

# Affording Meaning: Design-Oriented Research from the Humanities and Social Sciences

Julka Almquist and Julia Lupton

User studies, whether conducted through qualitative ethnographic interviews or through more clinical and behaviorist analyses of specific affordances and interfaces, have remapped design research from a study of things to a study of people. Some design researchers have even argued that without the user, design does not exist.<sup>1</sup> Although this focus on users might appear to benefit the consumers of design by celebrating their personal experience and finding new ways to maximize their pleasures and productivity, critics of the user model, whose diverse ranks include Johan Redstrom,<sup>2</sup> as well as Ellen Lupton,<sup>3</sup> Peter Lunenfeld,<sup>4</sup> and Anthony Dunne and Fiona Raby,<sup>5</sup> have argued persuasively that user studies ultimately construe the human subject of design as a predictable bundle of reflexes and impulses that can be torqued, tuned, and tweaked in order to do the bidding—and the buying—prescribed by a consumer-savvy cabal of designers, engineers, and marketers. The word “user” itself communicates the terrors of addiction as well as the triumphs of functional mastery. In a landscape of diminishing economic and natural resources, the vision of the user promoted by mainstream design research is in dire need of revision. Meanwhile, consumers themselves are striking back, not only in the form of the D.I.Y., fair labor, and green movements, but also by simply withdrawing, out of sheer economic necessity, from the relentless rhythms of getting and spending that dictate our modern “user” lifestyle.

In this essay, we link the critique of the user (launched both within design studies and in the larger culture) to the specific methodological aim of bringing together methods from the social sciences—which have organized their vision of the user around the idea of affordances—and the humanities—which have by and large focused on the subjective, cultural, and ideological meanings of material things. Design research has no single definition. It is an interdisciplinary form of inquiry categorized in multiple ways, including: research with a focus on theory, practice, and/or production,<sup>6</sup> as design epistemology, design praxiology, and design phenomenology<sup>7</sup> and humanities-based design studies.<sup>8,9</sup> In this article, we focus on design research that addresses artifacts and the people who interact with them as its central focus—research that either does or could benefit from the combined resources of social-scientific and humanistic forms of inquiry that would bring together the search for

- 1 Elzbieta Kazmierczak, “Design as Meaning Making: From Making Things to the Design of Thinking,” *Design Issues* 19 (2003), 45–59.
- 2 Johan Redström, “Towards User Design? On the Shift from Object to User as the Subject of Design,” *Design Issues* 27:2 (2006), 123–39.
- 3 Ellen Lupton, *Thinking With Type* (New York: Princeton Architectural Press, 2004).
- 4 Peter Lunenfeld, *User: Infotecnodemo* (All Media Foundation, 2005).
- 5 Anthony Dunne and Fiona Raby, *Design Noire: The Secret Life of Electronic Objects* (Basel: Birkhäuser, 2001).
- 6 Richard Buchanan, “Design Research and the New Learning,” *Design Issues* 17:4 (Autumn 2001), 3–23.
- 7 Nigel Cross, “Design Research: A Disciplined Conversation,” *Design Issues* 15:2 (Summer 1999), 5–10.
- 8 Susan Roth, “The State of Design Research,” *Design Issues* 15:2 (Summer 1999), 18–26.
- 9 Victor Margolin, “The Multiple Tasks of Design Research” in *No Guru No Method?* (Helsinki, Finland: University of Art and Design, 1998), 43–47.

utility with an appreciation of context, significance, and ideology.<sup>10</sup> For design researchers in the social sciences, utility is the essential question, namely “how things work . . . the degree to which designs serve practical purposes and provide affordances or capabilities,”<sup>11</sup> while significance tends to describe a secondary set of acquired features: “how forms assume meaning in the ways they are used, or the roles and meaning assigned to them, often becoming powerful symbols or icons in patterns of habit and ritual.”<sup>12</sup> Humanist interpreters of design, working in fields such as art history, visual studies, cultural studies, and English and comparative literature, tend to emphasize meaning and interpretation at the expense of affordance and use. Derived from nineteenth-century historicism, hermeneutics, and philology, humanistic methods and sensibilities are organized around the historical specificity of cultures as well as the distinctiveness of individual responses to the designed world. The main contributions of the humanities to the study of design has thus been to understand the meaning of objects in particular moments of time, for particular groups and interests.<sup>13</sup> For most humanists, the idea that design might have “universal” applications, or that affordances might precede or subtend cultural differences, is a species of ideology that must be exposed and chastened.

Could humanists integrate aspects of universal design—based on the concepts of affordance and use—into their interpretive inquiries? And could design researchers trained in design, engineering, and the social sciences integrate their studies of use into a more nuanced account of meaning in its social and collective dimensions? In many design studies, a design succeeds if it is used correctly; any meanings brought to a design by a user are arbitrary and personal rather than a lived dimension of the object as a signifying thing in a complex network of meaningful exchanges. For many design researchers, meanings are simply subjective icing on the cake rather than shared codes baked into the object itself, connecting designer, producer, user, and the culture at large in a shared world. To continue the metaphor: might it be possible to have our cake and eat it too, to develop paradigms that envision the human endpoint of design as something more than the “user” of a specific, quantifiable function, while also conceiving of the meaning of objects in terms that allow for universal applications? Finding common ground between affordance and meaning could offer a collective space for interdisciplinary collaboration and new ways to approach both making and studying designed artifacts. Moreover, design itself, as a form of human making that crosses artistic and technological categories, poses to these disciplines the question of their own identities. This essay, co-authored by a humanist and a social scientist, aims to reconsider these divides by addressing tensions and commonalities between affordance, use, and meaning. Our analysis of humanistic and social-scientific convergences in design focuses on the idea of the user, a concept that has at once hallowed the human subject and reduced

---

10 John Heskett, *Toothpicks & Logos: Design in Everyday Life* (New York: Oxford University Press, 2002).

11 *Ibid.*, 39.

12 *Ibid.*, 40.

13 Examples of cultural studies of design from a humanistic perspective emphasizing historical context and meaning include: Richard A. Etlin, *Art, Culture, and Media Under the Third Reich* (Chicago: University of Chicago Press, 2002); Hal Foster, *Design and Crime and Other Diatribes* (London: Verso, 2002); Elizabeth E. Guffey, *Retro: The Culture of Revival* (London: Reaktion Books, 2006); Catherine McDermott, *Street Style: British Design in the 80s* (New York: Rizzoli, 1987); Nigel Whiteley, *Pop Design: Modernism to Mod* (London: The Design Council, 1987). See also the “Dress, Body, Culture” series published by Berg Press (Oxford and New York).

subjectivity to the exercise of a function, as a way of establishing the ethical and intellectual stakes of this project.

### Manifest and Latent Functions and Meanings in Design

Several theoretical entrance points invite convergences between humanistic and social-scientific approaches to design. Consider, for example, Robert Merton's adaptation of manifest and latent functions for sociology in his seminal book *Social Theory and Social Structure* (1968). Merton presented a new application of functional analysis to the field of sociology. The word "function" is at the heart of Merton's analysis, and thus supports use- and user-oriented research, yet the distinction between manifest and latent meanings stems from psychoanalysis and Marxism, as well as from the hermeneutics of surface and depth associated with traditional exegetical models.<sup>14,15</sup> The purpose of Merton's adaptation was to differentiate "conscious motivations" from "objective consequences"<sup>16</sup> and to address the obvious or manifest social consequences of a human action or process with its unintended or latent social consequences. In conspicuous consumption, the manifest function is "the satisfaction of the needs for which these goods are explicitly designed"<sup>17</sup> and the latent function is the "heightening or reaffirmation of social status."<sup>18</sup>

Functional analysis is an appropriate framework to analyze designed artifacts, because while designers may have an intention related to how their work ought to be used or the niche it will fill in the lives of users, objects frequently take on additional roles and have unintended consequences. For example, young people transform handrails in parks into elevated tracks for skateboarding; after September 11, knitting needles were seen as potential weapons on airplanes; and phone books are often used as doorstops. None of these were the intended or manifest function of the artifact, but people who interact with the objects reveal their latent functions through acts of creativity, adaptation, and resistance.

It is important to note that designed artifacts have multiple potential latent functions. These latent *functions*, moreover, can also be conceived as latent *meanings*, understood both subjectively (the personal associations with an object that accrue over time) and inter-subjectively (as part of cultural complexes of value and significance that require communities for their activation). Thus the "function" of conspicuous consumption unfolds as a primarily meaning-making activity, by which a consumer flags, brands, and publicly performs his or her place in the status landscape, which is also an object landscape. Understanding the role of conspicuous consumption in consumer choice has allowed marketers to build the struggle for status into the design and branding process. Sometimes, however, when latent meanings are rendered too visible, consumers step back, a retreat that can be signaled in satire and parody, in the hunt for "cooler" or more authentic products, or in a refusal to buy, and buy into, certain meaning systems.

---

14 Sigmund Freud, *The Interpretation of Dreams* (Raleigh, NC: Hayes Barton Press, 1929).

15 Hans Georg Gadamer, *Truth and Method* (New York: Continuum International, 2004).

16 Robert K Merton. *Social Theory and Social Structure* (New York: The Free Press, 1968), 115.

17 *Ibid.*, 123.

18 *Ibid.*

The systematic seeking and uncovering of latent needs by market-driven researchers creates a designed world encrusted with a superabundance of gadgetry and “extra” features. A prime example is the marketing of highly specialized play and safety devices for small children who will rapidly outgrow them. Each moment of child development has become a veritable war zone fraught with its own special risks, from simple boredom to child abduction, with an array of carefully engineered weapons of mass production ready and waiting to protect our youngest civilians, including nanny cams, voice-activated crib lights, and toilet seat locks—all destined for the landfill as soon as the hapless youngster toddles to the next front of the safety wars. In these and other exfoliations of the planned obsolescence model of product design mastered in the heyday of American consumer modernism, “user-centered design,” far from emancipating or empowering the user, marshals guilt, fear, and anxiety in order to market goods whose value is dubious.<sup>19</sup>

Yet the fact of latency also indicates the extent to which designs bear multiple kinds and levels of meaning, whose social unfoldings are multidirectional, affected by choices and actions that occur on all sides of the design equation. In *Thoughtless Acts: Observations on Intuitive Design*, Jane Fulton Suri of IDEO captures through digital snapshots the myriad ways in which people unconsciously exploit the latent uses of the designed environment (Image 1). She captures and then compares “uses” of the most minimal kind (a carton of milk abandoned on the edge of a rail next to an empty cup stowed at the base of a column), but the effect of these recordings is to bring forward the sense of order and efficiency that inhabits what appear to be random gestures.<sup>20</sup> The photographs themselves, left sublimely uncaptioned, become a kind of prose poetry, creating meanings through the juxtaposition of human creativity at its most accidental and unthought.

On the home front, equivalents to such spontaneous design solutions include the trend among a new generation of parents to train children to navigate table edges and stemware rather than coating their shared world in brightly colored plastic. Young people who grew up in the gated community of the child-proofed family room are now having kids themselves, and some are choosing to teach their offspring to adjust to a complex environment rife with both risks and pleasures rather than using consumer products to micromanage domestic environments that are no match in any case for the developmental leaps and lags of actual children co-existing in real space and time. These new “designs for parenting” are being generated from within households and communities rather than by manufacturers or social marketers. When built on the sensible navigation of such real hazards as choking, water danger, and car travel, these evolving parenting techniques promise not only to slow the landfill but also to nurture more resilient and creative adults.<sup>21</sup>

---

19 See George Nelson’s classic defense of waste as a sign of efficiency in an industry-based society. George Nelson, “Obsolescence,” *Perspecta* 11 (1967): 171–76. The essay was first published in *Industrial Design* in 1956. For an analysis of the planned obsolescence debate in Mid-Century Modern America, see Giles Slade, *Made to Break: Technology and Obsolescence in America* (Cambridge: Harvard University Press, 2006).

20 Jane Fulton Suri. *Thoughtless Acts: Observations on Intuitive Design* (San Francisco: Chronicle Books 2005).

21 On the psychological risks of the risk-free childhood, see Wendy Mogel, *The Blessing of a Skinned Knee: Using Jewish Teachings to Raise Self-Reliant Children* (New York: Penguin, 2001). On the design choices of a new generation of parents, see David Keeps, “The Kids Are All Right,” *LA Times* 4/12/2007, “Home and Garden” section. See also “Homeland Security,” in Ellen and Julia Lupton, *Design Your Life: The Pleasures and Perils of Everyday Things* (New York: St. Martins, 2009), 106–9.

### Affordance and Use

The notion of affordance has developed significantly since introduced by psychologist J. J. Gibson in 1977. Gibson originally conceived of affordance from an ecological point of view centered on the potentiality of objects, surfaces, and materials. According to Gibson, affordance precedes subjectivity, interpretation, use, and meaning. For example, a supportive, flat ground affords walking, liquids afford pouring, a cave affords shelter. Gibson explained that affordances are physical facts that exist completely independently of interpretation or the relational interaction.

And affordance is neither subject nor object:

The affordance of something does not change as the need of the observer changes. Whether or not the affordance is perceived or attended to will change as the need of the observer changes but, being invariant, it is always there to be perceived. An affordance is not bestowed upon an object by the need of an observer and by his act of perceiving it. The object offers what it does because of what it is.<sup>22</sup>

These features apply to ecological phenomena, but also to human-made artifacts. The difference is that designers often embed artifacts with visual cues and indicators that suggest functionality; however, these artifacts still have multiple affordances—such as repurposing for use as a weapon, or as a doorstop, or as an icon for a social movement—that are not necessarily related to its intended function, or programmed into the object by its designer.

Don Norman's book *The Design of Everyday Things* (1988; 2002) appropriated and popularized the notion of affordance for design discourse. Norman defines affordance as the "perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used."<sup>23</sup> He writes further that "affordances provide strong clues to the operation of things."<sup>24</sup> This adapted definition repurposed the notion of affordance to mean something more like "perceived affordance," or what people understand to be the potential use of the object.

Theories of use, usability, and users have grown out of the fields of engineering, cognitive science, and design research, and have been heavily influenced by Norman's notions of affordance (or perceived affordance). In order to communicate the use of an artifact, the designer aims to make explicit specific affordances by intentionally embedding cues for people who use the object. Enter the notion of subjectivity and the term "user." Unlike Gibson's notion of affordance, in usability the relationship between the subject and the object matters. The designer becomes concerned with embedding content and action into artifacts so that the function of the object is immediately understood by the subject.

---

22 James J. Gibson. "The Theory of Affordances" in *Perceiving, Acting and Knowing: Toward an Ecological Psychology*, edited by R. Shaw and J. Bransford (New York: John Wiley & Sons, 1977), 78.

23 Donald Norman. *Design of Everyday Things* (New York: Basic Books, 2002, c.1988), 9.

24 *Ibid.*, 9.

While use is most frequently the manifest function of an artifact, meaning can also fill this role. This is particularly true of religious and cultural artifacts that are made specifically to communicate messages that an intended group will understand, such as a cross in a Christian home or a mezuzah on the doorpost of a Jewish home. Branding offers contemporary and secular examples of meaning as a manifest function in design. Wedgewood, the English china company was one of the first companies to capitalize on the aristocracy as “legislators of taste” by marketing fine china to middle-class families in England.<sup>25</sup> By doing this they infused their china with a new meaningful layer, the premium or surplus value of *quality*. Branding has become the main means by which meaning shapes and infuses objects from their beginning. Successful branding is generated and maintained as much by consumers as by designers or marketers. In the evocative phrase of Adam Arvidsson, brands have become a “virtual factory”<sup>26</sup> in which consumers are set to work producing the brand not simply by buying a line of products, but by wearing its insignia, blogging about it, and even protesting changes in their brand (as has occurred with a number of Apple products). Although brands are collective in nature, defining a family of products and uniting a circle of consumers, individuals living in post-ethnic, post-regional, and post-secular identity formations are increasingly customizing their personae out of brand markers. *Brand culture* now overlaps in many ways with *fan culture*, which Henry Jenkins defines as “self-organizing groups focused around the collective production, debate, and circulation of meanings, interpretations, and fantasies in response to various artifacts of contemporary popular culture.”<sup>27</sup> Fans, like members of brand communities, are not “users” in the narrow sense construed by behaviorist design research: they help fashion and redirect the meaning of the object and media they consume through their own commentary, fashion statements, and activism.

Design has moved toward a “user centered” model because of its powerful application to mass production. User-centered design research aims to uncover the needs of the user and to create designed artifacts that will appeal to as many consumers as possible. The concept of use in design tends toward universality, by aiming to address common human needs and to find easily legible, transcultural solutions for these needs. In a designed artifact, the intended use should be easily understood by the masses. According to Norman, if people do not properly interpret the message of the designed object, it has been poorly designed. This suggests that objects should embody some sort of universal language so that all people will be able to understand and interpret the message. This process can create deterministic designs and borders dangerously on a controlled, utopian ideal of human use. In any case, universality in design may not transcend culture so much as end up creating a new global culture, based on the easy transmissibility of use func-

---

25 Adam Arvidsson. *Brands: Meaning and Value in Media Culture* (New York: Routledge, 2006), 67.

26 *Ibid.*

27 Henry Jenkins, *Fans, Bloggers, and Gamers: Exploring Participatory Culture* (New York: New York University Press, 2006), 137.

- 28 Okoth Fred Mudhai, "Exploring the Potential for More Strategic Use of Cell Phones," *Reformatting Politics: Information Technology and Global Civil Society*, ed. Jodi Dean, Jon W. Anderson, and Geert Lovink (New York: Routledge, 2006), 107–20. See also Pierre Lévy on the salutary effects for global politics of the "universal-without-totality" produced by the collective intelligence of digital communities. *Cyberculture*, trans. Robert Bononno (Minneapolis: University of Minnesota Press, 2001).
- 29 Johan Redström. "Towards User Design? On the Shift from Object to User as the Subject of Design," *Design Studies* 27 (2006), 123–39.
- 30 Anthony Dunne and Fiona Raby, *Design Noir: The Secret Life of Electronic Objects* (Basel, Birkhäuser Basel, 2001), 30
- 31 Ellen Lupton. *Thinking With Type* (New York: Princeton Architectural Press, 2004), 73

tions through objects as well as the development of certain kinds of object-literacies among diverse consumer populations. Universality in design can strengthen local communities while also integrating them into larger global movements; the increasing distribution of mobile phones in developing countries, for example, has become a key means of keeping markets transparent for small producers and enabling collective organization around political issues.<sup>28</sup>

The exigencies of mass production and the methods of user-centered research have strongly pushed design toward engineering, by prioritizing usability, affordance, function, and constraint. As Johan Redström points out in his article "Towards User Design? On the Shift from Object to User as the Subject of Design," the subject has become more important than the object in much design and design research. The "subject" who emerges from user-centered design, however, is not a "humanist" subject; he or she is an "engineered" subject, who responds correctly to stimuli and thus can be shaped into a reliable member of mass society, whether conceived on consumerist or social-progressive grounds.<sup>29</sup> In *Design Noir: The Secret Life of Electronic Objects*, Anthony Dunne and Fiona Raby write: "This enslavement is not, strictly speaking, to machines, nor to the people who build and own them, but to the conceptual models, values, and systems of thought the machines embody. User-friendliness helps to naturalize electronic objects and the values they embody."<sup>30</sup> In *Thinking with Type*, Ellen Lupton makes a similar point: "The dominant subject of our age has become neither reader nor writer but user, a figure conceived as a bundle of needs and impairments—cognitive, physical, emotional. Like a patient or child, the user is a figure to be protected and cared for but also scrutinized and controlled, submitted to research and testing."<sup>31</sup> The word "user" suggests instrumentalization, calculation, and constraint, a behaviorist narrowing of personhood into reflex in the moment that we hold an object correctly or press the right key. The user mentality excludes meaning and improvisation in favor of targeted functions and knowledges based on ignorance.

Image 1  
Atomic Kitchen advertisement  
Redrawn for the authors by  
Ellen Lupton.



This ad from the 1950s, reproduced by Brian Alexander in *Atomic Kitchen: Gadgets and Inventions for Yesterday's Cook*<sup>32</sup> offers an instructive allegory for the condition of the user in contemporary life (Image 1). Usability is measured by ease, efficiency, and transparency of use—so straightforward that you can do it blindfolded—but the focus on use also depends on a more insidious blindfolding: a willed ignorance as to the provenance of the canned food, its nutritional decline on the way from field to factory to kitchen, and the fate of the discarded container, for example.

As a result of Norman's work, affordance is often associated with use, but it can also contribute to meaning. In *The Meaning of Things: Domestic Symbols and the Self*, the landmark sociological study of household artifacts, Csikszentmihalyi and Rochberg-Halton found that plates, cups, and other fragile artifacts were most frequently mentioned as a significant symbol of ethnic background and family traditions. The authors suggest that the fragile nature of these objects contributes to their meaning: "Given a number of fragile objects, the majority of them are soon bound to be broken. To preserve a breakable object from its destiny one must pay at least some attention to it, care for it, buffet it from the long arm of chance. Thus, a china cup preserved over a generation is a victory of human purpose over chaos, an accomplishment to be quietly cherished, something to be 'kind of proud' of."<sup>33</sup> Their analysis recalls Martin Heidegger's account of care (*Sorge*) as a mode of concern for the world, guided "not by knowledge or explicit rules, but by its informal know-how."<sup>34</sup> Fragility is a physical attribute of things that "affords" their breaking, shattering, or destruction. Certain patterns of use are designed to ward off such destruction (such as keeping breakables out of the reach of children, or setting items on a firm, flat surface that affords resting). These protective, careful patterns of use also help build and protect the meaningfulness of certain types of objects, such as family symbols, holiday icons, or objects of monetary value.

Norman's notion of affordance, unlike Gibson's, implies the subject's interpretation of the object, insofar as he shifts affordance from potentiality (in the object) to use (by the subject). Norman frames interpretation, however, within a limited plane of functionality—do I as a user of the object respond appropriately to the cues given to me? And how might those cues be improved in order to garner more accurate responses? The subjective element opened up in Norman's work does not extend into broader processes of cultural meaning-making. Here, it seems that design research would benefit from the humanities, whose more capacious and flexible account of signification and subjectivity might provide accounts of the user that resist or take issue with the social engineering at the heart of the modernist design programs launched from both capitalist and socialist agendas. For what is at stake in finding convergences between social-scientific and humanistic approaches to design is not simply methodological. It is also ethical and political, bearing on the way

32 Brian S. Alexander, *Atomic Kitchen: Gadgets and Inventions for Yesterday's Cook* (Portland, OR: Collectors Press, 2004), 147.

33 Mihaly Csikszentmihalyi and Eugene Rochberg-Halton, *The Meaning of Things: Domestic Symbols and the Self* (New York: Cambridge University Press, 1981), 83.

34 Michael Inwood, "Care," *Heidegger Dictionary* (London: Blackwell, 1999), 36.



we live with design, now. Yet neither Gibson's nor Norman's writings have had much impact in the humanities, where the idea of affordances rarely surfaces in any analytic context. We contend that humanists would do well to consider affordances in their analysis of cultural artifacts. How, for example, does the physical design of magazines and newspapers "afford" certain types of reading and readers under conditions of industrialization? How did the spatial division of Shakespeare's stage into plateau and gallery "afford" certain narrative solutions? It is not that humanists don't ask such questions—they do—but they rarely access a design vocabulary in order to mount their arguments. And when they do turn to analyzing objects of design, questions of culture, taste, and historical context overshadow problems in affordance. The functional specificity of use—the fine details of shape, size, hardness, tactility, and the phenomenology of human responsiveness to them—disperses into more generalized accounts of use-value or symbolic functions that often miss the concrete singularity of objects as made things. Too often, such interpretations leave designers cold. In the humanistic study of design, *cultures* may be specific and particular, bound by time and place, by ethnicity and gender, but *objects* tend to get lost in the cultural containers that frame them. There is still, it seems, a conversation to take place between social scientists and humanists on the question of design and its users.

#### **New Scenes for the User: Design Ecology and Interobjectivity**

Two paradigms for rethinking the relation of the user to designed objects offer promising grounds for launching such a conversation. Returning affordance theory to its origins in ecology discloses broader scenarios for understanding the coexistence of persons and objects in built and natural environments, while the idea of "interobjectivity" associated with the work of Bruno Latour imagines a social theory of things that would include objects as "comrades, colleagues, partners, accomplices, or associates in the weaving together of social life."<sup>35</sup>

Recall that Gibson's concept of affordances began as an *ecological* idea, a way of understanding the various forms of life that a particular habitat could afford to a variety of species. Affordances are not only perceivable by humans; they are also actualized by animals and by other ecological variables. For example, dry wood affords being burned with fire, mice afford being eaten by owls, and shiny plastic bottle caps afford being treated as food by seabirds. (In the latter case, the plastic pieces fill up the stomach cavity and ultimately starve the bird.) For Gibson, when a creature (whether human or animal) perceives an affordance, meaning is not added to the object or environment in a way that designers or users agree upon. Perceiving affordances is a "process of perceiving a value-rich ecological object."<sup>36</sup> Affordance theory, however, has been blindfolded into a theory of objects and their uses; the environmental framework has largely been lost. The ecological origins of the term

---

35 Bruno Latour, "On Interobjectivity," *Mind, Culture and Activity* 3:4 (1996), 235.

should call us back to a broader environmental view of the object world—“environmental” not only in the contemporary sense of sensitive to resources and sustainability, but also in the sense of engaging interconnected networks of meanings and uses by multiple constituencies, including those who may not be the intended users, whether it’s skateboarders or seabirds. Ecology sketches scenarios for creative adaptation as well as reminders of the fragility of equilibrium. In *Information Ecologies: Using Technology with Heart*, Bonnie Nardi and Vicki O’Day develop the ecology metaphor, which, they argue, has the heuristic advantage of replacing “resistance” with “participation” and combining the holistic frame of systems analysis with an attention to locality, diversity, and change.<sup>37</sup> The environment is what “environs” or surrounds us. The emphasis in the humanities on context and culture can help us map environments in terms of meaning and significance as well as relations of force and ideology, while the social-scientific development of ethnographic tools for design research can further unfold the intersubjective dimensions, communal settings, and material costs that attend living with objects without losing sight of usability.

Although Nardi and O’Day are interested in environments modified by computing, the ecological paradigm could also be applied to other forms of design and to the arts of the past as well as the present. Take for example Botticelli’s *Primavera*, a masterpiece of the fine arts canon.

Although we associate the painting with the archival walls of the Uffizi Gallery (along with soap dish souvenirs), recent socio-cultural studies of the painting have disclosed its relationship to the *cassone* tradition (painted wedding chests designed as gifts and paraded through the streets as part of marriage festivals).<sup>38</sup> This image, originally a *spalliera* (painted headboard) behind a *lettucio* (day bed), affords reading from right to left rather than left to right, contrary to most paintings in the Western tradition, suggesting that the panel was initially positioned in a room whose layout promoted access from the right side of the painting. Evoking and even re-enacting rites of spring from both rural folklore and classical myth, the *Primavera* is a species of calendar art that not only represents but also presents—makes present through enactment—a participatory and embedded relationship to natural time. The image must be seen, that is, not as a window onto another world, but as part of a total environment composed of symbol-laden furnishings within a space subject to both real and ritualized mappings. The case of the *Primavera* demonstrates how an ecology of meanings and affordances offers paradigms for understanding the complex relations among things, persons, and environments, in designs both from the past and for the future, inviting not only a holistic mode of inquiry towards human artifacts and their users but also an attitude of concern, care, and engagement in response to the interlocking habitats of persons, things, rituals, and resources that surround and define us.

36 Gibson, 140.

37 Bonnie A. Nardi and Vicki L. O’Day, *Information Ecologies: Using Technology with Heart* (Cambridge: MIT Press, 1999). Nardi and O’Day critique Norman Holland’s “tool” model of affordances for limiting the scope of human participation in technological adoption and adaption (28–30), and they propose ecology as a more capacious metaphor that “stimulates conversations for action” (50). They summarize the ecological model: “An information ecology is a system of parts and relationships. It exhibits *diversity* and experiences continual evolution. Different parts of an ecology *coevolve*... Information ecologies have a sense of *locality*” (50–51).

38 On Botticelli’s *Primavera* and the *cassone* tradition, see Charles Dempsey, *The Portrayal of Love: Botticelli’s Primavera and Humanist Culture in the Time of Lorenzo the Magnificent* (Princeton: Princeton University Press, 1992). On the *cassone* tradition and rituals of marriage in and between private and public space, see Brucia Witthoft, “Marriage Rituals and Marriage Chests in Quattrocento Florence,” *Artibus et Historiae* 3:5 (1982), 43–59.

Bruno Latour is the architect of interobjectivity and “actor network theory.” His account of objects as players in social networks composed of both human beings and things comes out of a sociological tradition, but the continental, theoretical character of his thought has given his work special audience in the humanities, which have traditionally been open to paradigms driven by other than empirical and quantitative methods.<sup>39</sup> Arguing that social theory has ignored the importance of objects, Latour insists that made things are fundamental to human interaction, indeed that they can be conceived as actors (or what he calls “actants”) in their own right insofar as object and user exchange attributes in the process of use. Latour’s search for a “social theory interested in sharing sociality with things”<sup>40</sup> offers ripe territory for design research that would combine sociological and humanistic methods in order to construct a conception of the human subject of design beyond the instrumentalizing reification of “the user.” Latour’s categories resist the dualistic distinction between technology (the world of artifacts) and society (the world of human subjects). Technology and people both participate in and mediate relational networks, and at the same time they are the outcome of those networks; the positions of subject and object themselves do not exist other than in the context of relationships and interactions, and the multilateral nature of interaction narrows the gap between them. Moreover, Latour puts meaning at the center of design: “Design lends itself to interpretation; it is made to be interpreted in the language of signs. . . .Wherever you think of something as being designed, you bring all of the tools, skills, and crafts of interpretation to the analysis of that thing.”<sup>41</sup> As such, designed things are not *objects of fact* so much as *objects of concern*: “complex assemblies of contradictory issues” that institute relationships other than ownership (of things by people) or instrumentalization (of people by things), including such postures of attention and attentiveness as “attachment, precaution, entanglement, dependence, and care.”<sup>42</sup>

Although their interests and orientations are very different, Gibson and Latour both share an investment in bridging the subject-object divide through more fluid, relational, and environmental conceptions of objects in the world. While affordances belong to neither subject nor object, they are potentialities that exist in the world and can do something in it, implying that objects have a certain kind of agency or effectivity. It is possible to employ the theory of affordances to support Latour’s controversial notion that objects have agency, especially in situations when human (or animal) subjects interact with the object world in unexpected ways, beyond the designs of the designer. In such circumstances, the object takes on “a life of its own,” becoming a new actant in an unpredictable situation or scenario.

The paradigms of both design ecology and interobjectivity rework the conceptual potentialities of affordance theory away from narrowly conceived tool models and towards broader vistas

39 Literary scholars who have used Latour to analyze texts as material artifacts, or the object world within texts, or objects in drama, include Julian Yates, *Error, Misuse, Failure: Object Lessons from the English Renaissance* (Minneapolis: University of Minnesota Press, 2003); Jonathan Gil Harris, *Untimely Matter in the Time of Shakespeare* (Philadelphia, University of Pennsylvania Press, 2009); and Aaron Kunin, “Character Lounge” *Modern Language Quarterly* 70:3 (2009), 291-317.

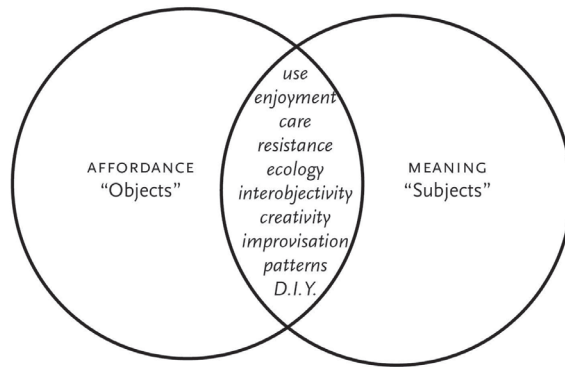
40 Bruno Latour, “On Interobjectivity,” *Mind, Culture and Activity* 3:4 (1996): 237.

41 Bruno Latour, “A Cautious Prometheus? A Few Steps Toward a Philosophy of Design (With Special Attention to Peter Sloterdijk.” Keynote lecture for the Networks of Design, Meeting of the Design History Society, Falmouth, Cornwall, 3 September 2008. <http://www.bruno-latour.fr/articles/article/112-DESIGN-CORNWALL.pdf>, accessed 2/1/2009.

42 Ibid, 4, 2.

Figure 1

Venn diagram of Affordance and Meaning  
Examples of ideas, activities and people  
that constitute the region of common ground  
between affordance, use and meaning



of thing-human interaction involving multiple forms of agency and signification. We are not suggesting that use should cease to be the aim or manifest function of design, but rather that the task of design research—both research in the service of the design process, and research into the role design plays in contemporary and historical life—should be oriented around the common ground between use, meaning, and affordance, which is also the common ground between designers and “users.”

This dynamic and fluid region includes the latent functions and meanings of designed objects and environments that are brought out by acts of use, repurposing, and interaction, and thus constitutes the space in which “users,” construed and constrained narrowly by instrumentalizing design thinking, become genuine human subjects, bearing memories, desires, and creative capacities that cannot be fully predicted by research conceived on determinist or behavioralist grounds. Some models for this kind of work include Christopher Alexander’s *Pattern Language*, where the idea of pattern implies a universality of function, while language indicates a semantics of meaning.<sup>43</sup> Alexander’s patterns are not a shopping list of designer add-ons but rather scenes of action that overlap and intersect, navels of interlocking uses that radiate outwards and cross each other, creating new opportunities for interaction and signification. Another area of convergence is the new interest in objects as both functional and meaningful; Sherry Turkle’s *Evocative Objects: Things We Think With* takes objects as repositories of cultural and personal significance within a field of discourse defined more by the history of science and technology than the history of art.<sup>44</sup> And it’s not just academic. New social movements emphasizing sustainability, fair labor, and D.I.Y. (“Do It Yourself”) processes and communities are staking their interests in this dynamic middle ground. Design research directed towards the fluid threshold constituted by affordance and meaning would thus bring together empirical and hermeneutic, quantitative and qualitative, behaviorist and psychoanalytic, methods and perspectives, in order to understand and engage with design in its genuine complexity and promise.

43 Christopher Alexander, Sara Ishikawa, Murray Silverstein, with Max Jacobson, Ingrid Fiksdahl-King, and Shlomo Angel. *A Pattern Language* (New York: Oxford University Press, 1977).

44 Sherry Turkle (ed), *Evocative Objects: Things We Think With* (Cambridge: MIT Press, 2007). See also Joshua Glenn and Carol Hayes, *Taking Things Seriously: 75 Objects with Unexpected Significance*; Bill Brown, ed., *Things* (Chicago: University of Chicago Press, 2004); and Ellen and Julia Lupton, *Design Your Life: The Pleasures and Perils of Everyday Things* (op cit.).