



ANNUAL
REVIEWS **Further**

Click [here](#) to view this article's online features:

- Download figures as PPT slides
- Navigate linked references
- Download citations
- Explore related articles
- Search keywords

Design and Anthropology

Keith M. Murphy

Department of Anthropology, University of California, Irvine, California 92697-5100;
email: kmmurphy@uci.edu

Annu. Rev. Anthropol. 2016. 45:433–49

First published online as a Review in Advance on
July 29, 2016

The *Annual Review of Anthropology* is online at
anthro.annualreviews.org

This article's doi:
10.1146/annurev-anthro-102215-100224

Copyright © 2016 by Annual Reviews.
All rights reserved

Keywords

design, material culture, social action, architecture, corporate ethnography, ethnographic methods

Abstract

In this review, I examine the recent turn to design in anthropology in three different configurations: anthropology of design, anthropology for design, and design for anthropology. Although these three configurations represent different cuts in a complex set of relations between these two disciplines, I have chosen to discuss them together because they all represent—though not always obviously so—attempts to contend with the moral implications of humans intervening in the lives of other humans. One goal of this article is to specify and evaluate a long-standing but underarticulated regard for design and designed things in anthropology while also offering a framework for critically engaging anthropology's relationship with design in its multiple configurations.

INTRODUCTION

Design lurks in the shadows of anthropology. The discipline's basic conceptual lexicon contains a scattering of design-inflected tropes, such as Levi-Strauss's bricoleur and Marx's apian architects, but until recently design has rarely figured as a central topic of ethnographic analysis. Instead, where it appears, it tends to fall quite literally in the middle of a list of features that comprise more intricate social or technical processes—for instance, “to create plutonium, to design and test bombs, and to monitor the earth for signs of nuclear proliferation” (Masco 2006, pp. 24–25) or “branding policies, design, targeting of goods, and company competition” (Miller 1987, p. 9). In such cases, design is noted for its relevance within some broader ethnographic context, but it typically receives no further elaboration as a specific social formation in its own right.

But this situation is changing. Recognizing that design is “a fundamental human capacity and a primary source of social order” (Appadurai 2013, p. 254), anthropologists have recently begun excavating the sociocultural and political significance of design in the context of traditional ethnographic projects (Krause-Jensen 2010, Murphy 2015, Schüll 2012). In the emergent subfield of “design anthropology” (Clarke 2010, Gunn et al. 2013, Gunn & Donovan 2012a), a shared set of interests in material culture, human behavior, and social values encourages anthropologists to collaborate with designers on projects blending creative skills with an anthropological sensitivity to people's lived experience. Design has also been cited as a resource for advancing more general ethnographic methods for studying contemporary social worlds (Rabinow & Marcus 2008).

In this review, I examine this recent turn to design in anthropology in three different arrangements (cf. Gunn & Donovan 2012b): anthropology of design, in which design is positioned as an object of ethnographic inquiry; anthropology for design, in which anthropological methods and concepts are mobilized in the design process; and design for anthropology, in which anthropologists borrow concepts and methods from design to enhance traditional ethnographic forms. I focus disproportionately on the first arrangement, in part because it has received the least attention amid this surge in interest in design, but also because doing so is a step toward realizing Suchman's (2011, p. 3) call for “a critical anthropology of design,” one that functions as a corrective to a widespread, credulous acceptance of design's most sanguine promises across a range of social, economic, and political domains. I have chosen to examine these three configurations together because they all, in their own ways, reveal a particular quirk of design—the moral implications of intentional intervention—that remains unresolved in its pairing with anthropology and which may serve as the most significant and productive feature of the relationship. Thus one goal of this article is to bring to the surface a long-standing but underspecified regard for design and design-related phenomena in anthropology, with an argument for why it has only recently received specific attention. A second goal is to offer a conceptual framework for critically engaging anthropology's relationship with design across its various arrangements. For the sake of parsimony I restrict my discussion, as best I can, to design and sociocultural anthropology, with some occasional forays into adjacent fields and subfields. If possible, I also try to cite previous *Annual Review* sources for more convenient reference to existing bodies of relevant literature.

ARRANGEMENT ONE: ANTHROPOLOGIES OF DESIGN

The etymological path that design has followed over the last few centuries reflects an increasingly specifying scope of associations, if not significant shifts in meaning. The word first entered English by way of French as early as the fourteenth century, although its usage at the time was closer to that of the contemporary word “designate.” By the sixteenth century, the verb “to design” reflected two core senses, both of which remain today: to plan or intend something; and to draw or trace out forms, though the two senses were not necessarily combined. By the eighteenth century, a

more restricted sense of the term, “to draw for the purposes of construction,” began to emerge, and by the late nineteenth century, an intransitive usage, simply “to design” as a kind of activity, became linked first with architecture then later with other creative professions. Although the term “design” is useable today in a wide range of contexts, its most salient cultural associations now lean toward the technical, the professional, the modern, and the aesthetic (see Flusser 1995 for an extended interpretation).

Even within those technical and aesthetic realms, though, design affords a range of characterizations, each of which highlights a different configuration of shared core elements. Historian Adrian Forty (1986, p. 7), for instance, argues that the word design always retains a double accent on both aesthetics and production, noting that “the way things look is, in the broadest sense, the result of the conditions of their making.” Architect Christopher Alexander (1964, p. 1) reverses Forty’s emphasis, describing design as “the process of inventing physical things which display new physical order, organization, form, in response to function.” And designer Victor Papanek’s (1984, p. 4) well-known definition—“the conscious and intuitive effort to impose meaningful order”—was meant to remind designers themselves of their social and ecological responsibilities. Despite the different priorities reflected in these (and other) influential characterizations of design, they all attend to four common features—form, order, planning, and intention—various alignments of which have figured prominently in many intellectual projects concerned with explaining human life, including anthropology.

Rather than holding together as a unified concept in anthropology, however, these core elements have persisted as two broad and largely distinct senses of design. In one version, design refers to a set of static aesthetic features—shapes (Ingold 2007), geometries (Eglash 1999; cf. Murphy 2013), patterns (Fortis 2010), and the relations among them (Anusas & Ingold 2013)—placing stress on form and order while deprioritizing the role of human actors. In the other version, design refers to a complex domain of dynamic creative practice, like the work of urban designers (Milestone 2007), architects (Murphy 2005), and advertisers (Mazzarella 2003), placing stress on planning, practice, and intention but giving uneven regard to form. Neither of these orientations is wrong, of course, but both are incomplete. One result of this conceptual bifurcation is that “design” has become for anthropologists what Agha (2011) calls a “gaze-narrowing device,” a term so packed with assumptions—or in this case, two different sets of assumptions—that it limits the possibilities for seeing the totality of its referent.

An alternative analytic would account simultaneously for both design as form and order and designing as purposeful human action geared toward producing that order, without necessarily privileging one inflection over the other. Additionally, and critically, to put form and order in the world with intention, with a “directedness” (Duranti 2015, p. 26) toward anticipated outcomes, is also an attempt to produce effects of some sort, to exert a “push” on the world in some way (including pushes that go wrong; e.g., Bristol 1991). All of these—action, form, and consequence—are irreducible aspects of design, and by expanding our gaze to include all of them at once, a new set of conceptual parameters comes into view: humans provisioning for one another the conditions of life in innumerable forms and at almost every scale. Thus, given that much of the artificial world is designed in some way, design represents perhaps the most common channel through which humans intervene, directly and indirectly, in the lives of other humans.

When viewed from this perspective, the moral implications of design and designing become more pronounced. This is reflected most notably in the maturation of design (Crouch 1999) and architecture (Banham 1967) in the West over the twentieth and twenty-first centuries, a process framed almost entirely within an explicitly moral discourse. On the one side stands an orthodoxy of “good design” (Hayward 1998) in which designing objects, technologies, and spaces is simply presumed to be beneficial to both users and society. At the other extreme, designing is treated as

“an intrinsically wasteful endeavor” (Bauman 2004, p. 24) that overproduces goods, manufactures desires, and harms the health and well-being of individuals and communities. Although most instances of designing fall somewhere in between these two moral poles—at least in the West and Western-influenced contexts—each is always somehow positioned, explicitly or implicitly, in relation to them.

The Slowly Fading Designer

Design has not always been conceptually fractured. Indeed, anthropology developed within a long intellectual tradition of Western thought that at one point promoted a notion of design linking intentional action, form, and consequence. Among the many puzzles that motivated this worldview was the following: Observable phenomena at every scale tend to possess recognizable and consistently ordered forms, but it is not readily apparent where those forms come from and how they acquire meaningful order. From a Christian theological perspective, one stemming from Platonic philosophy, the solution to this puzzle was obvious—form and order are purposefully produced by a benevolent designer, which is to say a deity. This position, known as teleology, or the “argument from design” (Clarke 1980), was a central aspect of Aquinas’s influential justification for the existence of God. Versions of his teleology figured prominently in both Newton’s science and much of Empiricist philosophy, and the argument from design remained ascendant into the nineteenth century. The most ardent advocate of this position at that time was William Paley (1802), an English theologian whose book, *Natural Theology, or Evidences of the Existence and Attributes of the Deity*, made a strong impact on the early thinking of Charles Darwin (Ingold 2012). But that influence waned over time, and as Darwin refined his theory of evolution he began to discredit strong teleology in favor of a model that accounts for design without an intentional designer. As he wrote in his autobiography,

The old argument of design in nature, as given by Paley, which formerly seemed to me so conclusive, fails, now that the law of natural selection has been discovered. [. . .] There seems to be no more design in the variability of organic beings and in the action of natural selection, than in the course which the wind blows. (Darwin 1958, p. 87)

During this same period, parallel strands of evolutionary theory contributed to anthropology’s rudimentary coalescence as an academic field, particularly in the work of Lewis Henry Morgan (1877) and Herbert Spencer (1880), both of whom attempted to account for the origins of social order and cultural complexity without recourse to an intentional designer. This “design without designers” approach to explaining the social world was most evident in a series of articles published by John Wesley Powell in the earliest editions of the *American Anthropologist, New Series*. Across five articles, Powell argues that a set of basic cultural activities constitutes principal formal elements of human social organization, including “activities designed to give pleasure” (Powell 1899), “activities designed for expression” (Powell 1900), and “activities designed to give instruction” (Powell 1901). Even though Powell offers no explicit reason for describing these activities as specifically “designed,” nor any indication of who designed them, his repeated use of the term and his central emphasis on form and order in his analysis reveal at least a tacit assumption that the patterning of ethnographically recoverable activities is at least partly organized for some local purpose.

The Boasian backlash against evolutionary frameworks furthered the demotion, and eventual abandonment, of an intentional designer or designing force in explaining formal complexity in the human world. An earlier emphasis on ultimate causes was replaced by a new concept of

culture, which functioned as a proximate generator of observable difference between groups without foregrounding an appeal to genesis. Yet while the idea of a specific designer had by this point fully disappeared, attention to the formal and ordered aspects of the human world, at many different scales, continued to occupy Boas and his students. Boas himself, for instance, in his early work took interest in the typological analysis of so-called “primitive” designs in everyday objects, artwork, tattoos, and more (Boas 1908), a concern that would shape the interpretive armature of his more comprehensive 1927 book, *Primitive Art* (Boas 1955). Kroeber (1919) found meaningful relations between the aesthetics of dress, social organization, and social change, whereas Sapir (1931) saw fashion operating as an ordered formal mediator between individuals and cultural norms. Perhaps most significantly, Ruth Benedict (1934), in her book *Patterns of Culture*, transformed an aesthetic notion of “pattern”—one influenced by art critic Roger Fry’s elaboration of design (Modell 1989)—into an almost-technical term in cross-cultural analysis.

In short, anthropology’s bifurcated concept of design emerged amid Western thought’s long dissolution of teleological models of the universe, as notions of intentional action in design were slowly disentangled from form and effect. In its earliest days American anthropology maintained a residual curiosity toward form and order that had preoccupied scholars of the observable world from Plato through the Enlightenment, but without much attentiveness to “the conditions of their making” or the presence of an intentional designer [although see Boas (1908, p. 337) for a glimmer of acknowledgment]. This conceptual privileging of design-as-form over designing-as-action would be the dominant frame within which anthropology considered design for many decades.

The (Mostly) Absent Designer

To be sure, expressly designed phenomena, such as buildings, clothing, and spaces, have long attracted the anthropological gaze. Yet while an intentional designer is often implied or even outright acknowledged in analysis of such things, the actual conditions of their designing are rarely considered alongside forms, meanings, and social effects. Take, for instance, artificial objects. Malinowski and Mauss set the stage early on for examining physical things, including designed objects, as central components of cultural, political, and economic systems rather than as the ancillary equipment of more abstract social processes. This general approach subsequently languished for some decades (Miller 1987); however, when material things did return to anthropological inquiry in the 1980s, they were explored increasingly through a lens of consumption, which, in contrast with production, became widely viewed as “the very arena in which culture is fought over and licked into shape” (Douglas & Isherwood 1996, p. 37). Appadurai (1986; cf. 2013), for instance, worked to free Marx’s commodity form from the constraints of capitalist modes of production, bringing it both beyond capitalism to include other economic systems and beyond production to matter for additional phases in a thing’s social life, including exchange and consumption. Miller’s (1987, 2010) project in material culture has centered on deconstructing the premise that objects are fundamentally discontinuous with subjects, emphasizing in his critique how practices of consumption mutually constitute both social categories at once. Related approaches have explored affective relations that consumer objects mediate between individuals and state-influenced modes of living, especially in postsocialist contexts (Berdahl 1999, Fehérváry 2009; cf. Schwenkel 2013), and many specific designed objects, such as Tupperware (Clarke 1999) and other mundane home goods (Garvey 2008, Miller 2001), have received sustained ethnographic consideration.

This approach principally treats objects as already-existing social forms, as “produced” in a phase prior to the “commodity phase” (Appadurai 1986) but whose actual conditions of production are left largely unexamined (cf. Atfield 2000, El Or 2012). To be sure, this notion makes

some sense because an overall move to consumption was partly a response to restrictive conceptions of production inherited from Marxian theory. However, in simply demoting production, rather than autopsying the category itself, the consumption approach has perpetuated some of the very assumptions it purports to challenge. Production—generally understood as manufacture or some generic kind of creation—is an underspecified and incomplete analytic, one heavily skewed toward scaling upward (toward society) and forward (toward consumption) from a point in which human hands bring tools to substance. But prior to the point of production, other kinds of work, especially designing, often figure significantly in an object’s development. Such work is distinct from manufacture not only in both sequence and kind, but also in terms of the social actors who typically undertake it. Thus an emphasis on consumption in material culture studies, because the category of production was left largely intact, helped further redirect the anthropological gaze away from designing as social action.

The anthropology of architecture reflects a similar emphasis on forms and effects. If anthropologists see built environments as structures that people make but that also make people (Buchli 2013), they tend to place more stress on the latter. One recurrent theme in the anthropology of architecture posits an interpretable link between designed forms and some other relevant aspect of ethnographic context. Morgan (1881, p. 105) famously argued that the architectural details of houses built by Native Americans were “an outcome of their social condition,” reflecting local patterns of social organization and ecological adaptation, and as such offered ethnologists useful points of comparison between different Native American groups (cf. Rapoport 1969). Later models pushed structuralist interpretations of architectural form (Bahloul 1996, Carsten & Hugh-Jones 1995), most notably Bourdieu’s (1990) reading of the Kabyle house, and the spatial arrangement of its interior elements, as an inverted symbolic model of the broader Berber social world.

Recognizing that “structures and forms of dwellings do not just reflect some ill-defined adaptation to the environment” (Humphrey 1988, p. 17), studies of architecture eventually moved away from overly materialist and overly cosmological frameworks to include a more complex set of social, cultural, and political contingencies (Lawrence & Low 1990, Low & Chambers 1989). For instance, architectural forms and spatial arrangements have been argued to manifest physical versions of political ideology in the everyday world (Fuller 1988, Humphrey 2005, Kus & Raharijaona 2000; cf. Murphy 2015), including entire cities and regions designed to realize modernity’s promise (Rabinow 1989), even if not always successfully (Holston 1989). Built forms and designed landscapes have also been argued to play a significant role in constructing affective relations between citizens and the nation-state (Fehérváry 2013, Schwenkel 2013, van der Hoorn 2009) or even between neighbors (Low 2004). Architectural and urban design features, especially those backed by official interests, can also figure prominently in processes of social exclusion (Lawrence-Zuñiga 2014, Rattray 2013, Rotenberg 2015).

Whereas the anthropologies of material culture and of architecture have focused significantly on forms and effects, studies of other designed phenomena, such as clothing and fashion systems (Durham 1999, Eicher 2000, El Or 2012), are often more nuanced. Building on classic studies of fashion and its relations to social class (Simmel 1957), social meaning (Barthes 1990), and social change (Richardson & Kroeber 1940), much of this research has centered on analyzing indigenous garments or styles of dress and how they relate to consumption practices and identity performances (Hansen 2004). More recently, however, anthropologists have begun exploring the conditions of fashion production in more depth (Moon 2009, Sadre-Orafai 2016), including a heightened sensitivity to designers (Luvaas 2012) and designing (Nicewonger 2015) in their own right.

The anthropology of advertising is also increasingly attentive to forms and the conditions of their production. One aspect of advertising in particular, brand, has recently received considerable anthropological attention (Agha 2015, Foster 2007, Manning 2010, Nakassis 2012a). Brands and

their fractions, what Moore (2003, p. 339) describes as “a name and a logo, joined to a set of regimented associations, with source-identifying indexicals,” are always unstable and in flux. As such they require continuous management by ad agencies and brand strategists and other professionals. Anthropologists have examined, for instance, the calibration of brands with “national” products (Manning & Uplisashvili 2007) and projects (Graan 2013), as well as the breakdown of designerly intention with the circulation of fakes and copies (Luvaas 2013, Nakassis 2012b). Indeed, studies of advertising that are less focused on brand have also highlighted the effects of designed objects beyond their designers’ intentions. Mazzarella (2003), for instance, carefully details how Mumbai ad agencies have helped shape contemporary consumer culture in India through campaigns designed to render foreign commodities locally palatable. Shankar (2015) demonstrates that while numerous multicultural advertising agencies in the United States specialize in crafting ads that target Asian American consumers, they also, in so doing, push transformations of more widely held ideologies of race and ethnicity.

The (Mostly) Present Designer

There are, of course, many other topics of anthropological inquiry, for instance technology (Pfaffenberger 1992) and infrastructure (Larkin 2013), that are centrally concerned with designed objects; however, in studies of these things, too, the ethnographic gaze tends to fall on forms, materialities, and effects (cf. Kingery 2001). This is not to say that designers and designing have received no attention from anthropologists—just less. One obvious exception is the ethnographic exploration of computer-supported collaborative work (CSCW) in the context of systems engineering (see Bucciarelli 1988, Button 2000, Suchman 2011, Wasson 2000). In the early 1980s, Suchman (2007, 2011), whose methods draw heavily from ethnography, ethnomethodology, and discourse analysis, was a prominent voice in the development of this interdisciplinary field. Working to improve, among other things, software usability, ethnographers working in CSCW were the first to conduct sustained observations of designing in practice. Drawing inspiration from the Scandinavian tradition of participatory design (Greenbaum & Kyng 1991), they were also the first group to work alongside designers, helping to set the stage for what has become standard practice in contemporary design anthropology (see next section).

As critical as this intervention was for computer science, though, it also helped narrow what “counts” as design-in-practice in anthropology. For many years, most anthropologists working with design worked explicitly with technical systems, and this association strongly shaped design’s conceptual contours and ethnographic possibilities. Although this framing has been influential in science and technology studies, where complex design processes have received some ethnographic (Vinck 2003, Yaneva 2009) and theoretical (Latour 2008) elaboration, anthropologists have, until only recently, tended to favor exploring intentional creative action within design-adjacent contexts, such as artisanal production (Herzfeld 2004) and craft (Fortis 2010, Yarrow & Jones 2014), rather than more technical designerly domains (see also Ingold 2013).

In recent years, however, anthropologists working with alternative analytic frameworks, including organizational anthropology (Krause-Jensen 2010) and discourse analysis (Murphy 2012), have (re)discovered design and designing outside the context of systems engineering. Jain (2006), for instance, centers her study of injury law in the United States on the ways in which poorly designed objects have led to specific kinds of bodily harm precisely through their designed forms and functions. Schüll’s (2012) exploration of machine gambling in Las Vegas reveals complex moral ambiguities embedded in otherwise neutral design processes. Practically every detail of a casino, including the space, the lighting, the acoustics—indeed, the entire experience—is intentionally designed to keep gamblers playing for as long as possible. However, the consequences of this

model are disastrous for some gamblers because it can create and exacerbate potentially destructive behaviors through the relentless drive for more play. Murphy (2013, 2015) has examined how modernist design, including its particular forms and attendant ideologies, is rendered “cultural” in Sweden and the various processes that help convert everyday objects into instruments of social democratic governance.

In sum, then, even though designed phenomena have received significant anthropological attention since the discipline’s earliest days, the basic fact that they are designed has largely been overlooked. Even studies that do feature designers, with only a few areas of exception, attend more to the things themselves and their designed properties—forms, patterns, orderings, etc.—than to the details of designing in action. However, when design is considered comprehensively as form, action, and effect all at once, questions regarding the morality of social engagement tend to emerge. As discussed below, this is also true of other arrangements of anthropology and design.

ARRANGEMENT TWO: ANTHROPOLOGY FOR DESIGN

The alignment of anthropology for design has gained special prominence in both academic and corporate institutions since the early 2000s (Squires & Byrne 2002; see also Graffam 2010 and Gunn & Donovan 2012b). Ethnographic studies of corporations (Urban & Koh 2013) and within corporations (Cefkin 2010b) have, of course, been commonplace for several decades, and fields such as advertising and marketing (Graffam 2010) have drawn on anthropological insights since at least the 1950s (Winick 1961). In the 1990s, as scholars who were trained in qualitative social sciences entered the business world in higher numbers, “design ethnography” emerged as an interdisciplinary methodology for accessing “what people do, what they say, and what they think” (Salvador et al. 1999, p. 36), beyond what is revealed through surveys and focus groups. Originally positioned as an alternative to methods derived from cognitive psychology (Wasson 2000), ethnography allows businesses to understand people not simply as consumers with generalizable behaviors and preferences, but as social beings inhabiting rich cultural worlds and, as such, promotes a kind of product and service design that is attuned to a much wider set of desires and needs.

As the influence of design ethnography has grown in business contexts, it has also expanded to other domains, such as education (Barab et al. 2004) and development work (Escobar 2011, Schwittay 2014). Moreover, having started as a method imported from academia and adapted to the conditions of corporate research and development, design ethnography has evolved into a mode of knowledge production that is more comprehensive than its methodological contributions. Design anthropology, as it is now commonly referred to, is still centrally concerned with the use of ethnographic methods in design, but also adopts a more holistic understanding of the design process itself. Influenced partly by social scientific studies of craft and making (Ingold 2013, Were 2013), design anthropologists are particularly interested in reflexively examining relations between skills, practices, and materials in design (see especially Gunn & Donovan 2012a, Küchler 2010). By stressing collaboration among anthropologists, designers, and other stakeholders throughout the design process, rather than preceding it, design anthropology also challenges the authoritative role that the trained designer plays in design. As observant and critical participants fully engaged in the design process, design anthropologists not only contribute to the design of particular objects, interfaces, and services, but also create new techniques and instruments for ethnographic engagement (e.g., Buur & Sitorus 2007, Halse 2013). And crucially, they help reshape the very promises and possibilities of professional design.

Three edited volumes published in the early 2010s (Clarke 2010, Gunn et al. 2013, Gunn & Donovan 2012a) have been the strongest catalysts for formalizing design anthropology as a distinct discipline and setting its prospective agenda. In assembling projects conducted by design

anthropologists in contexts as disparate as health care (Kilbourn 2012), museums (Smith 2013), and waste management (Halse 2013), these books provide a critical portrait of the kind of nuanced design work that results from productive collaborations between anthropologists and designers. One of the most conspicuous outcomes of this alignment is the augmentation of otherwise blunt design practices and categories with critical layers of subtlety. Anthropology's commitment to observational detail, for instance, can help designers reframe how they see their objects and reflect on the design choices they make (Suri 2010), and the basic orientations to temporality in ethnography—with its intense focus on the present and recent past—can productively unsettle design's insouciant obsession with the future (Hunt 2010). These volumes also demonstrate how both ethnographic methods and social theory play a central role in design anthropology. Theories of embodiment and interaction, for example, can be applied to design work to reshape the concepts of “user” and “use” (Larsen & Have 2012), and even the concept of “concept” itself, when examined from a design practice point of view—as spanning across modes, materialities, and practices (Drazin 2013). Anthropology's critique of empire and colonialism can be used as a powerful tool for reflexively decolonizing power structures that are globally dominated by Euro-American design styles and practices (Tunstall 2013).

In addition to these volumes, the Ethnographic Praxis in Industry Conference (EPIC) and its published proceedings have been instrumental in raising the profile of design anthropology in the United States and other parts of the world. They also provide a critical forum for anthropologists and other social scientists who are working in corporations, academia, nonprofits, and other industries to dialogue across institutional boundaries that are often perceived as insurmountable. As this dialogue has increased, official support for design anthropology has also expanded. Since the early 2000s, research clusters and degree programs in design anthropology have been established in Denmark, the United Kingdom, and Australia, and design anthropology courses are currently offered at a number of US institutions in applied anthropology, business, and design programs.

This alignment is not without friction. In contexts prefigured as benevolent—for instance working with or for some disadvantaged population—an ethnographer's role as “change agent” (Barab et al. 2004) is typically only minimally questioned, a position that most designers also tend to take (Hunt 2010). For anthropologists working in environments less geared toward obvious social causes, however, “the commercial, political, and social functions of their being there” (Cefkin 2010a, p. 18) can become significant matters of concern. This is a question of not simply research ethics, but also the ethical implications of creating things designed for consumption (Miller 2014), things designed to intervene in the lives of other human beings.

ARRANGEMENT THREE: DESIGN FOR ANTHROPOLOGY

Since at least the 1980s, anthropology has undergone numerous significant reflexive transformations of its basic analytic and political inclinations, including shifts in the (kinds of) social groups studied, where and how they are located, and the ethnographer's ethical responsibilities in doing fieldwork. However, the discipline's most fundamental methodological techniques—for example, participant observation and note-taking—have not faced nearly the same degree of adaptation to contemporary circumstances. Stemming partly from a growing sense that traditional ethnographic forms and norms are incompatible with the worlds that anthropologists now tend to study and partly from a perceived homology between the respective projects of design and anthropology (Murphy & Marcus 2013), several anthropologists, despite warnings against this move (Suchman 2011), have recently turned to design as a model for productively reconfiguring the possibilities of ethnographic method and anthropological theorizing, not just for studying design but for studying almost anything.

A key point in this alignment, one that stands opposed to disciplinary norms, is a recognition that ethnography, like designing, is inherently interventionist and always prospectively disruptive of the social worlds it touches. But rather than “recoil[ing] from direct intervention” (Hunt 2010, p. 37), as ethnographers are typically expected to do, a design-influenced framework encourages fieldworkers to expect to intervene and to work reflexively and creatively with that intervention as part of the ethnographic process. In this vein, Gatt & Ingold (2013) propose “an anthropology by means of design” in which ethnographers, embracing their own expertise and skills, proceed alongside the people they study, rather than at some remove, intentionally and purposefully leaning into the realities that their presence is already helping to shape. In Gatt & Ingold’s model, ethnography shifts away from documenting and interpreting the present and recent past and moves toward becoming a future-oriented process of improvisational creation, a conscious and collaborative production of something different using existing materials at hand.

Both Corsín Jiménez (2014) and Marcus (2014) draw on design’s interventionist proclivities by introducing the concept of the prototype—a rudimentary, partially useable version—as an instrument for theory building and ethnographic engagement. Prototypes are experimental in that they function as probes introduced to stimulate effects. They are iterative, always subsisting within some larger ongoing process. They also invite failure, which designers can use to improve an emergent design. For Corsín Jiménez (cf. Suchman et al. 2002), the prototype is useful to anthropologists because it formalizes somewhat vexing but typically downplayed aspects of anthropological work—intervention, provisionality, failure, and more—and renders them advantageous to developing new possibilities for anthropological inquiry. Take, for example, traditional fieldnotes, which, as Marcus (2014) points out, already function almost like prototypes in the production of formal ethnographic monographs. They are messy, provisional, and subject to iterative revision. They are used as tools for thinking and for thinking further. But fieldnotes are unlike prototypes because they are highly individual, never publicly shared or subject to critique, and rarely composed collaboratively. From the point of view that Marcus and Corsín Jiménez advocate, fully operationalizing fieldnotes (and other methodological forms endogenous to anthropology) in the way that prototypes function in design would radically alter the practice of ethnographic fieldwork, the kinds of knowledge it produces, and the theories that this work can generate. By, for instance, producing fieldnotes collaboratively with a range of invested stakeholders, and distributing them widely as provisional versions that invite critique, more research, or even failure, the conservative defaults of ethnographic practice give way to innovative configurations of anthropological inquiry.

Finally, the design studio has been proposed as a template for reorganizing anthropological pedagogy (Murphy & Marcus 2013, Rabinow & Marcus 2008). Fundamental features of design education include, among other things, collaboration among students, a shared commitment to learning and playing with a set of core principles, and a common physical space (the studio) that students are required to use. Design pedagogy also prioritizes face-to-face critique from instructors, peers, and outsiders as a technique for cultivating accountability. For Rabinow & Marcus (2008), this framework offers a number of benefits for what they see as inadequate features of contemporary anthropological training. For instance, it “decenters the significance and weight of the fieldwork process” (p. 83), redistributing the temporalities, formats, and locales of anthropological work. It dismantles the intensely individualist structure of graduate training in favor of an emphasis on collective investment in individual projects, privileging accountability not just to an abstract community of scholars, but also to a community of peers with whom students have intense and ongoing interactions. And the studio model “authorizes criticism” (p. 84) of student work as a mechanism for promoting that accountability. In recent years several universities in the United States have established centers at least partially inspired by this model, including the Center for Ethnography at the University of California, Irvine; the Anthropology of the Contemporary

Research Collaboratory at the University of California, Berkeley; the Studio for Ethnographic Design at the University of California, San Diego; and the University of California's Collaboratory for Ethnographic Design.

As with anthropology for design, though, this configuration of design for anthropology is not without friction. Although participant observation and an emphasis on “being there” anticipate that ethnographers will influence the contexts they study to some degree, institutional norms generally assume that the degree of impact will be low and often treat deviations as ethically problematic. Traditional methods, such as note-taking and interviews, are designed to produce only a minimal or temporary impact on people's lives. But methods derived from design are, like designing itself, typically audacious with respect to intervention, fully encouraging not just the collection of novel ethnographic data, but also the production of it through intentional pushes and experimental forms of interaction. For ethnographers trained to privilege observation more heavily than participation, this mode of engagement can be challenging.

WHY DESIGN, AND WHY DESIGN NOW?

Although it may not represent a resurgence of teleology, the recent turn to design in anthropology does reflect a rekindled sensitivity to the social world not just as it exists, but also in relation to the conditions of its making. Where divine beings or abstract processes were once postulated as the generators of observable form and order, this newer model asserts that, at almost every scale, “ordinary human beings continue to be designers of social forms” (Appadurai 2013, p. 256). After the slow disentangling of designerly action from design-as-form over the course of its development, anthropology is now seriously reconsidering the position of intentional designers—human designers, including anthropologists themselves—in the continuous and directed reproduction of the everyday world.

This re-entangling immediately raises two important and related questions: why, and why now? One possible answer as to why may lie in design's broad conceptual ambit and theoretical inclusivity. Many of anthropology's prevailing analytics are typically applied to a world of given forms and proceed through a critical reading of those forms and their effects. A design framework, by comparison, remains compatible with this inclination, but also highlights, rather than presumes, form-giving as an active and vital phase of social reproduction. Meanwhile, a theoretical emphasis on so-called nonhuman actors attempts to account for the truism that humans are affected by spaces, interfaces, material things, etc. by simply redesigning the analytic so that agency is redistributed outside of human bodies. But within a design framework such as the one presented here, people, practices, objects, materiality, forms, ideologies, consumption, politics, etc. are all afforded attention without having to promote or demote any one of them. Moreover, and crucially, by embracing intentional human action, this analytic, especially in the first arrangement of design and anthropology, reintroduces humans into a social world they had been theorized out of principally by foregrounding structures of accountability and responsibility that undergird social relations. Gods and abstract processes cannot be held morally accountable for the forms that they create, but humans giving forms to other humans can be held accountable—at least in theory. Thus viewing the social world as fundamentally and explicitly designed by humans for humans while still keeping its nonhuman aspects in play fills a gap in the anthropological imagination by opening up range of uncharted analytic trajectories and conceptual alignments for further exploration.

In some respects, this characterization of design echoes recent anthropological interest in the concept of the anthropocene, which posits a new geological era marked by the harmful effects of human activity on the environment (see Olson & Messeri 2015). Both frameworks refocus attention

on human action, for instance, and both frame that action in moral terms. Where they differ, though, is primarily in the scale of that action and in how morality is operationalized. Whereas the design analytic advocates attention to specific human actors engaged in ethnographically recoverable practices, the anthropocene model is more centrally concerned with a generic human, an anthropos, and the effects of collective human action at a global scale. Moreover, whereas the design analytic accounts for moral entanglements as a critical consequence of humans provisioning for one another the conditions of life, the anthropocene concept foregrounds moralizing as an applied instrument of critique. To be sure, these two perspectives are by no means incompatible, but they nonetheless represent different perspectives on and commitments to the relations between human actors, social action, and the consequences of that action.

As for the question of why design now, there are probably several reasons. The current flow of academically trained anthropologists into the corporate world has certainly helped create productive zones of contact between anthropology and design, which have in turn brought the two disciplines into closer and more sustained conversation. In recent years, businesses and nonprofits, even ones that have little to do with designing, have increasingly seized on “design thinking” (Dorst 2011) as “a powerful, effective, and broadly accessible” technique that can “generate breakthrough ideas” (Brown 2009, p. 3) and solve otherwise intractable problems. Meanwhile, technology companies with a global reach seep deeply into people’s everyday lives—most notably Google and Facebook, but also others such as Apple and even Microsoft—stressing design as a core feature of both their corporate models and their public images. One consequence of this stress is that particular design ideologies, especially ones focused on problem-solving and empowerment, have become pervasive and highly influential discursive artifacts—including variants such as “design for social change” (Shea 2012) and “design for social innovation” (Manzini 2015)—which manifest across a range of ethnographic contexts. The control of urban spaces, for instance, is now subject to critical design intervention as governments and citizens struggle over rights and responsibilities for giving form (Chalfin 2014, Newman 2011) and aesthetic order (D. Lee 2013) to the built environment. Even the self itself has become a potential candidate for redesigning (Gershon 2014, S. Lee 2013). Indeed, design seems to be almost everywhere, so it is not so surprising that it is receiving renewed anthropological interest.

Finally, in some respects, the turn to design, especially in its second and third arrangements, represents a small evolution in anthropology’s basic relationship with people, places, and things (cf. Marcus 2008). Being there still matters, of course, but in many instances that may not be sufficient; perhaps doing something matters, too. Activist styles of ethnographic engagement demonstrate the power of the intentional push, but that mode is not necessarily appropriate in every field situation. The problem, then, is to find new ways of “doing something” in the field, to intervene meaningfully with the moral clarity of activist engagement but without the activist inflections. Perhaps design—especially the tradition of participatory design (Greenbaum & Kyng 1991)—represents a workable solution to that problem.

DISCLOSURE STATEMENT

The author is not aware of any affiliations, memberships, funding, or financial holdings that might be perceived as affecting the objectivity of this review.

ACKNOWLEDGMENTS

I thank Scott Brown, Kevin Groark, Lilly Irani, George Marcus, Valerie Olson, and the reviewers for reading and commenting on iterations of this article and its arguments.

LITERATURE CITED

- Agha A. 2011. Commodity registers. *J. Linguist. Anthropol.* 21(1):22–53
- Agha A. 2015. Tropes of branding in forms of life. *Signs Soc.* 3(S1):S174–94
- Alexander C. 1964. *Notes on the Synthesis of Form*. Cambridge, MA: Harvard Univ. Press
- Anusas M, Ingold T. 2013. Designing environmental relations: from opacity to textility. *Des. Issues* 29(4):58–69
- Appadurai A. 1986. *The Social Life of Things: Commodities in Cultural Perspective*. Cambridge, UK: Cambridge Univ. Press
- Appadurai A. 2013. *The Future as Cultural Fact: Essays on the Global Condition*. New York: Verso
- Attfield J. 2000. *Wild Things: Material Culture and Everyday Life*. Oxford, UK: Berg
- Bahloul J. 1996. *The Architecture of Memory: A Jewish-Muslim Household in Colonial Algeria, 1937–1962*. Cambridge, UK: Cambridge Univ. Press
- Banham R. 1967. *Theory and Design in the First Machine Age*. New York: Praeger
- Barab SA, Thomas MK, Dodge T, Squire K, Newell M. 2004. Critical design ethnography: designing for change. *Anthropol. Educ. Q.* 35(2):254–68
- Barthes R. 1990. *The Fashion System*. Berkeley: Univ. Calif. Press
- Bauman Z. 2004. *Wasted Lives: Modernity and Its Outcasts*. Cambridge, UK: Polity
- Benedict R. 1934. *Patterns of Culture*. Boston: Houghton Mifflin
- Berdahl D. 1999. '(N)Ostalgie' for the present: memory, longing, and East German things. *Ethnos* 64(2):192–211
- Boas F. 1908. Decorative designs of Alaskan needlecases: a study in the history of conventional designs, based on materials in the U.S. National Museum. *Proc. U. S. Natl. Mus.* 34(1616):321–44
- Boas F. 1955. *Primitive Art*. New York: Dover
- Bourdieu P. 1990. The Kabyle House or the world reversed. In *The Logic of Practice*, pp. 271–83. Stanford, CA: Stanford Univ. Press
- Bristol KG. 1991. The Pruitt-Igoe myth. *J. Archit. Educ.* 44(3):163–71
- Brown T. 2009. *Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation*. New York: Harper Collins
- Bucciarelli LL. 1988. An ethnographic perspective on engineering design. *Des. Stud.* 9(3):159–68
- Buchli V. 2013. *An Anthropology of Architecture*. London: Bloomsbury
- Button G. 2000. The ethnographic tradition and design. *Des. Stud.* 21(4):319–32
- Buur J, Sitorus L. 2007. Ethnography as design provocation. *Ethnogr. Prax. Ind. Conf. Proc.* 2007(1):146–57
- Carsten J, Hugh-Jones S, eds. 1995. *About the House: Levi-Strauss and Beyond*. Cambridge, UK: Cambridge Univ. Press
- Cefkin M. 2010a. Business anthropology and the growth of corporate ethnography. See Cefkin 2010b, pp. 1–37. New York: Berghahn Books
- Cefkin M, ed. 2010b. *Ethnography and the Corporate Encounter: Reflections on Research in and of Corporations*. New York: Berghahn Books
- Chalfin B. 2014. Public things, excremental politics, and the infrastructure of bare life in Ghana's city of Tema. *Am. Ethnol.* 41(1):92–109
- Clarke AJ. 1999. *Tupperware: The Promise of Plastic in 1950s America*. Washington, DC: Smithsonian. Inst. Press
- Clarke AJ. 2010. *Design Anthropology: Object Culture in the 21st Century*. New York: Springer
- Clarke BL. 1980. The argument from design. *Am. J. Theol. Philos.* 1(3):98–108
- Corsín Jiménez A. 2014. The prototype: more than many and less than one. *J. Cult. Econ.* 7(4):381–98
- Crouch C. 1999. *Modernism in Art, Design, and Architecture*. New York: St. Martin's Press
- Darwin C. 1958. *The Autobiography of Charles Darwin 1908–1882*. New York: Norton
- Dorst K. 2011. The core of "design thinking" and its application. *Des. Stud.* 32(6):521–32
- Douglas M, Isherwood B. 1996. *The World of Goods*. New York: Routledge. 2nd ed.
- Drazin A. 2013. The social life of concepts in design anthropology. See Gunn et al. 2013, pp. 33–50
- Duranti A. 2015. *The Anthropology of Intentions: Language in a World of Others*. Cambridge, UK: Cambridge Univ. Press
- Durham D. 1999. The predicament of dress: polyvalency and the ironies of cultural identity. *Am. Ethnol.* 26(2):389–411

- Eglash R. 1999. *African Fractals: Modern Computing and Indigenous Design*. New Brunswick, NJ: Rutgers Univ. Press
- Eicher JB. 2000. The anthropology of dress. *Dress* 27(1):59–70
- El Or T. 2012. The soul of the Biblical sandal: on anthropology and style. *Am. Anthropol.* 114(3):433–45
- Escobar A. 2011. Sustainability: design for the pluriverse. *Development* 54(2):137–40
- Fehérvári K. 2009. Goods and states: the political logic of state-socialist material culture. *Comp. Stud. Soc. Hist.* 51(2):426–59
- Fehérvári K. 2013. *Politics in Color and Concrete: Socialist Materialities and the Middle Class in Hungary*. Bloomington: Indiana Univ. Press
- Flusser V. 1995. On the word design: an etymological essay. *Des. Issues* 11(3):50–53
- Fortis P. 2010. The birth of design: a Kuna theory of body and personhood. *J. R. Anthropol. Inst.* 16:480–95
- Forty A. 1986. *Objects of Desire: Design and Society from Wedgwood to IBM*. New York: Pantheon
- Foster RJ. 2007. The work of the new economy: consumers, brands, and value creation. *Cult. Anthropol.* 22(4):707–31
- Fuller M. 1988. Building power: Italy's colonial architecture and urbanism, 1923–1940. *Cult. Anthropol.* 3(4):455–87
- Garvey P. 2008. The Norwegian country cabin and functionalism: a tale of two modernities. *Soc. Anthropol.* 16(2):203–20
- Gatt C, Ingold T. 2013. From description to correspondence: anthropology in real time. See Gunn et al. 2013, pp. 139–58
- Gershon I. 2014. Selling your self in the United States. *PoLAR: Polit. Leg. Anthropol. Rev.* 37(2):281–95
- Graan A. 2013. Counterfeiting the nation? Skopje 2014 and the politics of nation branding in Macedonia. *Cult. Anthropol.* 28(1):161–79
- Graffam G. 2010. Design anthropology meets marketing. *Anthropologica* 52(1):155–64
- Greenbaum J, Kyng M. 1991. Introduction: Situated design. In *Design at Work: Cooperative Design of Computer Systems*, pp. 1–24. Hillsdale, NJ: Erlbaum
- Gunn W, Donovan J, eds. 2012a. *Design and Anthropology*. London: Ashgate
- Gunn W, Donovan J. 2012b. Design anthropology: an introduction. See Gunn & Donovan 2012a, pp. 1–16
- Gunn W, Otto T, Smith RC, eds. 2013. *Design Anthropology: Theory and Practice*. London: Bloomsbury
- Halse J. 2013. Ethnographies of the possible. See Gunn et al. 2013, pp. 180–96
- Hansen KT. 2004. The world in dress: anthropological perspectives on clothing, fashion, and culture. *Annu. Rev. Anthropol.* 33:369–92
- Hayward S. 1998. “Good design is largely a matter of common sense”: questioning the meaning and ownership of a twentieth-century orthodoxy. *J. Des. Hist.* 11(3):217–33
- Herzfeld M. 2004. *The Body Impolitic: Artisans and Artifice in the Global Hierarchy of Value*. Chicago: Univ. Chicago Press
- Holston J. 1989. *The Modernist City: An Anthropological Critique of Brasilia*. Chicago: Univ. Chicago Press
- Humphrey C. 1988. No place like home in anthropology: the neglect of architecture. *Anthropol. Today* 4(1):16–18
- Humphrey C. 2005. Ideology in infrastructure: architecture and Soviet imagination. *J. R. Anthropol. Inst.* 11(1):39–58
- Hunt J. 2010. Prototyping the social: temporality and speculative futures at the intersection of design and culture. See Clarke 2010, pp. 33–44
- Ingold T. 2007. *Lines: A Brief History*. London: Routledge
- Ingold T. 2012. Introduction: The perception of the user-producer. See Gunn & Donovan 2012a, pp. 19–33
- Ingold T. 2013. *Making: Anthropology, Archaeology, Art and Architecture*. New York: Routledge
- Jain SSL. 2006. *Injury: The Politics of Product Design and Safety Law in the United States*. Princeton, NJ: Princeton Univ. Press
- Kilbourn K. 2012. The patient as skilled practitioner. See Gunn & Donovan 2012a, pp. 35–44
- Kingery WD. 2001. The design process as a critical component of the anthropology of technology. In *Anthropological Perspectives on Technology*, ed. MB Schiffer, pp. 123–38. Albuquerque: Univ. N. M. Press
- Krause-Jensen J. 2010. *Flexible Firm: The Design of Culture at Bang and Olufsen*. New York: Berghahn Books

- Kroeber AL. 1919. On the principles of order in civilization as exemplified by changes of fashion. *Am. Anthropol.* 21(3):235–63
- Küchler S. 2010. Materials and design. See Clarke 2010, pp. 130–41
- Kus S, Raharijaona V. 2000. House to palace, village to state: scaling up architecture and ideology. *Am. Anthropol.* 102(1):98–113
- Larkin B. 2013. The politics and poetics of infrastructure. *Annu. Rev. Anthropol.* 42(1):327–43
- Larsen H, Have C. 2012. Emergence of user identity in social interaction. See Gunn & Donovan 2012a, pp. 135–47
- Latour B. 2008. *A cautious Prometheus? A few steps toward a philosophy of design (with special attention to Peter Sloterdijk)*. Keynote lecture presented at Design Hist. Soc. Meet., “Networks of Design,” Sept. 3, Falmouth, UK
- Lawrence D, Low S. 1990. The built environment and spatial form. *Annu. Rev. Anthropol.* 19:453–505
- Lawrence-Zúñiga D. 2014. Bungalows and mansions: white suburbs, immigrant aspirations, and aesthetic governmentality. *Anthropol. Q.* 87(3):819–54
- Lee D. 2013. “Anybody can do it”: aesthetic empowerment, urban citizenship, and the naturalization of Indonesian graffiti and street art. *City Soc.* 25(3):304–27
- Lee S. 2013. Race, risk, and recreation in personal genomics: the limits of play. *Med. Anthropol. Q.* 27(4):550–69
- Low SM. 2004. *Behind the Gates: Life, Security, and the Pursuit of Happiness in Fortress America*. New York: Routledge
- Low SM, Chambers E, eds. 1989. *Housing, Culture, and Design: A Comparative Perspective*. Philadelphia: Univ. Pa. Press
- Luvaas B. 2012. *DIY Style: Fashion, Music, and Global Digital Cultures*. London: Bloomsbury
- Luvaas B. 2013. Material interventions: Indonesian DIY fashion and the regime of the global brand. *Cult. Anthropol.* 28(1):127–43
- Manning P. 2010. The semiotics of brand. *Annu. Rev. Anthropol.* 39(1):33–49
- Manning P, Uplisashvili A. 2007. “Our beer”: ethnographic brands in postsocialist Georgia. *Am. Anthropol.* 109(4):626–41
- Manzini E. 2015. *Design, When Everybody Designs: An Introduction to Design for Social Innovation*. Cambridge, MA: MIT Press
- Marcus GE. 2008. The end(s) of ethnography: social/cultural anthropology’s signature form of producing knowledge in transition. *Cult. Anthropol.* 23(1):1–14
- Marcus GE. 2014. Prototyping and contemporary anthropological experiments with ethnographic method. *J. Cult. Econ.* 7(4):399–410
- Masco J. 2006. *The Nuclear Borderlands: The Manhattan Project in Post-Cold War New Mexico*. Princeton, NJ: Princeton Univ. Press
- Mazzarella W. 2003. *Shoveling Smoke: Advertising and Globalization in Contemporary India*. Durham, NC: Duke Univ. Press
- Milestone J. 2007. Design as power: Paul Virilio and the governmentality of design expertise. *Cult. Theory Crit.* 48(2):175–98
- Miller C. 2014. Lost in translation? Ethics and ethnography in design research. *J. Bus. Anthropol.* 1(1):62–78
- Miller D. 1987. *Material Culture and Mass Consumption*. Oxford, UK: Blackwell
- Miller D, ed. 2001. *Home Possessions: Material Culture Behind Closed Doors*. Oxford, UK: Berg
- Miller D. 2010. *Stuff*. Cambridge, UK: Polity
- Modell J. 1989. “It is besides a pleasant English word”: Ruth Benedict’s concept of patterns. *Anthropol. Q.* 62(1):27–40
- Moon CH. 2009. From factories to fashion: an intern’s experience of New York as a global fashion capital. In *The Fabric of Cultures: Fashion, Identity, and Globalization*, ed. E Paulicelli, H Clark, pp. 194–210. New York: Routledge
- Moore RE. 2003. From genericide to viral marketing: on “brand”. *Lang. Commun.* 23(3–4):331–57
- Morgan LH. 1877. *Ancient Society*. New York: Holt
- Morgan LH. 1881. *Houses and House-Life of the American Aborigines*. Washington, DC: GPO
- Murphy KM. 2005. Collaborative imagining: the interactive use of gestures, talk and graphic representation in architectural practice. *Semiotica* 2005(156):113–45

- Murphy KM. 2012. Transmodality and temporality in design interactions. *J. Pragmat.* 44(14):1966–81
- Murphy KM. 2013. A cultural geometry: designing political things in Sweden. *Am. Ethnol.* 40(1):118–31
- Murphy KM. 2015. *Swedish Design: An Ethnography*. Ithaca, NY: Cornell Univ. Press
- Murphy KM, Marcus GE. 2013. Epilogue: Ethnography and design, ethnography in design . . . ethnography by design. See Gunn et al. 2013, pp. 251–68
- Nakassis CV. 2012a. Brand, citationality, performativity. *Am. Anthropol.* 114(4):624–38
- Nakassis CV. 2012b. Counterfeiting what?: Aesthetics of brandedness and brand in Tamil Nadu, India. *Anthropol. Q.* 85(3):701–21
- Newman A. 2011. Contested ecologies: environmental activism and urban space in immigrant Paris. *City Soc.* 23(2):192–209
- Nicewonger TE. 2015. Boundary objects revisited: a comparative analysis of world making in avant-garde fashion design and animal husbandry. *Mind Cult. Act.* 22(2):152–67
- Olson V, Messeri L. 2015. Beyond the anthropocene: un-earthing an epoch. *Environ. Soc. Adv. Res.* 6(1):28–47
- Paley W. 1802. *Natural Theology: Or, Evidences of the Existence and Attributes of the Deity*. London: J. Faulder
- Papanek V. 1984. *Design for the Real World: Human Ecology and Social Change*. New York: Pantheon. 2nd ed.
- Pfaffenberger B. 1992. Social anthropology of technology. *Annu. Rev. Anthropol.* 21:491–516
- Powell JW. 1899. Esthetology, or the science of activities designed to give pleasure. *Am. Anthropol.* 1(1):1–40
- Powell JW. 1900. Philology, or the science of activities designed for expression. *Am. Anthropol.* 2(4):603–37
- Powell JW. 1901. Sophiology, or the science of activities designed to give instruction. *Am. Anthropol.* 3:51–79
- Rabinow P. 1989. *French Modern: Norms and Forms of the Social Environment*. Chicago: Univ. Chicago Press
- Rabinow P, Marcus GE. 2008. *Designs for an Anthropology of the Contemporary*. Durham, NC: Duke Univ. Press
- Rapoport A. 1969. *House Form and Culture*. Englewood Cliffs, NJ: Prentice Hall
- Ratray NA. 2013. Contesting urban space and disability in highland Ecuador. *City Soc.* 25(1):25–46
- Richardson J, Kroeber AL. 1940. *Three Centuries of Women's Dress Fashions: A Quantitative Analysis*. Berkeley: Univ. Calif. Press
- Rotenberg R. 2015. Design standards as urban planning: from technical specification to community “look” in northeast Illinois suburbs. *Econ. Anthropol.* 2(1):145–64
- Sadre-Orafai S. 2016. Models, measurement, and the problem of mediation in the New York fashion industry. *Vis. Anthropol. Rev.* 32(2):In press
- Salvador T, Bell G, Anderson K. 1999. Design ethnography. *Des. Manag. J.* 10(4):35–41
- Sapir E. 1931. Fashion. In *Encyclopaedia of the Social Sciences*, Vol. 6, pp. 139–44. New York: Macmillan
- Schüll ND. 2012. *Addiction by Design: Machine Gambling in Las Vegas*. Princeton, NJ: Princeton Univ. Press
- Schwenkel C. 2013. Post/socialist affect: ruination and reconstruction of the nation in urban Vietnam. *Cult. Anthropol.* 28(2):252–77
- Schwittay A. 2014. Designing development: humanitarian design in the financial inclusion assemblage. *PoLAR Polit. Leg. Anthropol. Rev.* 37(1):29–47
- Shankar S. 2015. *Advertising Diversity: Ad Agencies and the Creation of Asian American Consumers*. Durham, NC: Duke Univ. Press
- Shea A. 2012. *Designing For Social Change: Strategies for Community-Based Graphic Design*. Princeton, NJ: Princeton Archit. Press
- Simmel G. 1957. Fashion. *Am. J. Sociol.* 62(6):541–58
- Smith RC. 2013. Designing heritage for a digital culture. See Gunn et al. 2013, pp. 117–35
- Spencer H. 1880. *The Study of Sociology*. London: Williams and Norgate
- Squires S, Byrne B, eds. 2002. *Creating Breakthrough Ideas: The Collaboration of Anthropologists and Designers in the Product Development Industry*. Westport, CT: Bergin & Garvey
- Suchman L, Trigg R, Blomberg J. 2002. Working artefacts: ethnomethods of the prototype. *Br. J. Sociol.* 53(2):163–79
- Suchman LA. 2007. *Human-Machine Reconfigurations: Plans and Situated Action*. Cambridge, UK: Cambridge Univ. Press. 2nd ed.
- Suchman LA. 2011. Anthropological relocations and the limits of design. *Annu. Rev. Anthropol.* 40(1):1–18
- Suri JF. 2010. Poetic observation: what designers make of what they see. See Clarke 2010, pp. 16–32

- Tunstall E. 2013. Decolonizing design innovation: design anthropology, critical anthropology, and indigenous knowledge. See Gunn et al. 2013, pp. 232–50
- Urban G, Koh K-N. 2013. Ethnographic research on modern business corporations. *Annu. Rev. Anthropol.* 42(1):139–58
- van der Hoorn M. 2009. *Indispensable Eyesores: An Anthropology of Undesired Buildings*. New York: Berghahn Books
- Vinck D, ed. 2003. *Everyday Engineering: An Ethnography of Design Innovation*. Cambridge, MA: MIT Press
- Wasson C. 2000. Ethnography in the field of design. *Hum. Organ.* 59(4):377–88
- Were G. 2013. On the materials of mats: thinking through design in a Melanesian society. *J. R. Anthropol. Inst.* 19(3):581–99
- Winick C. 1961. Anthropology's contribution to marketing. *J. Mark.* 25(5):53–60
- Yaneva A. 2009. *Made by the Office for Metropolitan Architecture: An Ethnography of Design*. Amsterdam: 010 Publ.
- Yarrow T, Jones S. 2014. “Stone is stone”: engagement and detachment in the craft of conservation masonry. *J. R. Anthropol. Inst.* 20:256–75



Contents

Perspective

A Life in Evolutionary Anthropology <i>Clifford J. Jolly</i>	1
---	---

Archaeology

Archaeological Evidence of Epidemics Can Inform Future Epidemics <i>Sharon N. DeWitte</i>	63
Collaborative Archaeologies and Descendant Communities <i>Chip Colwell</i>	113
Reaching the Point of No Return: The Computational Revolution in Archaeology <i>Leore Grosman</i>	129
Archaeologies of Ontology <i>Benjamin Alberti</i>	163
Archaeology and Contemporary Warfare <i>Susan Pollock</i>	215
The Archaeology of Pastoral Nomadism <i>William Honeychurch and Cheryl A. Makarewicz</i>	341
Urbanism and Anthropogenic Landscapes <i>Arlen F. Chase and Diane Z. Chase</i>	361
Decolonizing Archaeological Thought in South America <i>Alejandro Haber</i>	469

Biological Anthropology

Out of Asia: Anthropoid Origins and the Colonization of Africa <i>K. Christopher Beard</i>	199
Early Environments, Stress, and the Epigenetics of Human Health <i>Connie J. Mulligan</i>	233

Native American Genomics and Population Histories <i>Deborah A. Bolnick, Jennifer A. Raff, Lauren C. Springs, Austin W. Reynolds, and Aida T. Miró-Herrans</i>	319
Disease and Human/Animal Interactions <i>Michael P. Muehlenbein</i>	395
Anthropology of Language and Communicative Practices	
Intellectual Property, Piracy, and Counterfeiting <i>Alexander S. Dent</i>	17
Science Talk and Scientific Reference <i>Matthew Wolfgram</i>	33
Language, Translation, Trauma <i>Alex Pillen</i>	95
(Dis)fluency <i>Jürgen Jaspers</i>	147
Some Recent Trends in the Linguistic Anthropology of Native North America <i>Paul V. Kroskrity</i>	267
Sociocultural Anthropology	
Urban Space and Exclusion in Asia <i>Erik Harms</i>	45
Historicity and Anthropology <i>Charles Stewart</i>	79
Anthropological STS in Asia <i>Michael M. J. Fischer</i>	181
Cancer <i>Juliet McMullin</i>	251
Affect Theory and the Empirical <i>Danielyn Rutherford</i>	285
Where Have All the Peasants Gone? <i>Susana Narotzky</i>	301
Scripting the Folk: History, Folklore, and the Imagination of Place in Bengal <i>Roma Chatterji</i>	377
Reproductive Tourism: Through the Anthropological “Reproscope” <i>Michal Rachel Nabman</i>	417

Design and Anthropology	
<i>Keith M. Murphy</i>	433
Unfree Labor	
<i>Filipe Calvão</i>	451
Time as Technique	
<i>Laura Bear</i>	487

Indexes

Cumulative Index of Contributing Authors, Volumes 36–45	503
Cumulative Index of Article Titles, Volumes 36–45	507

Errata

An online log of corrections to *Annual Review of Anthropology* articles may be found at <http://www.annualreviews.org/errata/anthro>