standardized way. They gave as an example "the creation of the state of California itself as a boundary object for workers at the museum. The maps of California created by the amateur collectors and the conservationists resembled traditional roadmaps. … The maps created by the professional biologists, however, shared the same outline of the state … but were filled in with a highly abstract, ecologically-based series of shaded areas representing 'life zones', an ecological concept." In their standardization, boundary objects served "as methods of common communication across dispersed work groups" (Star and Greisemer 1989, 411–412).

3. Star and Greisemer developed the contextual use of a boundary object based on its dual readings, within a particular social group (as "well-structured") and the use of it between groups in negotiation (as "ill-structured" meanings are developed out of a "sketchier" and more tentative series of readings where different groups arbitrate different viewpoints). Moving between the two for a participant is a method of "tacking between."

References

Anderson, R. J. 1994. "Representation and Requirements: The Value of Ethnography in System Design." *Human Computer Interaction* 9 (2): 151–182.

Bates, Thomas. 1975. "Gramsci and the Theory of Hegemony." *Journal of the History of Ideas* 36 (2): 351–366.

Brown, Tim. 2009. *Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation*. New York: Harper Collins.

Dourish, Paul. 2006. "Implications for Design." In *CHI 2006 Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 541–550. New York: ACM.

Gramsci, Antonio. 1996. *Prison Notebooks*. 2 Vols. New York: Columbia University Press.

Kimbell, Lucy. 2011. "Rethinking Design Thinking: Part I." *Design and Culture* 3 (3): 285–306.

Kimbell, Lucy. 2012. "Rethinking Design Thinking: Part II." *Design and Culture* 4 (2): 129–148.

Kuhn, Thomas. 1962. *The Structure of Scientific Revolutions*. Chicago, IL: University of Chicago Press.

Laclau, Ernesto, and Chantal Mouffe. 2001. *Hegemony and Socialist Strategy: Towards a Radical Democratic Politics*. London: Verso.

Mark, Gloria, Kalle Lyytinen, and Mark Bergman. 2007. "Boundary Objects in Design: An Ecological View of Design Artifacts." *Journal of the Association for Information Systems* 8 (11): 546–568.

Rhinow, Holger, Eva Köppen, and Christoph Meinel. 2012. "Prototypes as Boundary Objects in Innovation Processes." In *Design Research Society 2012: Bangkok* Conference Proceedings: Vol. 4, edited by Praima Israsena, Juthamas Tangsantikul, and David Durling, 1581. Bangkok: Department of Industrial Design, Faculty of Architecture, Chulalongkorn University.

Simon, Herbert. 1996. *The Sciences of the Artificial*. 3rd ed. Cambridge, MA: MIT Press.

Star, Susan Leigh, and James Griesemer. 1989. "Institutional Ecology, 'Translation', and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907–39." *Social Studies of Science* 19: 387–420.

Star, Susan Leigh. 2010. "This is Not a Boundary Object: Reflections on the Origin of the Concept." *Science Technology Human Values* 35 (5): 601–617.