2

WHO WE TALK ABOUT WHEN WE TALK ABOUT USERS[1]

KRIS R. COHEN
University of Chicago

I begin with some questions: how have the theories and methods which subtend design research been changed by their migration from academy to industry? How have they adapted to their new commercial culture? What languages and customs have they had to acquire to fit in? To address these questions, I consider a facet of design research which I think most problematically bears the marks of this passage: how we choose who we will study. I go on to think about both the causes and implications of exclusions so often resident in this choice. The ideal that drives my analysis forward is that design researchers are in the business of designing not products for "users," but landscapes of possibility for public life. A final suggestion, inspired by my recent work on Internet-based personal photography and here briefly sketched, is that design researchers take the publicness of our work more seriously—that we design for it.

MIGRATORY

We all know some part of the story of how, many years ago or only a few years ago (depending on what you call the beginning), social and cultural researchers arrived in industry, having journeyed from their homes in universities.[2] Most of us are witnesses to that story, if not central characters in it. In a sense, this is a story of migration (emigration or immigration depending on where you sit). And we know from migration stories that nothing comes through such a journey unchanged: things adapt and are made to adapt (Bhahba 1994). If we take this metaphor of migration seriously, it presents us with some questions: how have research theory and method changed in their journey from universities to industry? How have they adapted and been forced to adapt to their new situation? How have they been hybridized with methods and theories from elsewhere? What have they had to give up in order to fit in? What have they had to acquire, what languages and customs? And in their new home, what are their options for existence, livelihood, circulation, adaptation? What can theory and method *become* in their new setting?

More than I want to answer these questions directly, I want to use them, and the metaphor they sprung from, as lenses through which to view certain practices of design research. But I do want to answer that last question directly, about what theory and method can become in their new home, because I think it leads to the most interesting migration story. The answer is the bedrock for

EPIC 2005, pp. 9-30, ISBN 1-931303-27-4.

everything else I want to say here: *In a design setting, especially one where design research is common, theory and method (that is, our ideas about the world and our techniques for arriving at those ideas) will come to exist and circulate materially; they become, quite literally, embodied in products and made public.*

Let's pause here for just a second. This feels to me like a unique circumstance for social and cultural research, for theory; in any case, it has important implications. Foremost among which is this: when people (the ones the design research field often calls "users") interact with products, they are also interacting with—literally using and adapting and negotiating with—particular ideas about how the world should work or might work (for now, call these ideas "theory and method" for short). This is true in three senses that I can think of: (1) all products, whether inspired by user research or not, body forth a kind of social theory in that they try to *predict*, and in some cases, *dictate to* people's uses of that product; (2) products which are inspired or touched in some way by design research perhaps embody social theory in a slightly more literal, or conscious way than those which do not: it is literally the matter from which those products are formed; (3) whatever the intentions of products or their designers, people, individually and collectively, write their own scripts for how the world might work (in a sense, write their own theory) when using products. We could even say that today—as design research becomes accepted as an orthodox feature of product design while the academic production of social and cultural theory remains marginal, at least to most people's conscious lives—people's encounters with products are the closest most will ever come to encountering (consuming or using) social and cultural theory. We should be eager to see what happens in these encounters, to see what becomes of embodied, enacted, public theory as much as to see what becomes of the products which try to embody, enact, and publicize it.

But we should also be slightly humbled, because *if* there is any truth to what I'm saying, it means that design and design research[3] are in the business of conceiving not products so much as what's possible; of making worlds which are born in the collision of design and experience. And design research, or user research, or ethnographic research, or whatever we individually call it, is central to this work.[4]

Because design research, conceived as a world-making endeavor, sits somewhere between the real and the not-yet-real, the projected and the actual, design and use, research and the lives we are researching, I will be calling these worlds "landscapes of possibility." The term is not, I hasten to add, an attempt to name some intrinsic virtue of design, or to speak about design's eminence. At its most sanguine, it names an opportunity. It also names—and this will be my main interest in what follows—a responsibility that is distinctively political.

WHO, WHAT

My qualifications to speak about design research, and my reasons for wanting to, lie in two related episodes: two years (2002-2004) spent as a research fellow at the University of Surrey, in the INCITE

research group, working on a collaboration with the Internet technology company Sapient; and prior to that, four-years spent working at E-Lab (1996-2000), one of the early design research consultancies.[5]

To get to the heart of things, I want to relate a story from the INCITE/Sapient collaboration which I think will help us start to answer the questions I set out in the introduction. Here is the scene. In December 2002, as a newly minted research fellow at INCITE—but not someone who was new either to Sapient or to a commercial context for research—I had been preparing a presentation for Sapient…and I was a little bit worried. Sapient is a technology consulting company, headquartered in the U.S., with outposts all over Europe (www.sapient.com). In order to grow their own user research practice, Sapient had acquired E-lab; this was in 2000, a time when the conditions were ripe for that sort of thing, when companies all over the world were acquiring research "capabilities." In 2002, I joined INCITE in order to take up a research fellowship (already in progress), funded by Sapient and under the directorship of Nina Wakeford at the University of Surrey.[6] At the time of the meeting, I was preparing for the third and final year of work under the grant, the overarching goal of which was to develop new methods for design research, but also to conduct three year-long studies which would be useful to a broad sweep of Sapient's internal teams. My presentation to the advisory board that day was to lay out three possible research directions for the coming year. The work of the advisory board was to agree on one.[7]

My favorite proposal, the one I hoped to persuade Sapient to choose, involved me spending a year in a West London homeless shelter for mothers and babies. This was proposed as an extension of our previous year's work on mobility, during which we had studied pretty much the usual suspects: people—mostly middle class, mostly professional—who used popular mobile devices. I was worrying that day because I didn't think they'd go for my proposal. It didn't really seem like their kind of thing, or, maybe it was their kind of thing and the task of convincing them would be too much for my powers of persuasion.[8]

Specifically, what I was worrying about, what was being debated in my own mind and in the meeting room that day, was the relationship between the themes of the research (in this case, mobility) and our research sample (the residents of the shelter, in comparison to, say, people who own BlackBerrys). We knew Sapient wanted to know more about mobility (at the time they had several clients who worked in the mobile phone industry), but could homeless women—women who had been kicked out of their homes, who were living on public funds, many of whom were political refugees—be considered an appropriate sample, a way to understand some features of mobility?

I didn't like my chances of pushing this through, *not* because we had a bad working relationship with Sapient—just the opposite—but because I knew a little bit about how research themes and research samples are normally connected in design research. It goes a little something like this: study users of X in order to understand the phenomenon of X, where we can replace X with "mobile phones" or "toothbrushes" or "SUVs" or "Internet-based investment banking tools." We identify a thing that we want to study, then look for "users" of that thing. This is common in design research as well as in studies of technology more generally, whether conducted in universities or companies. To

take a popular example: we study mobile phone users, people who own mobile phones (and probably people who own the right *kind* of mobile phone) in order to understand something about mobile phones or mobility (see, for instance, Nyíri 2003, Katz and Aakhus 2002, Brown et al 2001, and most of the studies compiled at this site: http://ist-socrates.berkeley.edu/~nalinik/mobile.html).

The fact that the work of the meeting that day can be described as a debate that was almost exclusively about this relationship intimates that a lot happens in the suturing of a research theme to a research sample, the What of our research to the Who. And that, when nothing much appears to be happening, when the Who of our study seems to come bundled self-evidently with the What, then this ligature, and the means by which it has been effected, have been rendered invisible and, thereby, unthinkable by some assumptions buried deep in our methods, or in the contexts where those methods are deployed. So, we can start to ask: what are *the ways that* design research constructs a relationship between Who and What? How does design research establish Who will tell us What we want to know? Why those people and not someone or something else? What ideas about people, and more specifically, about class, race, gender, sexuality—the various technologies of the self—are smuggled into the methods we choose? And what has been the role of migration here? (From this point forward, as a shorthand nomenclature for the common research practice that I am going to discuss at some length, I'll refer to research samples as the Who of our research and to research themes as the What.[9]).

Back to the boardroom then. One assumption at work here, and in many rooms where people discuss research samples and appropriateness, is that, in order to conduct useful research, one must study people who can be considered a viable market for goods and services. Young homeless mothers can be excluded on this basis alone. Another assumption—in some ways far more problematic—is that users of X are the only people who can tell us about the social life of X. If homeless women are not "users" (and the first assumption has it that they are not), if for instance they use Ys rather than Xs, then they are the wrong people to study, especially if what you want to design are improved Xs.[10] Nothing personal against homeless women or anyone, then, because the benign reigning spirit here is that of just good design, a matter of common sense: you can't design better Xs unless you can watch some people using Xs. Which might be true enough, when heard in context, but when this sort of formulation comes from a user or design research group, one with ties (however attenuated) to anthropology or sociology, then you can be sure that we're inhabiting a site of migration. Some changes have been made to adapt to the new culture. Not all bad, to be sure, but definitely worth investigating.

A somewhat schematic way to talk about what these two assumptions accomplish is to say that they are forces which suture a Who to a What. And in the suturing, the choice of who we study becomes almost a given. And this never need be defended because the structuring assumptions of our methods erase the possibility of choice. It just seems logical to do it this way. Moreover, in most consultative contexts (the typical scene of user research) the Who of our research is given even more ineluctably: the client specifies it. *We*, the client says, *are interested in American teenage boys, aged 18-21, whose parents make between $30K and $60K/year.* They don't need to specify White; that will be assumed. They don't need to specify heterosexual or able-bodied; those too will be assumed (unless directed otherwise). The insinuation being: in this suturing, much gets elided. But my overarching point here is that: these are some of the conceptual and economic conditions under which design research gets conducted, features of the new scene for social and cultural research. Having said so, one thing we can

keep an eye out for in the future, another migratory trace, are places where market-logic has replaced other forms of logic which might guide our research and which might have guided it in the past. Or to put this in a slightly more specific way, we can keep an eye out for places where people have been replaced by "users."

ON BEING AND NOT BEING A USER

By now, a certain implication of what I've been describing might be obvious. Far from being the presumptive background of our research, the relationship between Who and What is the very thing our research should be geared to explore. To say who it is that can answer our—or our clients'—questions is a complex analytical *procedure*, not a given and not something that should be specified by clients. Here is why I think this matters so much: *in a design setting, this relationship, the linking of Who to What, is especially important because the people we choose to study stand in for the people who the eventual product, once designed, actively imagines.* "All works of the mind contain within themselves the image of the reader for whom they are intended" (Sartre 1988:73). I think in the case of design's "works of the mind," we are talking about more than an image of the intended. The people Sartre calls "the reader," and whom we often call "users," are encoded within the thing, the "works of the mind," and design research is (in a way that is only slightly less than literal) the means of that encoding. This is one reason why the experience of using products can be profound: in a sense, I encounter there someone else's idea of myself. Sometimes I like the person I find, and sometimes I don't recognize him at all.

If this way of thinking about design research has any truth to it, then it matters who designers and researchers choose to study because the products we create form part of a landscape which is either motivating or alienating for the various people who inhabit it.[11] And if, as both Hal Foster and (the far more sanguine) Harvey Molotch have recently argued, the experience-able world is an increasingly designed place (Foster 2002, Molotch 2003), then the implications here are far-reaching.

One way to see where these implications lead is to ask questions about the ways that the relationship between Who and What has become ossified in so much design research, about how this relationship has been instrumentalized. That is, we should ask questions about our research tools, where they come from and how they operate. The concept of the user is one of the most powerful tools we have, although it is rarely recognized as such. All the more reason to take a look.

Most companies, especially those in the business of new technology development, now feel that they need to know something about "their users," or at least, to claim that they care about knowing something, whatever their commitments actually are to that knowing. IDEO, for example, is one of the world's most successful design firms. Their website declares that "user observations are the starting point for every design program.…We engage end users throughout the design process to evaluate the desirability of new ideas and possible solutions" (http://www.ideo.com/about/methods/info.asp?x=1, accessed June 2004). Sapient's own website states that "Our deep understanding of technology — and the people who use it — combined with industry, design, and program management expertise, produces unparalleled value for our clients" (http://www.Sapient.com/about/about_us.htm, accessed June 2004).[12] So, there is a job description here which is perhaps not new to the business world, but

which has certainly been re-newed: the job is understanding people. The reason that most of us have our jobs is that anthropologists and sociologists (and some others) can claim, credibly and with authority, to know something about how to know something about people. So it is hardly a stretch to claim to know something about people-as-users; if anything, "users" is a narrower concept.[13] This notion of people-as-users has helped to created the very ground on which academic researchers have been able to collaborate with designers. The idea of people-as-users renders the social-cultural world as a series of use-instances, wherein people interact with consumer goods, and so the world starts to look like a place where designers and anthropologists should be collaborating. They appear to need each other.

Feminist scholars of technology like Donna Haraway (1988) and Karen Barad (2003) have urged us to be alert to, and wary of, technology's little ways of inhabiting people. We use technology, they say, but are also used by it; adapt it to our own uses but are in turn adapted by it. I would say that the term "user," itself, registers the presence of such transformations. "User" is, in other words, more than a word; it is a concept which establishes some of the material, social and cultural conditions for our research. It cannot, therefore, be dispatched simply by replacing it with gentler synonyms. It is, in this sense, one of the most significant adaptations that theory has made to its new environment, its new culture. It is also part of the reason why, in these migratory spaces, Whos and Whats are so predictably wedded to one another.

"User" is the name we have given to a perspective which understands people as consumers, or views people always through the lens of their consumer habits. The reductiveness of this term is something which has been attacked before, although it is no less popular for it.[14] But there is a specific sense, relevant to my interests here, in which I think the concept is problematic. It is a problem of instrumentality.

Some of Lucy Suchman's early work on human-machine interaction helps me make the point. Here is Suchman: "Every human tool relies upon, and reifies, some underlying conception of the activity that it is designed to support" (1987:3). If the concept of the user is a human tool in Suchman's sense, then the activity that it supports is design research (and from a broader perspective—one which sees design research as an established part of design—it supports the work of design, *in toto).* That should be obvious. What we need to search for a little bit—precisely because, as Suchman says, it has been reified or obscured by common practice—is the "underlying conception" of design research that the notion of the user supports.

In order to get at some of these underlying conceptions, let's think for a minute about what user research is meant to do. Practiced one way, user research looks for insights (social, cultural, theoretical) which will *inspire* the design of new products. Practiced another way, it doesn't inspire new products so much as *justify* them, after the fact of their making. In both cases, people become users at the moment when research sets out to study people-as-past-and-future-buyers. In usability testing, a form of user research which lies more towards justification than inspiration, people are rendered as users in a slightly different manner. Usability testing presents prototype products to people as a way of testing whether the products work, whether or not they can be easily learned, whether or not they entice. This abstracted process renders people as users by ignoring most of the parts of people that don't come

obviously into play when the person is using—literally handling—the product.[15] But in all the forms of research that I've mentioned, whatever their role in the design process, user research and users become part of a process of financial investment on the back end, and part of a marketing push on the front or public relations end. *Our users asked for it. This product was inspired by our users*. Users, therefore, are not just creative tools, they are economic and political ones.

Because "users" refers both to actual people (*the ones we interviewed*) and to a kind of abstraction or methodological fiction (*inspired by our users*), they (and I mean both the notion and the actual people it abstracts) can be used diversely, pressed easily into service as research methods, marketing tools, advertising slogans. They are an exemplary human tool, in Suchman's sense: highly reified (obscured) and themselves part of a larger process which reifies the theories, methods and projects with which they are associated. Who do we talk about when we talk about users?

Homeless mothers rarely get to be users in any of these senses. Does this matter? Would they even want to be? These questions, however important in theory, are moot in practice because both "user" (and via negation "non-user") are determinations always made by someone else. Young homeless mothers are not users because most companies don't design new technologies with the homeless in mind. And they do not for all of the obvious, pragmatic, sensible economic reasons. But these reasons are both undergirded and operationalized by the particular way in which companies pair up the Who and the What of their work. Common sense does the soft work of exclusion, but research theory and methodology, adapted to their new environment, do the hard work, the heavy lifting. And this, of course, influences the way that products function out in the world, and who they function for. In shaping products, imbuing them with an imagined user, design research helps to shape the worlds we *all* inhabit.

The most obvious problem with "users" is that it draws on a narrow band of people (the people who might buy, and who have bought in the past) in order to design the landscape of possibility for a far broader set of people. We all have to live with products which are designed with a small set of people in mind. To take a slightly prosaic example: Left-handers and right-handers alike have to live with right-handed products. I also think, somewhat more allegorically, of television sets in bars. The important point being, we all have to *live* (and I mean this in a particular, but meaningful sense; I mean it in the sense of public life) with the products of the design industry, whether or not we are able to, or would want to purchase them. Which leads us to the bigger problem with "users," this the parent of the first: "users," as a concept, occludes most of the ways in which people interact with things, and with each other.

This is what I mean: various sorts of meaningful connections get established between different groups of people (e.g. demographic groups) which, by the very fact of their existence as stable and distinct groups, imply that no such connections exist. Put bluntly, the social and cultural life of, say, mobile phones, is far more heteroclite than a study of just mobile phone users allows or admits. Moreover, the interests, activities, and problems of homeless women, whether or not they use mobile phones, WILL establish relations (of force, influence, opposition; relations which are symbolic or material or affective) with even the most stereotypical of high-end mobile phone users. Which is to say (again), the relationship between Who and What is one of the most important (methodologically important, and therefore, politically important) subjects for our research; much happens here that is important, constitutive and studiously ignored. I've been discussing some of the reasons why, or the

means by which, this relationship gets ignored in design research. But what does it look like when studies take this relationship seriously? What do we learn?

BAD OBJECT CHOICES[16]

In her book *Flexible Bodies*, an ethnography of immunity and the immune system in the U.S., Emily Martin spent time with ACT UP, an AIDS activist group. She is quite deliberate about this choice (the Who of her study), explaining that: "My fieldwork has made clear to me that the categories of social analysis that we once found so useful to describe our lives—gender, race, class, work, home, family, community, state and nation, science and religion—are no longer sufficient to describe, let alone analyze, the phenomena of the contemporary metropolis…" (1994:xvi). Elaborating on the Who of her research, in relation to her project's What, Martin says that her "experiences with ACT UP allowed [her] to see the politics of AIDS from a particular point of view" (1994:xv).

But Martin's choice of ACT UP strikes me as important not just for the particularity of its point of view, what Suchman might call its "located accountability" (2000), but for the unexpected quality of its Who—which is to say, its politics. We can, without too much difficulty, see AIDS as thematically related to issues of immunity and the immune system, given that AIDS has forced a consciousness of the immune system more than any phenomenon in recent memory. But the choice of an AIDS activist organization, an organization whose existence and motivation is political more than biological or medical, and which is run by people who are living with HIV but also by people who are not, is probably not quite who common sense tells us to ask about primary experiences of the immune system. Certainly they are not who most companies would have in mind as primary "users" of, say, health care services—they are either too marginal (not a *real* market) or too niche (not *our* market). Martin's inclusion of ACT UP in her sample honors the role played by marginalized others (ill, queer, radical) in the broader social-cultural experience of something like the immune system.

This is not simply a matter of making a choice which is surprising for the sake of being surprising or extreme. A lot of companies tout their studies of "extreme users"—people who are said to exist at some demographic or behavioral extreme of "normal" practice—as a more eccentric way to link up Whos and Whats. But extreme users still exist well within the logics of the marketplace, where all people are users. It is the marketplace itself, and the categories which stabilize the market, which code their behaviors as extreme in the first place. Better, then, to try to get behind what our methods, and the institutional settings for those methods, reify and occlude. Dick Hebdige's famous book *Subculture* (1979) is not a study of subcultures so much as a study of the culture industry at large. But Hebdige's insight was that subcultures are an occluded other (perhaps *the* occluded other) of more visible (more marketable) cultures. In other words, he showed how the coherence of one relies intimately upon the other, and relies specifically on the ritual occlusion of the other.

Bruno Latour, in his study 'The 'Pédofil' of Boa Vista. A photo-philosophical montage" (1995), followed scientists to the Boa Vista forest in order to better understand how laboratories function in scientific practice. He did so not because scientists who work in forests are extreme users of scientific tools and technologies, but because he understood that laboratory practice is fundamentally

exclusionary, and Latour wanted to see, first-hand, what had to be excluded for laboratories to work like laboratories.[17] Go to the forest to find the laboratory; ask the punks about the straights.

Attention to such constitutive exclusions animates much of the research that has been done on sexuality. It has shown how straight cultures and queer cultures are not, as most research on consumer culture assumes, mono-valent, distinct or isolated from one another. Rather, they are "elastic alliances, involving dispersed and contradictory strategies for self-maintenance and reproduction" (Berlant and Warner 1993:358. See also Eribon 2004, Sedgwick 2003, 1988). It is not just that queer and straight are inter-relational; there is an intimate commerce between them, and indeed, between any categories which show up in discourse or politics or user research as opposed, as even just distinct. What, then, are we able to know about family, home, or work—common topics for user research, and places where sexuality and discourses of sexuality play a strong role—if we do not apprehend them within some framework of sexuality? I don't mean to imply that all research, no matter the subject or time frame or client interests, must consider sexuality, or any of the various oppositions which stabilize its Whos and Whats; I do mean to imply that projects which do not are proceeding on the basis of exclusions which are resident in concepts (our theories and methods) but manifest in designs (in the products we create). Sometimes those exclusions will hardly matter; sometimes they will matter a great deal.

Better, then, to call these exemplary linkings of Who and What political than to call them surprising or unexpected. Howard Becker discusses the need for these sorts of politically motivated research tactics when he describes the standards (of rigor, of objectivity, of common sense) which tend to limit and homogenize our ideas about appropriate research samples. He calls these standards the "hierarchy of credibility" and goes on to say that "[t]he hierarchy of credibility has, as a corollary, that certain people or organizations aren't really worth studying at all" (1998:93). The researchers involved in the projects I've described above may not choose to describe their work as political in intention or outcome, but whatever their avowed goals, their projects have political effects because they include the people whose elision, in most forms of common discourse, serves to stabilize our favorite categories (of experience, identity, etc.). It might behoove us, then—following the theme of the conference—to include within our definitions of sociality those people and practices which are ritually excluded, which must be excluded, for the more demographically visible, marketable, definable "user" types to function so reliably.

The conceptual feature of our research which I am describing—viz. the intimate commerce between seemingly discrete categories—is characteristic not only of extrinsic relationships (between people, and between people and things), but also of intrinsic relationships, relationships and movements *within* individual bodies: that is, the workings of the self. Women who draw income and housing support do not live their lives, in any simple sense, through social services or through their consciousness of them. They create boundaries and distinctions. Here is an example. Many of the women in the West London house I studied do not take visitors, not even close friends, for the 12-15 months that they are having their baby, learning to care for their baby, and living in the shelter. By this strategy, they do not *appear* to their friends (to, that is, the world which matters most to them) as residents of a homeless shelter, even though they make no secret of the fact in a broader sense. This is one way in which mobile phones become so important to the women in the house: they allow them, in a sense, to take visitors (via their phones), to maintain close relations, without embodying themselves as recipients of social services. Their mobile phones (and they all had one during the time I spent there) help them create some vital boundaries. Which goes to show, at the very least, that the women

in the house are never simply "users" of social services. Wherever possible—and it's in no way always possible—they choose the frames in which they appear to other people, and "social service user" is an identity that some of them work hard to efface. To study them, therefore, *as* users of social services, or alternatively, *as* mobile phone users, requires us to know something about the people who aren't on benefits and who loom large in the imaginations of those who are—to learn, in other words, about people's tactics for *not* being users.

LANDSCAPES OF POSSIBILITY

Let me draw on recent work by Sarah Jain to come at this from another direction. In her forthcoming book *Injury: Design, Inequity and Litigation in the United States* (in press: n.d.). Jain very carefully, very usefully extracts the products of design from two sorts of reductive accounts, both of which are common, and both of which ignore certain features and motivations of the design process: one describes products as things which are simply and unproblematically put to use by the people who we can readily identify as their users; the other figures products of design as the final step in a rational design process which is governed predominantly by creative principals, by simple, unpredictable, unaccountable afflatus (and here, design research is usually included as part of that creative process). These characterizations of design, Jain argues, each ignore the radical unpredictability of the relationship between a product and the people who encounter it, and do so in order to maintain an image of design as, ultimately, a creative rather than a political process, one which makes products and not worlds. Jain asserts that what we call design is actually a congeries of decisions, made in boardrooms and design shops and ethnographic field sites and even courts of law, all of which inevitably, if invisibly, inhabit and motivate the final product. Taken together, these are decisions about how *certain* people should (and therefore sometimes do, or must) use those products. This is what I meant before when I said that products imagine their uses, their users, and their sites of use. When products suffer from failures of imagination (and failure in this regard is not always a bad thing), the results are sometimes liberating (who could have predicted the popularity of text messaging) and sometimes deadly (airbags, cigarettes, fast food, cars which still run on carbon-based fuels). By examining injuries that result from spectacular design failures, and the litigation which tries to account for those failures in juridical terms, Jain shows us quite graphically how people are anticipated or envisioned by the products they use; how products come to literally embody the various decisions and exclusions which buoy them up; and how, in the cases of design failure which she tracks, products (and the various mechanisms that produce them) sometimes materialize these landscapes of possibility with gruesome results for the people they exclude.

In this light, studies which begin with a user linked stably to a theme, a Who to a What, leave unconsidered one of the most critical questions they could be asking: *what relationships of filiation or force get established between the object under investigation, the people who use it, and the people who, in not using it or in peripherally experiencing it, are also affected by it?*

Perhaps the problem lies with ethnography as a favored method in design research. In business and design, ethnography has become the generic name for almost all forms of design research, whatever their relation to the history and practice of what has been called ethnography.[18] We can speculate on why this might be the case. Ethnography, historically, is rooted in the observation of

behavior in context. Ethnography watches, and asks. In order, therefore, to prepare for a study which employs ethnography, we need to identify something to watch, someone to ask questions, and this, in turn, often involves specifying a Who and a What, because once you have both, and they are stably linked, you know where to go to do your fieldwork. And if you only have two weeks and a limited budget, it's useful for all sorts of reasons (most of them about economies of time and money) to know where you're going to do your fieldwork.[19] This dynamic of watcher-watched, which sutures a Who to a What in advance of any actual looking or analysis, seems hard-wired into the very practice of ethnography, as a method which was designed for studying people in non-western contexts (where the context itself seemed to code for the Who of ethnographic study: we go *there* to study *them*). It is little wonder, then, that this version (and it is only one version) of ethnography has been adopted so eagerly by business, design and industry generally, fields with an abiding economic interest in pre-defining their market, their Who. Most business practice requires an identifiable, quantifiable Who before it will spend one cent on research, let alone development or manufacture. Because, in the end, there must be someone who will buy.

It's 2005, it's 1998, it's 1971. Howard Becker asks: "How do we go about finding cases that don't fit?" (Becker 1998:94). He means cases which don't fit the conventional categories for who counts as a legitimate or expected or familiar or marketable research sample. And Becker cites Everett C. Hughes who writes: "We need to give full and comparative attention to the not-yets, the didn't quite-make-its, the not quite respectable, the unremarked and the openly 'anti' goings-on in our society" (Becker 1998:94). So these are not new ideas, but then, what's new is, itself, always new, always being re-made and becoming newly relevant. In a migratory context, where all of the old ways are, perforce, remade as a consequence of being transplanted, this is even more so the case. In many design settings—sites of migration, home of a new culture for research—the exigencies of the market trump many of these old lessons of social research. This is probably inevitable, and maybe not undesirable, but we *can* be careful about which lessons get trumped and which should not be.

When we say, for instance, that we want contextual observations of mobile phone users to tell us something about how mobile phones are operating socially, culturally, commercially, etcetera, or that we want these observations to inform the design of the next generation of mobile phones, we flatten out our possible understandings of both users and mobile phones. We assume that mobile phones attain their intelligibility and their significance from the people who most visibly use them, and that people who use mobile phones attain their own intelligibility and significance (at least for the purposes of our study) from their interactions with mobile phones.

How can any study which bases its research plan on these hermetic formulations ever account for a world in which certain people are ignored by products, are excluded from visibility, are alienated by popular forms? How can such a study ever do more, that is, than replicate that very world, with all of its constitutive blind spots? Is it any wonder, then, that women and racial minorities and queer sexualities and disabled bodies often find it difficult to be comfortable in a world which so many people (the world's "users") inhabit with grace and ease?

My desire here is *not* to see the market democratized, to expose an ever greater range of people to consumerism and design—that is happening on its own. What I am trying to do is foster design research which operates through means other than exclusion. And I am doing so because I believe that

products are (or are embodiments of) social models which impact the lives of a great many people, those who can afford them and those who want them as well as those who can't and those who don't. In other words, the products of design contribute significantly to landscapes of possibility which we all inhabit, and it is in this sense that their exclusions matter a great deal.

A final sweeping thought about design research is that perhaps something is wrong at the level of the field's aspirations. Perhaps the goal of studying users in order to design better products for them was well suited to the *instigation* of a new field, providing the means to draw together design, engineering, computing, the social sciences and the humanities. But perhaps this conceptualization of design research is poorly suited to the task of motivating the field to *develop over time*, theoretically, methodologically…politically. I think that a far more radical ambition would be to try to support the design of what I have been calling landscapes of possibility. And that requires formulating and conducting our research within those same expansive, political landscapes.

DESIGNING FOR PUBLICS

So far, I've been long on analysis and short on practical suggestions. Although, I think a few suggestions have been implicit in the analysis. Namely:

- the logics of the marketplace (e.g. demographics), even though our products are often destined for the market, are not adequate as conceptual or theoretical grounds for research;
- people are many things, including users of consumer goods, but that is NEVER all that they are, and so that single aspect of their selves, divorced from all others and raised to the level of a determining factor, is also not an adequate model upon which to ground one's research;
- the purpose of research—and I would think especially research in a commercial setting—is to explore the various ways in which people create and are formed within their relationships with stuff, with other people, with groups of people and with networks of technologies, *not* to prefigure those relationships in our research plans;
- design research which predicates its investigations on the idea that in order to understand X, one looks at the use of X by particular people in particular settings, and which does so to the exclusion of a great number of overlooked, seemingly unprofitable people and places, is at least partially destined to endlessly produce and reproduce that hermetic world of its own imagining.

In the process of making these points, I have talked about research methods as tools, a perspective which implies that our methods and theories are products of a design process just as toothbrushes and cars are. And so, if one goal of social research in industry is to make better tools, then shouldn't our research methods themselves be subject to adaptation and revision, based on what we learn from our research? Like toothbrushes and cars, they too have users and uses, affordances and limitations of use, embedded politics of inclusion and exclusion. They too are subject to creative and instructive mis-use. It is this trajectory of thought that lands me at the feet of a few suggestions.

I have recently been studying online photography, and looking especially at the kinds of photographs which might have spent their lives in family albums but which now cover the Internet.[20] In this project, I've talked to both bloggers and to people who use the popular website flickr (www.flickr.com). This has become less a study of photography, per se, and more a study of publics, of how people who put their photographs online illuminate and potentially expand the way that public life functions today.

I think it is worth taking a minute to think about the things we design as public, and design itself, including design research, as a process which participates in the creation and recreation of publics. I don't mean to ignore the fact that design's products also have a role to play in the experience of what is private. What I am trying to name, and thus get some traction on, is something which I think design research wants to apprehend, but at this point often mishandles: namely, the ways that products circulate materially and symbolically, the ways they contribute to what I've been calling landscapes of possibility. One way to encompass these modes of circulation is to talk about design as a part of public life.

Places which are "public," in the word's ordinary language use, are typically conceived as the opposite of places which are private, and so the word tends to imply open, available, and non-intimate. Because "public" is almost always linked to a form of physical space, these qualities then become characteristics of that space. Thus, we get the phrase: "the public sphere." But this is not quite what I mean when I say that products are public. In my reading of the literature, I find three qualities of publics which I think are useful for design research as it moves forward (each slightly, and I hope usefully counter-intuitive, if your point of reference is the ordinary language use of "public").[21]

1. publics are less usefully described as things (spaces or spheres) with the quality of publicness than as the processes by which something comes into being precisely *as* public (Warner 2000:12 and elsewhere);

2. publics are born of activity done in the constant presence of others (Arendt 1958:23); they rely on what Michael Warner calls "stranger relationality" (76);

3. public action is always unpredictable; it generates what Hannah Arendt calls "startling unexpectedness" (178).

The first quality of publics, their verb nature, helps us to see public actions not as events which emerge into an existing space, defined *a priori* as public, but as themselves factors in the formation of publics. Consumer products, we could say, are the design industry's public actions. The products we design don't become public when they arrive in stores; their emergence into stores, but more importantly, into homes and offices and cars and even bedrooms, transforms publicness itself. Think about the experience of riding on a train; how did Walkmans (which never quite privatized their sound or the experience of listening to it as the product appeared to promise) transform a train car. Think about how trains have been transformed by mobile phones. These are only the most obvious examples, but all products have a role to play in the definition of publics. This is exactly the sense in which I have been talking about landscapes of possibility, and how the products of design contribute to those landscapes.

The second quality of publics, the fact that the most meaningful public actions happen in the constant presence of others (and here we have to allow for forms of presence which Arendt, writing in 1958, could hardly have envisaged) might help us to broaden who we include when we do user research and lead to better ideas about how we include them. When we say that user research involves users in the design process, one thing we mean is that user research makes users *present* in that process. And in this way, the user—manifest as a set of preferences or a behavior model or a segmentation or a thick description or a scenario—becomes present in our designs. But from the perspective of a theory of publics, these ways of representing the user, and the very idea of a "user" as such, are relatively weak forms of presence. One way to enliven this presence is to pursue the "cases that don't fit," to mobilize the relationships we create between Who and What, to see people within a more expansive set of relations than "user" could ever acknowledge. Another way, and I'll come back to this shortly, is to diversify the way that design, and design research become public.

The third quality of public action, its unpredictability, helps us to notice how reliant our current practice is on predictability. Business tends to view unpredictability as a necessary evil, but one which can be held at bay by good preparation, clever analysts, and maybe some rigorous futurology. In this prophylaxis against the unpredictable, design researchers are hired as sentinels, an advance guard. *We don't know what people actually do with our products...we'd like you to tell us.* This is how most design research begins. If companies could predict what happens to their products once they're bought and used, they wouldn't need user research. Unpredictability, then, is precisely what user research is in the business of tracking and describing—the crazy things that happen when stuff enters the world. But the goal that user research participates in, ultimately, is to mitigate the unpredictability of user behavior by helping to create products which can, in a sense, predict how they will be used (predict, first, *that* they will be used, and then *how*). And ethnographic methods are, themselves, beholden to predictability. Whos get sutured to Whats because we need to be able to plan for, schedule, and budget our research. But the most careful preparations notwithstanding, unpredictability is more than an ever-looming possibility, it is quite simply and ineluctably the case. Given so, mitigation starts to seem like a foolish goal. Especially if we start to think, as Arendt advises us to, that unpredictability is a public's greatest asset, the source of its power. Better, then, to find ways to work with it.

All products (the ones we come to know as products) eventually go *public* (in the senses elaborated above). Design research, we could say, is the process whereby researchers observe and document the manifold, fascinating, and (yes) profitable activities of the publics in which people interact with products (even the home becomes public in certain moments, and more and more, it does so as an effect of the products we bring into the home). As ethnographers know well, these sorts of publics are fascinating and dizzyingly generative. And I think we'd probably all agree that design research has contributed positively to those publics by creating products which are, so to speak, more aware of their surroundings, their conditions of use.

But my experiment, wherein we think about design as a discipline which creates publics, has a corrective purpose, not just a descriptive one. The first corrective is this: if we think about products as public, then I think we are forced to recognize that they impact more than just the people who purchase them (more than just their "users," which is exactly why the concept of the "user" is deficient). From an environmental perspective, for instance, one which thinks about manufacturing and pollution as part of a product's design and use, I think design's widespread impact is easy to see. But I think this is also true of the circulation and use of the products themselves, whether or not they pollute the environment. Think, for instance, of the implications for most women or for all children of

the fact that airbags were designed with an average-sized male as their user (Jain, in press: n.d.). In other words, products contribute to landscapes of possibility that we all inhabit. And these landscapes of possibility are something that design research might study. This, however, would require that we are more thoughtful, more expansive, and in some cases more subversive about how we link the Who of our research to the What.

The second corrective I have in mind (for more outlandish, far more impractical, and so, a perfect ending) is this: what if, as a way of more deeply honoring the obligations that publicness seems to confer on design, and of taking better advantage of the strange, productive promiscuity of publics (of unpredictability, of stranger relationality), we made the design process *itself* more public. What if, for instance, all of our research, all of our prototypes, all of our working models, all of those ideas about technology and usability and mobility and etcetera were made broadly available, just as the products they help create are eventually made available. I'm saying that products are not the only thing of value we produce as design researchers. I'm also saying that the process of making something public is far more risky, complex and exciting than at first it might appear. It sounds simplistic and naive until one realizes that things don't become meaningfully or productively public simply because they are dropped on a street corner or website. Meaningful publics must be carefully created, which is to say, carefully designed.

Right now, we can look around at other fields and see this process of becoming public in action. I think the practices of photographers and bloggers and del.icio.us users and audioscrobbler users *inter alia* show us, in pretty dramatic fashion, the generative potential—the design potential—of people pursuing their projects in public. When the materials of one person's project are made public, they have the chance to become material and motivation for another person's project. Or, those two people, similarly motivated and newly acquainted, might begin to work together. EPIC is important as one effort to make design research more public, to draw it out into the world just a little bit (into the world of its practitioners—a big step for design research), to lay bare not just its products but its processes, and to see what happens.

I propose this action of "making public" as one kind of corrective to the problems of user research that I've been describing. There are, of course, other forms of redress. "Ethical" or "green" design is one way to more carefully design landscapes of possibility, to understand that products impact a far broader and more diverse landscape than a single home, family or person. Call these direct methods. The methods I've intimated here are more circuitous, more risky, less predictable. But I think they are powerful for the range of interests they potentially serve—well beyond the interests of the companies currently making products and commissioning research. My suggestions are motivated by the recognition that our work, our design research, might have interest and value beyond the products that it might one day (if we're lucky and if all the research is accepted and if the company doesn't get bought or lose interest or decide to build something else) release into a public. And motivated, further, by the recognition that there is occurring, right now, all over the world, a struggle whose territory is cultural production (landscapes of possibility), whose borders are defined by intellectual property and copyright laws, whose stakes are the future possibility of creative production *in toto*, and whose most powerful weapon is the status of publics themselves—what is allowed and what is disallowed as a part of public life.[22]

I think that to see our work as a part of this larger struggle would have some drastic effects on how we conduct our research, how we connect Who to What, how we present our findings, and even on what counts *as* a valuable finding. In order to see if this is true, we have to "suffer," as Arendt says, the consequences of doing our work in public. And this requires finding effective ways to make our work—its processes, methods, theories, interim steps, as well as its results, its products—public. Flickr, it turns out, is an effective way to publicize photographs, to make them available for use by others, to nurture what copyleft lawyer Lawrence Lessig calls a "remix culture" (2004) and what political philosopher Hannah Arendt calls "action" (1958) and what media theorist McKenzie Wark (2003) calls "abstraction"—each a different name for radically creative forces potentialized within public action. In other words, conceiving effective ways to make our work public is a design problem. And we should be good at solving those.

NOTES

Acknowledgments – I'd like to thank Rick Robinson, Katrina Jungnickel and Nina Wakeford for the criticism (which is to say, encouragement) they each provided as I wrote this paper.

[1] With thanks and apologies to Raymond Carver (1989) who, I'm sure, had little or no interest in user research.

[2] I'm thinking here about anthropology primarily, but only because that is the discipline with the largest number of emigrants. There are also sociologists, English and literature students, linguists, historians, performers and performance studies students, and others. My own point of entrée was Art History.

[3] And others.

[4] Design, of course, has a long history, but it's possible that the same could not have been said of design before the anthropologists and sociologists and design researchers *et al* arrived—this, however, we'll never know, because there's no way to reverse migration.

[5] E-Lab, where I worked after completing an MA in Art History, was founded by three people: Mary Beth McCarthy, an accountant, John Cain, a graphic designer, and Rick Robinson, whose training was in social/developmental psychology, and whose own introduction to anthropology came in the course of a study done with Xerox PARC. My training in social and cultural (aka ethnographic) research methods, because it occurred at E-Lab, was practically inseparable from my training in design. Which is not to say that I became a designer any more than I became an anthropologist. But insofar as I picked up either field, I learned them as a hybrid. One result of my training is that, even now, I tend to think of design as a form of social science (i.e. social theories or social models embodied as products) and social science as a form of design (i.e. theories with affordances, usability, etc., embodied as word+image).

[6] For more on INCITE, see www.soc.surrey.ac.uk/incite

[7] I should, however, have taken comfort from the composition of the advisory board, all present in the meeting that day. They included Dr. Sarah Jain (Cultural Anthropology, Stanford University), Dr. Christena Nippert-Eng (Sociology, Illinois Institute of Technology), Dr. Nina Wakeford (Director

INCITE, University of Surrey), Dr. Elizabeth Anderson, one of the four directors of London offices of Sapient, and Prof. Lucy Suchman (Sociology, Lancaster University, UK), who joined by telephone. All of the academics present had spent time working within or consulting for industry. I think the composition of the advisory board makes it very clear that if there are meaningful differences here, they are not going to be found in Us versus Them accounts.

[8] I'm assuming here that my reasons for worry are obvious, and if they are not obvious...well, I'm surprised, but pleasantly so.

[9] A note here on what I mean and don't mean by the terms Who and What, as used throughout the paper. They are a kind of shorthand and so are reductive both by definition and by design. I acknowledge that, insofar as "What" roughly designates the themes of our research and "Who" the subjects of that research, Whats are not always things, nor Whos always people. The point of the shorthand is to signal that, in ordinary practice, especially in commercial settings, our research tends to be conceived (reductively) in just these ways. It is based not in a desire to simplify, or elide important specific qualities of how we formulate our research, but rather to name the kinds of elisions and simplifications that I think already inhabit design research practice.

[10] All of the women in the house have a mobile phone. All of them use it, I would say, passionately. For many, it was their lifeline to far-flung friends and family, who are made to feel more far-flung by the hard exigencies of public housing in London, which forces women to live where there is housing and not where they want to live. Plus, they live in a shared house with no private phone lines. All of the women I've met use Pay As You Go plans; they do this to control costs—they live on approximately £103 per week in benefits. Even so, they all say that they spend far too much money on their mobile phone. So they seem like pretty good "users," although, as I will argue, this is not the only way we can challenge the assumption that studying homeless women is not a good way to study mobility. I should also note, before leaving this footnote, that the advisory board eventually agreed to my proposal and I went on to spend the next 2.5 years working in the shelter.

[11] Alienating…even dangerous. Jain (in press: n.d.) describes how automotive airbags are not intrinsically or innocently or incidentally dangerous to children; they are dangerous precisely because airbags are designed with a statistically average American man in mind as their user, and so the resulting product codes for or envisions the average American man.

[12] Some other examples of the "know your user" dictum can be found on the following diverse sites: http://www.lib.umd.edu/itd/web/bestpractices/know_your_user.html
http://www.uie.com/events/roadshow/know_your_users/
http://geekswithblogs.net/ajohns/archive/2004/02/03/1708.aspx
http://revolution.byu.edu/design/InterfaceDes.html
http://www.iw.com/magazine.php?inc=121500/12.15.00webobservatory.html
For examples of companies which employ ethnographic methods, see:
http://www.intel.com/research/exploratory/papr/,
http://www.nop.co.uk/news.asp?go=news_item&key=119,
http://research.microsoft.com/research/detail.aspx?id=6.
For published literature on these methods, see also: Blomberg et al 2003, Squires and Byrne 2002, Salvador et al 1999.

[13] "User" has also become lingua franca in academic books about the social science of technology, for example, *Perpetual Contact* (Katz and Aakhus 2002) and *Wireless World* (Brown et al 2001).

[14] Because apologists can always claim that it is only a word and then suggest to the critic that they just choose something else, any word they like.

[15] www.teksci.com/teksci/dictiona.asp defines "usability testing" as: "testing the ease with which users can learn and use a product." A search for "usability testing" in Google.com will provide several other definitions. The key differentiator of usability testing over the broader user research is that in usability testing, the product already exists, if only in prototype. Research in this context means watching users interact with an existing product. And by radically simplifying what anthropology calls "context," just as scientific laboratories radically simplify the messiness of the world (Latour 1995), usability testing reduces people to "users."

[16] The book *How Do I Look? Queer Film and Video*, published in 1991, was edited by a group who called themselves Bad Object Choices. This name highlights, at once, their collective investment in the work of queering film and video studies, but also the ineluctably political and politicized nature of that work, the fact that a choice of object (or topic), and a particular perspective on that object, renders the objects of their study—and via a reflexive turn, themselves—as "bad object choices."

[17] Here, we could also cite Xerox PARC's ethnography of people in airports, conducted in order to support a larger study on workplace practice (Xerox Palo Alto Research Center (PARC), http://www.parc.xerox.com/); Intel PAPR's ethnography of salmon trawlers in Alaska to support a larger study on mobility (Intel's People and Practices Research (PAPR), http://www.intel.com/research/exploratory/papr/); or the INCITE-Intel collaborative ethnography of London's 73 bus route, conducted in order to support a larger study on ubiquitous computing (Incubator for Critical Inquiry into Technology and Ethnography (INCITE), www.soc.surrey.ac.uk/incite. For documentation of the bus project itself, see http://www.73urbanjourneys.com/). Given the rules of propriety and competition, the projects above tend not to have citations, so I am limited in most cases to a mere mention of the work, although each of the projects undoubtedly deserves more extensive treatment.

[18] This is something that many anthropologists complain about, shrilly.

[19] The issue of time deserves at least a footnote. Questions of timing are critically important in commercial settings, where perhaps the greatest shift for sociological and especially for anthropological practice (the greatest migratory distance traveled) is in relation to time (i.e. duration of study). Time and development, on their own, deserve much more thought as forces giving shape to current design research.

[20] The project is called "Photos Leave Home." It has been funded by the Economic and Social Research Council (ESRC), and was conducted in the United Kingdom between the Autumns of 2004 and 2005. You can read more about the project here: http://www.photosleavehome.blogspot.com and in several forthcoming papers (Cohen in press; n.d. and Cohen n.d.)

[21] Here, I am drawing mostly on Hannah Arendt (1958) and Michael Warner (2000), but also on some writers who don't address publics by name, but who I think describe significant features of how

publics function *today*. Namely: Lawrence Lessig (2004), McKenzie Wark (2004) and Eric Raymond (1999).

[22] Copyright cases concerning digital music and software licensing are two of the more publicized, recent examples of this struggle.

REFERENCES CITED

Althusser, Louis
1971 Ideology and Ideological State Apparatuses (notes towards an investigation). Ben Brewster, trans. *Lenin and Philosophy and Other Essays*. New York: Monthly Review Press.

Arendt, Hannah
1958 *The Human Condition*. Chicago: The University of Chicago Press.

Bad Object Choices, ed.
1991 *How Do I Look? Queer Film and Video*. Seattle: Bay Press.

Barad, Karen
2003 Posthumanist Performativity: Towards an Understanding of How Matter Comes to Matter. *Signs: Journal of Women in Culture and Society* 28(3):801-831.

Becker, Howard
1998 *Tricks of the Trade: How to Think about Your Research While You're Doing It.* Chicago: The University of Chicago Press.

Benjamin, Walter
1985 The Task of the Translator. Hannah Arendt, trans. *Illuminations*. New York: Schocken Books.

Berlant, Lauren and Michael Warner
1993 Sex in Public. *In* Simon During, ed. *The Cultural Studies Reader*. pp. 354-367. London: Routledge.

Bhahba, Homi
1994 *The Location of Culture*. London: Routledge.

Blomberg, Jeanette, with Mark Burrell and Greg Guest
2003 An Ethnographic Approach to Design. *In* Julie A. Jacko and Andrew Sears, eds. *The Human-Computer Interaction Handbook: Fundamentals, Evolving Technologies and Emerging Applications*. pp. 964-986. Hillsdale, NJ: Lawrence Erlbaum Associates.

Brown, Barry with Nicole Green and Richard Harper, eds.
2001 *Wireless World: Social and Interactional Aspects of Wireless Technology*. London: Springer Verlag.

Chandler, Raymond
1989 *What We Talk About When We Talk About Love*. New York: Vintage.

Cohen, Kris
2006 A Welcome for Blogs. *Continuum* 20(2).

n.d. Going Public: Photos Leave Home. Unpublished paper. Department of Sociology, University of Surrey.

Eribon, Didier
2004 *Insult and the Making of the Gay Self*. Michael Lucey, trans. Durham and London: Duke University Press.

Foster, Hal
2003 *Design and Crime (and Other Diatribes)*. London: Verso.

Foucault, Michel
1991 Questions of Method: An interview with Michel Foucault. *In* Graham Burchell, Colin Gordon and Peter Miller, eds. *The Foucault Effect: Studies in Governmentality*. pp. 73-86. Chicago: University of Chicago Press.

Haraway, Donna
1988 Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective. *Feminist Studies* 14(3):575-599.

Hebdige, Dick
1979 *Subculture: The Meaning of Style*. London: Methuen.

Hughes, Everett C.
1984[1971] *The Sociological Eye*. New Brunswick, NJ: Transaction Books.

Jain, Sarah
In press *Injury: Design, Inequity and Litigation in the United States*. Princeton, NJ: Princeton University Press.

Katz, J.E. and Mark Aakhus, eds.
2002 *Perpetual Contact: Mobile Communication, Private Talk, Public Performance*. Cambridge: Cambridge University Press.

Latour, Bruno
1995 The "Pédofil" of Boa Vista. A photo-philosophical montage. *Common Knowledge* 4(1):144 - 187.

Lessig, Lawrence
2004 *Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity*. New York: Penguin Press. Also as electronic document, http://www.free-culture.cc/freecontent/

Lyotard, Jean-François
1984 *The postmodern condition: A report on knowledge.* Geoff Bennington and Brian Massumi, trans. Minneapolis: University of Minnesota Press.

Martin, Emily
1994 *Flexible Bodies: The Role of Immunity in American Culture From the Days of Polio to the Age of AIDS*. Boston: Beacon Press.

Molotch, Harvey
2003 *Where Stuff Comes From* . London: Routledge.

Nyíri, Kristóf, ed.
2003 *Mobile Communication: Social and Political Effects*. Vienna: Passagen Verlag.

Raymond, Eric S.
1999 *The Cathedral and the Bazaar: Musings on Linux and Open Source by an Accidental Revolutionary*. Beijing: O'Reilly.

Salvador, Tony, with Genevieve Bell and Ken Anderson
1999 Design ethnography. *Design Management Journal* 10(4):35-41.

Sartre, Jean Paul
1988 What is Literature? *In* Bernard Frechtman, trans. *What is Literature? and Other Essays*. Cambridge, MA: Harvard University Press.

Sedgwick, Eve Kosofsky
2003 *Touching Feeling: Affect, Pedagogy, Performativity*. Durham, London: Duke University Press.

1988 Privilege of Unknowing. *Genders* 1(Spring):102-24.

Squires, Sue and Bryan Byrne, eds.
2002 *Creating breakthrough ideas: The collaboration of anthropologists and designers in the product development industry*. Westport: Bergin Garvey.

Suchman, Lucy
2000 *Located Accountabilities in Technological Production*. Lancas ter, UK: Centre for Science Studies, Lancaster University. Electronic document, http://www.comp.lancs.ac.uk/sociology/papers/Suchman-LocatedAccountabilities.pdf

1987 *Plans and Situated Actions: the Problem of Human-Machine Communication*. Cambridge: Cambridge University Press.

Wark, McKenzie
2003 *A Hacker Manifesto*. Cambridge, MA: Harvard University Press.

Warner, Michael
2002 *Publics and Counterpublics*, New York: Zone Books.