Responsibilities and Implications: Further Thoughts on Ethnography and Design

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Abstract
Many researchers and practitioners in user experience design have turned towards social sciences to find ways to understand the social contexts in which both users and technologies are embedded. Ethnographic approaches are increasingly prominent as means by which this might be accomplished. However, a very wide range of forms of social investigation travel under the "ethnography" banner in HCI, suggesting that there is still considerable debate over what ethnography is and how it can best be employed in design contexts.

Building on earlier discussions and debates around ethnography and its implications, this paper explores how ethnographic methods might be consequential for design. In particular, it illustrates the implications for design that might be derived from classical ethnographic material and shows that these may not be of the form that HCI research normally imagines or expects.

Keywords
Ethnography, methodology, design, mobility, ubiquitous computing, affective computing.

Introduction
HCI and interaction design has, from its inception, been characterized by an eclectic approach to methodology.

Originating as it does in the encounter (one might even say "clash") between different disciplinary approaches, this is perhaps only to be expected. Hopes for unified theoretical frameworks that might replace this eclectic mix with a solid disciplinary core have faded over time, to be replaced by a fascination with interdisciplinary engagement and opportunities for productive mutual engagements. Selective breeding of species can seek "hybrid vigor"; might this not also be true for interdisciplinary endeavors?

The term "methodology" is often abused in HCI, but when I speak of methodology here, I want to use the term formally, to encompass not just the craft methods and techniques that a discipline employs to do its work, no matter how emblematic or charismatic they become, but also the epistemological foundations of the discipline and the ways in which methods feature as part of a broader set of conversations about forms of knowledge production and the kinds of objects that disciplines examine and create. Surveys, for example, are not simply a convenient way of sampling large populations; they are also reflections of a set of underlying commitments to questions of statistical relevance, objective measurement, generality rather than specificity, population comparisons, and the power of numbers to tell of people. Similarly, prototyping approaches reflect a particular philosophical position on technologies and their portability, and the relationships between contexts, technologies, and practices.

This broader view of methodology implies that there is more to the eclecticism of HCI design practice than simply a "mix-and-match" approach that borrows techniques from different places. A concern with methodology rather than method means that we need to understand the commitments involved in the various techniques that we employ, and the consequences of their combination. Smith [20] uses the metaphor of commercial exchange to describe this caution to methodological syncretism: when you use an idea from somewhere else, he suggests, you need to be able to say what you paid for it, how you brought it home, and what kinds of traumas it suffered along the way. Accordingly, it is appropriate that the happy eclecticism of a domain such as HCI be accompanied by some reflection on just what the nature of our methodologies might be.

The particular site for these reflections, for me, is the use of ethnographic approaches in HCI design practice. In a previous paper [6], I argued that, while HCI has made much use of ethnographic investigation over several decades, it has often misconstrued the nature of the ethnographic enterprise and may, in consequence, have failed to derive as much benefit as it might from ethnographic studies. In particular, I focused on the issue of the call that ethnographic results enumerate specific "implications for design" in order to be relevant to HCI, a call heard most often from reviewers of papers for conferences and journals, for whom the presence or absence of "implications for design" – explicitly delimited and called out as such – is taken as a significant evaluative criterion for the quality of the work.

I do not want to rehearse that argument here, although I will very briefly sketch some of the main points. Instead, my goal in this paper is to further the conversation by providing some illustrative examples of potential relationships between ethnographic inquiry and technology design that underscore a point that

was, I now realize, insufficiently elaborated in earlier presentations, viz. that my argument is intended to show that ethnography is, in fact, deeply relevant for design, even when those bullet points are not present; and that, in fact, tossing in a couple of "implications for design" at the end of the paper might actually be counter-productive because the valuable material lies elsewhere.

I will begin with a very brief outline of that argument, although I refer interested readers to the fuller account published previously. I will then go on to give two extended cases of areas of current design research in which "classical" anthropological ethnographic accounts can be deeply influential. Following that, I will return to the broad question of the relationship between ethnographic practice and design practice and the prospects for further development.

Debating Implications for Design

Let me very briefly summarize the argument presented last year before discussing the responses that have provoked this discussion and elaboration.

There are two entities implicated in the earlier paper. One is ethnography, an approach to social inquiry characterized by long-term immersive engagement with particular cultures in the effort to understand and explicate how they are experienced by their members. The second is specific ethnographies, that is, presentations of the outcomes of ethnographic research, in particular as they are presented and published in the HCI design literature, at conferences such as CHI, CSCW, DIS, and DUX. The paper uses a discussion about the first entity, ethnography, its analytic auspices and goals, to make an extended point about ethnographies, the outcomes of this work, and the ways in which they are understood within the HCI research community. The most succinct version of this argument is that the presence or absence of explicitly demarked "implications for design" is not the best evaluative criterion for the relevance, utility, or quality of an ethnographic contribution.

In particular, I argued particularly against the idea that ethnography is undertaken in order to uncover such implications, in the narrow sense of requirements capture. That position is based on a view of ethnographic work as purely empirical, a process of going out and finding facts lying around in the world, dusting them off, and bringing them home to inform, educate, and delight. I suggested that there were four particular considerations that get lost if we focus purely on implications for design. First, we must recognize the theoretical work of ethnography, the fact that ethnography is an interpretive, analytic practice. Indeed, ethnography's commitment to the production of social facts in culturally organized settings requires this, and requires that the work of the ethnographer is more than simply collection. Second, there are disciplinary power relations at stake, by which ethnography is here placed in a service relationship – just the sort of relationship that designers have been careful to avoid in their own work, and for good reasons – and that this relationship also implies a particular and problematic location for agency within design. Third, to the extent that ethnographic work focuses on the ways in which people produce and enact social and cultural settings, the "implications for design" model inappropriately emphasizes technology over practice as we set about understanding the interplay between social and technical. Fourth, it is important to pay

attention to the ways in which ethnography is here used to limit, rather than expand, the engagement of users in design practice, arguably recapitulating some of ethnography's history in colonial state enterprises and so prompting a good deal of resistance from practitioners grounded in anthropology's disciplinary history or concerned with the politics of representation.

Despite my best efforts to the contrary (including a slide in my conference presentation fairly unambiguously labeled "what I'm *not* saying"), the argument presented in that paper has, on occasion, been misheard. It has been repeated back to me that the paper claims that implications for design are bad, which is quite the opposite of the argument that the paper sets out. It has also been interpreted as suggesting that ethnography is not useful for design because it does not traffic in such implications, which is a more subtle misreading, but a misreading none the less. It is largely this second misreading to which this paper is addressed. In particular, the original paper notes that ethnography's analytic contributions do indeed have profound implications for design, but that these implications go beyond the laundry list of features and considerations that are often requested. The resistance to the bulleted list of requirements comes in part from the fact that such lists underplay the more radical implications that may be caught up in ethnographic work; indeed, if the ethnographer returns from the field with little more than the lesson that the object in question should be green, should fit in a handbag, and should run for at least three weeks on two AA batteries, then I might venture that there isn't much to the ethnography.

However, again, my goal is positive and constructive rather than simply critical. The argument in the previous paper was that ethnographic contributions should not be judged on the inclusion of delimited implications for design. Some have heard this as suggesting that ethnographic work is not relevant to design, or limiting the work that might be, but in fact, my intent was just the opposite, to suggest rather that even more ethnographic work is potentially relevant for design, whether or not it was not conducted in a design context or even if it does not have a section entitled "Implications for Design" somewhere in its closing pages. So let me illustrate this here by discussing two recent areas of design-oriented research and the ethnographic work that has inspired and shaped it. The two areas in question are areas of current research and design attention within HCI, affective computing and mobile/ubiquitous computing. The ethnographic work on which I want to draw, though, was conducted well outside the technology domain. What I want to illustrate, though, is the profound implications for design to be found there. After going through the two cases, I will return to the broader questions of the relationship between ethnography and design practice.

Affect

HCI's traditional focus on the cognitive aspects of interaction design has recently been supplemented by a range of new perspectives that look beyond the purely instrumental aspects of interaction. One of these has been a focus on emotion and affect, as developed most particularly by Rosalind Picard [18] and Don Norman [16]. They both argue that the traditional focus on task performance has been overly reductive, modeling people in purely computational terms and neglecting other important aspects of experience. Cognition is not

disembodied and disconnected from other aspects of human experience; a significant body of work highlights the role that emotion plays in decision-making and other areas of cognitive activity. Accordingly, research in affective computing has begun to investigate the possible relationship between HCI analytic and design practice and the affective aspects of interaction. Amongst other topics, affective computing researchers are investigating whether we be able to build systems that model and respond to a user's emotional state so as to be able to craft responses and design interactions that take that state into account, for instance by attempting to recognize and defuse stress. This work places the emotional aspect of interaction alongside the more traditional cognitive and analytic elements.

As I have argued elsewhere [2], there is a curious irony at work in this research. On the one hand, affect is rhetorically figured as an alternative or supplement to cognition; the argument is that we have placed all our attention on one element of human experience at the expense of others, and so we need to redress the balance. On the other hand, at the same time as this opposition is presented, affect is also figured as a concern of the same order or type as cognition. Like cognition, in this research, affect frequently appears as a private experience, something individual that is internal and closed off from the world. Like cognition, affect is something that lies, both temporally and spatially, between perception and action. While turns to affect as an important interaction modality attempt to throw off the shackles of pure cognitivism, they seem to carry a significant amount of that legacy with them anyway.

Ethnographic studies of emotion can provide an alternative account that is useful in two ways. First, it turns our attention to a different way to imagine the relationship between information technology and affect, providing us with a different set of design strategies. Second, it highlights the cultural specificities of this very parallelism between emotion and cognition.

I want to use two ethnographic accounts of emotion here that I have found useful in my own work – Catherine Lutz's study of everyday emotion in Micronesia, and Lila Abu-Lughod's study of emotional expression amongst the Bedouin. Other studies (such as Fred Myers' work amongst the Pintupi in Australia [15] or Rosaldo's work amongst the Ilongot [19]) are also relevant, but I will limit my discussion here to these two.

Abu-Lughod's work is a detailed ethnographic account of honor and modesty amongst the Alwad 'Ali, a group of Bedouin tribes of Egypt's Western Desert [1]. Much of her work turns around questions of gender and kinship, and the code of honor as it entwined with these. What is most relevant here, though, is the question of emotional performance.

Modesty and emotional reserve are hallmarks of conversation and interaction amongst the Bedouin, for whom a code of modesty results in an outwards stoicism. What particularly intrigues Abu-Lughod, though, is the distinction between the reserve of everyday speech and the emotion expressed in short fragments of poetry that the Bedouin might mutter or sing to themselves, or casually drop into conversation, in the course of everyday life. These brief, haiku-like fragments of poetry are often laden with joy, sadness

and longing even as the people who utter them remain stoic and passive. What is more, they are seen by the Bedouin as a truer window into the soul than everyday deportment.

Emotional performance, then, is a way in which the code of modesty is maintained and enacted, a code that is, itself, strongly oriented towards gender performance and relations, being itself connected to the code of honor by which masculinity is defined and tested.

What is relevant about Abu-Lughod's account here is that, first, emotion is not treated as a thing apart from other aspects of social life, a purely private experience upon which sociality is layered, but rather as a fundamental element of social and cultural reality; and, second, that is it is a way in which this social and cultural reality is performed and enacted, brought into being and maintained through specific emotional performances. The emotion is not a precursor to action, but rather emotion, as a cultural object, is produced through concerted action.

Catherine Lutz's concern is with emotion as a cultural category, which she unpacks using material from her fieldwork on the Melanesian atoll of Ilfaluk [9, 10]. Her concern in the field materials is not simply with a different set of emotions that are expressed in other places but with a different way of thinking about emotion as a cultural category, a different role for emotion and a different evaluation of its meaning.

One of her extended examples is the concept of justifiable anger, or *song*, amongst the people of Ilfaluk. What is most notable about *song* is that, unlike Western anger, *song* is seen as pro-social, as a means by which social structure is reinforced and supported. So the justifiable anger that one might provoke in others is a curb on anti-social behavior; children are warned not speak too loudly or play too close to their elders for fear of provoking *song*.

In reading Lutz's account, it is important to recognize two potential readings of the word "cultural," at least as it used in HCI and related areas, which I will call the "taxonomic" and the "generative." The taxonomic reading of culture is one that seeks to classify and categorise people and their attitudes according to "cultural" (frequently ethnic or national) traits, habits, or inclinations. So, it is the taxonomic reading of culture that is invoked when people attend to the different positive or negative associations that people form different parts of the world might have towards colors, or when they account for differences in technology use according to whether people come from individualistic or communitarian backgrounds. If we were to read Lutz's concerns in light of the taxonomic view of culture, then we would take it to say that people experience and express different emotions depending on their cultural background, or that the categorization and evaluation of different emotions is one that varies with culture. This may be true, but it doesn't take us very far, and what's more, it rests upon a definition of culture that raises more questions than it answers [6, 17, 23].

Lutz's account, instead, draws on a generative account of culture – one in which we see cultural understandings as lenses through which everyday life is experienced and interpreted. By this view, emotional experience is a consequence of cultural embeddings. Biophysiological events are interpreted according to

cultural scripts. Whether I can make sense of my experience as the experience of anger relies upon an existing set of cultural understandings – an interpretation of the events around me as those to which an angry response might be justifiable. Culture is what helps me tell the difference between anger and indigestion; it is generative of the experience. Critically, then, such putatively "private" aspects of experience such as emotion are always already cultural; cultural aspects of interaction are prior, not consequent, to perception and action.

In this, then, we see the link back to Abu-Lughod's attention to the performative aspects of emotion, and the ways in which emotion is a site at which cultural realities are enacted. Further, Lutz argues that emotion is a key master category in Western thought, one that lines up with and is linked to other critical distinctions around which our thinking is organized, particularly in its distinction to cognition and rationality. So rationality is of the head, but emotion is of the body; rationality is controlled, but emotion is uncontrolled; rationality is cold, but emotion is hot; rationality is male, but emotion is female.

Neither of these studies were written in a technological context, and neither provides a series of implications for design. That is not to say, though, that they do not have implications for design, or that they do not indeed raise profound questions for the ways in which emotion is figured as a facet of technological interventions. Let me provide some examples.

First, they demonstrate a non-essentialist account of emotion, in which the shaping of an emotional "landscape" is culturally determined.

Second, they demonstrate emotionality as an outcome of engaged cultural practice rather than as a precursor to action. Emotion is produced and enacted in socially and culturally organized occasions. Note that this is not simply an argument that emotion is play-acting or pretense. To note that a setting is culturally organized is not to suggest that it is false; nor are moments of solitude any less culturally organized than moments of intense social interaction. Throughout these studies, enactment – the continual and ongoing production and reproduction of aspects of social reality – is a fundamental consideration.

Third, they demonstrate that emotional expression is a point at which cultural values are expressed and performed. Rather than thinking of emotionality as being shaped by cultural variables, the argue that emotional performance is itself a site of cultural production.

Fourth, they help to account for the ironic relationship between cognition and emotion in HCI discourse by demonstating the ways in which these are aligned within broader category systems. This allows us to think past the representationalist point of view.

Emotion, then, is interactional rather than representational. This conclusion does not simply *raise* implications for design; it *is* an implication for design. Boehner et al [2] show the ways that this implication was worked through in the design of a system called Affector, which tackles the opportunities around affective computing from a non-representationalist stance, one that supports the enactment of emotional sociality rather than attempting to uncover the

parameters of an emotional model that underlies and shapes human action. When we think of emotion in terms of performativity, enactment, and cultural production then we are lead to a radically different way to conceive of affect in interaction.

Mobility

A second domain of recent interest in interactive system design is mobile technologies. Accompanying the increasing prominence of mobile telephones as interactive and computational platforms, as well as the spread of wireless networks enabling mobile access to information, research areas such as HCI and Ubiquitous Computing have addressed themselves to the problems of information access "on the move." Some of the problems here are ones simply of the constraints that might be imposed in these settings – limitations on input devices, output devices, and computational power. Some are those that speak directly to the relationship between devices and the contexts in which they are deployed, focusing on contextually appropriate delivery of services or information. Some are concerned with the settings through which mobile devices might move and how these spaces and spatialized resources might be made navigable and accessible to the users of mobile devices.

While the first category of applications is concerned largely with devices and their affordances, the latter two are concerned instead with the nature of location, movement, and spatiality – how it is that people orient, individually and collectively, towards the spaces we inhabit. One of the central concerns, then, is with what locations mean from a human-centered perspective. The traditional approach is a cartographic, Cartesian approach in which space is understood as a manifold that can be indexed by a coordinate system, even though that coordinate system might be hidden behind a more human-oriented system of labels (allowing people to navigate via terms like "home," "office," and "store," rather than opaque latitude and longitude.)

Again, we might turn to ethnographic investigations to gain a different view of space, one that focuses on an understanding of space as it arises from within particular cultural practices – looking at topics such as migration, nomadism, tourism, or globalization. Each of these topics is clearly founded upon some perspective on space and its meaning, and, again, they provide us with a different lens through which to examine questions of people and movement.

One piece of work that exemplifies this approach is Nancy Munn's ethnographic work amongst the Aboriginal peoples of the central and western Australian desert [14]. The relationship between people and the land in the Australian Aboriginal belief system is a complex one. The form of the contemporary landscape is the result of the actions of mythic creatures in the Dreamtime, a mythic time after the creation of the world but before the arrival of people. Since these creatures stand in totemic relationships to tribes and clans of the contemporary peoples, the activities that can be "read off" the landscape also result in a series of ritual responsibilities and relationships to parts of the land according to patterns of kinship and lineage. The relationship is more than simply one of environmental stewardship, then; the landscape is the source of Aboriginal identity and Aboriginal law.

Furthermore, this binding of people to landscape is a continual one, maintained and renewed through the

ongoing relationship of Dreaming. One's responsibility is for Dreaming the land into existence; it is through the Dreaming that the connection between people and the world is maintained and honored. This ongoing connection is reinforced by the fact that land is also seen to carry the resonances of human activities and events there, as well as mythic events. So, patterns of habitation and settlement, migrations, meetings, battles, births and deaths also leave their impact upon the land.

The Aboriginal experience of the landscape, then, is a cultural one. The topography of the land is, at the same time, encountered as physical, mythic, and historical. Munn is particularly concerned with spatial interdictions – the circumstances and conditions under which people are ritually excluded from spaces. For instance, the separation between women's ritual practices (or "business") and men's ritual practices is one that is based not simply on events but also on spaces; one will avoid being in the places where one might see or accidentally encounter the ritual events from which one is tabooed. Similarly, spatial taboos may exist between classificatory groups. One example is that between mothers-in-law and sons-in-law – not simply those who are actually related by marriage but those who are the members of subsections for whom kinship rules dictate the potential to stand in this relationship. So, as a practical matter, a spatial interdiction exists relating to the parts of town where the people from the relevant subsection cluster.

These interdictions are manifest in various ways, most particularly in the detours that characterize much Aboriginal navigation, as people move through the landscape in ways that respond to the various characters of the topography. Munn's concern is with "spatial prohibitions as a mode of boundary making" (449), that is, with the ways in which the forms of prohibition to which one is subject, and one's orientation towards them, are means by which the organization of the environment is not just marked but produced.

Sacred sites, then, with their historical and mythic resonances, are a source of these prohibitions, as are specific events. A further complication lies in the fact that spatial prohibitions may be tied to event and actors that are themselves mobile. Rituals move; people move; and as they do, the locales from which one might be excluded move too.

Munn draws particular attention to the fact that these spatial exclusions are not marked by boundaries in the ways in which we might imagine Western land claims to be defended or regions protected. The spatial model here is one of centers of ritual potency that resonate out into the environment. As she notes, the radius of power is not clearly delineable. Moving too close may bring bad luck, illness, or death, but "too close" is relative; it may be linked to seniority or kinship. One's knowledge of, and relation to, these centers of potency, is culturally embedded. The model of place at work here is cultural and relational.

Indeed, one of the reasons that the Australian Aboriginal case is such an interesting one to consider is the very fact that, in Australia, two completely different systems of spatial knowledge production rub up against each other in troublesome ways. Debates over the protection of sacred sites and Aboriginal land rights have been so bitter and so prolonged not least because

of the fundamentally different systems of spatial knowledge and reasoning at work [21, 22], and the legal and legislative outcomes concerning native title reflect some of the inherent contradictions of reconciling the incommensurable [7].

A second ethnographic example reveals a different set of cultural concerns over movement and mobility. This is Liisa Malkki's work on national identity amongst refugees [11, 12]. The fundamental concern here is "rootedness," and this goes to the heart of debates about mobility and morality. In a recent talk at UC Irvine, Yale anthropologist James Scott suggested that the major topic of his life's work has been why the state is the enemy of people who move around, and indeed, contemporary celebrations of the "road warrior" are radically at odds with a longer-term picture of the troublesome nomad, whether that manifests itself as the questionable moral status of the medieval troubador, the nineteenth century American "tramp scare", or contemporary Western debates about immigration and asylum seekers [5].

In the context of globalization, large-scale transnational migration and interconnected labor markets, anthropologists have long recognized that the objects and topics of their inquiry are not fixed in particular places, but rather move around and take their shape within the world system, and that ethnography needs therefore to be multi-sited itself and to engage with multi-sited phenomena [13]. However, these issues are more directly present in Malkki's work, which looks specifically at the ways in which national identity and rootedness manifest themselves for transnational migrants and refugees. She argues that indeed, the very figuring of rootedness and the authenticity of the Indigenous reflects what she calls a "sedentarist metaphysics", a notion that staying put is a natural state which is so deeply engrained in historical and national narratives that it is taken for granted and invisible. Again, the concern is with the way in which rootedness and movement have moral force.

Malkki's fieldwork amongst Hutu refugees in Tanzania documents these processes at work. She draws particular attention to the ways in which the transnational displacements undergone by these refugees is incorporated into or enables a series of narratives about nationality and identity. While one might expect that refugee status is, in Goffman's terms, a case of spoiled identity, she finds that it is rather a source of categorical purity; being a Hutu refugee in Tanzania marks one as more distinctly Hutu given both a disconnection from Burundi and one's inherently temporary status in Tanzania. Where Hutu ethnic identity had previously sat awkwardly alongside Burundi nationality, now it could be more vigorously and unproblematically asserted. As she notes, Burundi was a "mere state" whereas the imagined Hutu nation is a "moral community" formed in exile.

However, this vigorous assertion of pure Hutu identity is largely a feature of those she studied living in refugee camps rather than those who have settled in towns in Tanzania, whose status in Tanzania is no longer so temporary and who do not live liminally disconnection from Burundi and Tanzania. This is not to imply that they do not anticipate a return "home," and did not think of themselves as different from the Tanzanians amongst whom they lived. Rather, their imagination of their position was more cosmopolitan

rather than nationalized, and they talked of their status and of home in spatial rather than moral terms.

Like Munn, Malkki points to the ways in which spatial arrangements, presence, movement and habitation have moral and cultural significance. Their focus is on the (user) experience of space. Space emerges as a relational, cultural object, and much of this cultural meaning – rootedness, morality, kinship, responsibility – cannot be reduced to Cartesian coordinates or GPS references.

This implies that technologies that seek to enhance, incorporate, or respond to the user experience of space may be limited by the representational schemes by which we are used to operationalizing it. If the user experience of space is cultural rather than cartographic, then an alternative foundational for design presents itself.

For example, the Undersound project focuses on the collective production of spatial experience through the patterns of movement and migration that people engage in daily [3]. That is, what it attempts to manifest is a space of flows, not of electronic objects but of people engaged in everyday urban experience. This reflects both the diversity of urban experience, the informal sociality of the city. Undersound allows riders of a public transit system, particularly the London Underground, to share music via mobile phones. Music is tagged according to the places it has been, where it has entered the system and where it has traveled. With an emphasis on locally-produced music, the system strives to reflect the ethnic, demographic, and social diversity of the regions covered by the Underground system in the music that flows through, providing a link between the underground and the surface but also providing a means by which the pattern of flows and movements of people through the space can be uncovered. The space that emerges is not a static space, but a "space of flows" [4] though the flows involved are more physical than those to which Castells was referring. Instead, these are the flows of people that constitute the lived experience rather than the static structure of the city; patterns of movement that reflect temporal, social, and spatial structure.

Spatial structure in Undersound is an emergent property arising out of the interactions of people and objects. It is diverse, relational, actively produced, collective, dynamic, and non-Cartesian. The goal of the system has been to reflect exactly this contingent and collective experience of space, one that shapes and is shaped by senses of collective identity and participation in ways significant inflected by the ethnographic work presented here.

Discussion

At the risk of stating the obvious, two points should be underscored here.

The first is that, as ethnographic accounts produced outside the domain of technology development, the work of Abu-Lughod, Lutz, Malkki and Munn certainly does not present "implications for design" in the form in which they are often requested within HCI research contexts – a delimited set of short-term requirements or constraints upon the design of contemporary or shortly anticipated technologies. The second is that, as detailed and rich accounts of aspects of human experience that reach well beyond the specific sites at which research engagements took place, they certainly

do present implications for design in the form of consequential, profound, and direct guidance for how to think about the issues in question. Information technology and interactive systems are not in evidence in any of their studies; user experience, however, is front and center. User experience is their topic, and to the extent that what they attend to us the role of emotion and mobility in user experience, their implications for the design of technologies in these areas are legion.

The implications for design, though, are not of the "requirements capture" variety. They set constraints upon design, certainly, but not in terms of operationalizable parameters or specific design space guidance. What they tend to do, in fact, is open up the design space rather than close it down, talking more to the *role* of design and of technology than to its shape.

A second observation about the implications is that they are derived not from the empirical aspects of ethnographic work but from its analytic aspects. That is, the ethnographic engagement is not one that figures people as potential users of technology, and looks to uncover facts about them that might be useful to technologists (or to marketers). Instead, ethnographic engagements with topics, people, and fieldsites are used to understand phenomena of import to design, and the implications arise out of the analysis of these materials. This goes again to the "marginalization of theory" that attends much dicussion about the use of ethnographic materials in design and technology contexts, in which the very fact that ethnography is conducted under particular analytical auspices is neglected or ignored.

A third observation concerns the temporal context and lifetime of ethnographic results. The studies I have cited were published between the late 1980's and the year 2000. I have cited others of relevance from earlier decades. Even if these studies had been conducted under technological auspieces, and had addressed design considerations, one has to ask what the implications for design would have been in 1995, or in 1985, or in 1975, and what they would mean today. I have a feeling that they would tell us little about iPods, mobile phones, and blogs. However, the theoretical contributions that the studies provide have a considerably longer shelf life, and a relevance that transcends particular technological moments.

Is it a cop-out to say that what these studies provide is a new framing for the questions rather than a specific set of design guidelines? Hardly. One obvious thing to say about these reframings is that they have both broader scope and longer-term impact than a simple series of requirements. They reach beyond the level of specific investigations.

Is it a lack of imagination to fail to discuss technical matters? Again, hardly. Indeed, what I have presented here are acts of re-imagining. In the cases that I've provided here, technology was simply never in question in the first place, so naturally it did not feature as part of the discussion, but more generally, I am arguing that the movement from ethnographic engagement to design practice is inherently a conceptual and imaginative move rather than a rote translation of empirical evidence into designed fact.

Is it a lack of courage to argue that ethnographers need not provide implications for design? (This was one

challenge after the presentation at CHI 2006.) Again, hardly; if the push-back is anything to go by, it takes considerably more courage to argue against the hegemony of design practice rather than to submit to it. However, it is perhaps a question of modesty. The engagement between ethnography and design must be just that – an engagement. Ethnography and ethnographic results are part of that engagement. The scope of the "project" of ethnographically grounded design goes beyond either ethnographic inquiry or design practice. Attempts to use ethnographic inquiry as a simple substitute for engagement with users, providing a convenient summary of people's needs, goals, and meanings is an attempt to decouple design practice from its consumers and users. It is precisely these engagements that ethnographers seek to stage and frame in HCI.

The question is one of responsibilities. We can ask this question in two ways. Whose responsibility is it to connect ethnographic results to design practice? The "implications for design" position – that is, the position espoused by conference reviewers and others who fault ethnographic work with the observation "it's not clear to me what the implications for design are here" – is that it is the ethnographers' responsibility. If the design implications are not clear to the reviewer, then it is through no lack of imagination on the part of the reviewer but rather through a failure on the part of the ethnographer to discharge his or her responsibilities. There is certainly much to be said about the ways in which ethnographers need to frame results for broader publics (a concern that ethnography has long recognized) but I'd argue that it is no more the ethnographer's responsibility to speak to designwithin the context of each specific publication than it is the designer's responsibility to speak likewise to ethnography. Rather, the responsibility for ethnographically grounded design results is a collective one.

The other way to ask this question is, to whom do ethnographers owe their responsibilities? Again, the "implications for design" position is that ethnographers own their responsibilities to the design sub-community. The alternative is that ethnographers owe their responsibility to their participants and informants, to the people with whom they have engaged, the people whom they represent, and the people for whom they speak. At times, that responsibility may be best served by engaging in design. At times, it may be best served by heading off fruitless design activities, and at times, it may be best served by reframing the questions. If the role of the ethnographer in HCI is to stage encounteres between sites and technologies, then the forms that that will take may vary considerably.

Designing for User Experience

DUX is the conference on Designing for the User Experience. While this paper has not presented designs, it has been centrally concerned with just this topic. It has been concerned with the visibility of User Experience within the design process. I have previously argued that common interpretations of ethnographic work ask ethnography to skip all that detail and verbiage about user experience, and skip straight to design. In contrast, I have argued for an approach that recognizes not only that it is the detailed engagement with user experience that ethnography delivers, but, more to the point, that that is where the value lies.

I've attempted here to provide some longer examples that illustrate this.

First, they show that ethnographic inquiry can be extremely influential for design without requiring the conventional "implications for design" section towards the close of the presentation.

Second, they suggest that, in fact, implications for design that emerge at the time of the ethnographic inquiry have inherently short shelf lives, and so may obscure more lasting contributions.

Third, they suggest that the most useful strategy when engaging with ethnographic work is to "read for theory" as much as for empirical evidence, since these may, in the end, be where the truly significant implications lie.

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