The Cackle of Communities and the Managed Muteness of Market

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Researchers at EPIC face something of a trap. Situated in an ethos of twenty first century consumer capitalism, our professional duties overemphasize individual consumers, and the products of our research always diverge towards our respective corporations' interests. As a result we have little basis for collective enterprise as a discipline. However, if we remember that human beings are always part of naturally occurring social systems (communities, work organizations, etc.) we might find we have more to say, both to our corporations and among ourselves. When we shift our perspective this way we find our work is as much about catalyzing human social systems as it is about understanding "the consumer." This paper uses three examples from my own experience at Intel to explain, and highlights some implications of this shift: we must adopt multiple levels of analysis, attend to the fact that structures emerge from human interaction, and account for divergent interests, needs and abilities as these networks form.

INTRODUCTION

It is a common enough scene in our profession. Company X is looking to get into a new line of business or perhaps make some changes to a product, and wants to understand its potential end customers. The ethnography team is mobilized. After (hopefully) conducting some literature research, perhaps talking to a few experts, the team finds themselves out in the field, speaking with the right selection of "ordinary folks" about cream cheese, or getting a cold, or clothing, or the latest digital gadget. The research team comes back and identifies some very interesting patterns in the data, proceeds to tell the suits / engineers / product planners that they were thinking about things all wrong (the obligatory "reframing"), and then proceeds to construct a nifty segmentation model, complete with a manageable number of personas. Perhaps, if they're really good, they'll create an interesting experience model that represents these users' perspectives in a way that is productive for the company. All-in-all, a textbook case of the use of ethnographic research in industry.

And then what? What of true lasting value comes of all this effort? One or two insights might prove useful for whatever is the innovation *du jour*, complete with a pat on the back and a flurry of requests to use some of our pictures, quotes or insights for promotional

materials. And at a conference such as this one, we get to tell our obligatory reframing stories, maybe even get a little chuckle at the suits' expense. Beyond that, what do we retain? How many abiding insights transfer to other projects or add to a general body of knowledge? I think few would disagree that the answer seems to be "very little."

Why is that? Are we doomed to forever being purveyors of knowledge that is mostly disposable? Are the conversations we can have as a community limited to either those "reframing" stories, all-too-familiar hand-wringing about methods or our status as professionals, or debates about who is a "pseudo-ethnographer"? I'd like to suggest that the primary problem is that we have allowed our discipline to be hijacked in a direction that is neither good for corporations nor ourselves. Still, we are hardly doomed.

The trap

Where do the origins of this predicament lie? A generous explanation might point to anthropology's historical emphasis on the particular. This emphasis is evident in workplace-based ethnographic research that has provided at least some of EPIC's ancestry. Suchman (1983; 1995), Sachs (1995), Orr (1996) and a handful of other anthropologists directly critique what might be called the "management consultant fallacy" – the prevailing wisdom that work is best understood from a high (read: management) level, the corporate approximation of the "God's-eye-view." These researchers have taken great pains to point out that the normative / management perspective is at best partial, and have demonstrated how it rendered invisible the real, concrete contributions that actually enable the persistence of the structures that Biz School colleagues hold so dear. As heir to that tradition, it is good that EPIC research emphasizes the individual and the concrete over the remote and abstract. But this is not all that's going on.

A less sanguine assessment might point out that most current corporate-based ethnographic research is conducted in a rather different context, for a different purpose than those studies cited above. Most of us are involved in consumer-oriented research, or perhaps more precisely twenty-first century consumer-capitalist research. In this way of looking at the world, real people, with their messiness and inconsistencies and unpredictable forms of personal agency are too difficult to deal with. Instead, we too are asked to create abstractions, not of work processes, like the management consultants, but rather of people. Thus emerge our beloved *personas*, those schematized representations of the user / consumer whose only dimension of real interest is their relationship to our brand. The *persona*, whose ridiculous cartoonish features constitute the iconography of the corporate "war room."

Personas are always individuals. The hyper-mobile, post-industrial consumer capitalist world is populated, it would seem, only by individuals.[1] The only meaningful collective to

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[1] Whether that is a product of three centuries of evolution of the disciplinary power of the state (Foucault), or technological reconfigurations of human society (Wellman), or some other cause I will leave out of this discussion for my own and the reader's sanity.

which the persona can be said to belong is that which he represents: the *market segment*. Individuals within a market segment don't interact with each other, they simply share a set of characteristics. Other types of collectives don't matter. We don't hear much about "communities" in market research. People don't "do stuff" together – most significantly they don't "do stuff" together to produce value for themselves and each other. No, producing value is the job solely of the corporation, which is always just hidden from view behind the mirrored glass of the focus-group room.

Maybe even this is not so hard to understand. It's *hard* to design for more than one person. And, at least for the technology industry where I work, four decades of history seem to suggest that computing is best when it's intensely personal. Who wants a mainframe computer? Give me an iPod! But this obsession with the individual consumer, to the neglect of any broader social systems, limits us in two crucial ways:

It limits the value we add to our corporations. Because this process of (dis)individuation of the consumer, the fascination with the representative individual, tells only half the story. Our actions, values and desires can rarely be interpreted aside from these larger systems that shape them, and are shaped by them. Our participation in broader social systems is inherently productive, if only of meaning. And, as will be discussed, the description of how communities or other collectives function is a different task than describing the practices of individuals within those systems. Unless we do both, we're only telling half the story.

It limits our own abilities to grow and share knowledge.. Elsewhere (Sherry, 2006) I have fretted that those of us who attend EPIC do not really form anything approaching a discipline. We have, as Latour (1999) would put it, no texts that circulate through this community, to provide both a sense of focus and revivification. Put more bluntly, we do products, not theory. Despite the repeated injunctions by luminaries at this conference in prior years,[2] the fact is, for most of us that is not our job. Sure, we might invoke this or that bit of theory as a way of establishing pedigree or to make our assumptions a bit more transparent. But we are members of corporations who demand that we produce not theory but rather "actionable insights" for particular products and services.

Because of that, the drivers of our research activities are always divergent. As our respective brand identities diverge, the translations that occur when we leave the field also diverge. And the hyper-stylized individuals we care about, our beloved personas don't speak to each other. Personas don't really traverse very well across organizations, or even from product to product in the same department for that matter. The obsession with that one-dimensional relationship of "the user to our product", almost by necessity deems irrelevant the unseen people, institutions or communities that exert influence on human practices.

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[2] Recall, for instance, the advice of doctors Bell and Robinson at the EPIC 2006 panel session.

Given all this is it so surprising we have little to talk about together? Yes, there are the "reframing stories." There are excellent papers and discussions about methods or what we are about, collectively. But beyond that, little else.

A WAY OUT

My prescription is probably painfully obvious at this point. We begin by acknowledging the fact that human beings are more than just randomly distributed individuals. We are also, always, members of clans, work organizations, voluntary associations, communities and other complex, adaptive social systems of all stripes. These are notoriously problematic and contested categories, both in the social sciences and in life more generally. Rather than attempting to nail down some working definition of "a community" or "a human social system", I would like to focus instead on a few simple implications of this acknowledgment, which seem to apply regardless of any problematic definitions. These implications are readily available in both broader anthropological research, but also in many adjacent domains of research, for instance in the field of computer supported cooperative work, studies of online communities, and even implicit in some prior work at EPIC. The message here is thus nothing particularly new – at least it better not be. My hope is rather to highlight it a bit more explicitly than has been done in the past.

The first implication of this acknowledgment is that we need to attend to multiple levels of analysis. That is, for our work to be whole we must look at both individuals and at the systems they collectively create. This multiple levels issue has been widely recognized and identified in anthropological research and beyond. A very straightforward example comes from Hutchins (1994) ethnographic study of navigation teams. Hutchins distinguishes between the overall, emergent functioning of a system, and the practices incumbent on an individual participant in that system, "[T]he computations performed by the navigation system are not equivalent to the cognitive tasks facing the individual members of the navigation team." One can't equate systems with their constituents. We must understand both.

Hutchins' study of navigation was conducted in the context of a military sea-going vessel, which implies a certain rigidity in terms of social organization. This belies a second implication: that human social systems are mostly constituted through the practice of individual members – they are "self-organizing." Organizations aren't just magically "there", external and separate from the people who comprise them (military experience notwithstanding); they are the results of human interaction. Ethnomethodological research has demonstrated how social structure emerges from the moment-by-moment interactions of individuals. Drawing on the approach, Hughes, Randall and Shapiro (1992) have argued that the very appearance of differentiated individual activities in a collaborative work setting is a fundamentally social accomplishment. They examined an air traffic control room, and noted how workers there provided for each other the kind of mutual intelligibility and

accountability that permit cooperation. The emerging structure, including its identifiable parts, is achieved in the moment. "The *sociality* of work is not a matter of discovering the linkages which connect individual work together, but is rather what permits individuation in the first place." People are able to work collectively insofar as they understand how their own activities fit with adjacent ones. (p. 117).

A third implication takes into account that, while self-organizing, human social systems can involve quite complex relations of power, disparities in access to resources, and strong divergences in perspective. Social systems coalesce when divergent interests are brought into alignment; when costs, benefits, resources and needs are sustainably balanced. From the early CSCW literature comes a simple illustration of this point: Grudin (1988) found that many collaborative work tools fail due to a "disparity between those who will benefit from an application and those who must do additional work to support it." More generally, a wealth of social scientific research – most notably, work in cultural or political ecology – has focused on how communities dynamically maintain this alignment of competing interests, particularly in terms of balancing these in situations of scarce ecological resources (Ostrom, 1990; Greenberg and Park, 1994). Some of that work has been applied to on-line communities as well (Smith and Kollock, 1999; Preece, 2002).

More or less explicit in the ecological perspective on communities is the additional insight that such social systems are generally productive. Communities are created not just by people knowing things about each other, as so many online communities seem to focus on. Rather, communities arise as people do things together, whether that means managing a commons, contributing to an online discussion or simply creating meaning. Perhaps most relevantly, the types of things that people do together – the bonds by which they are united – affect the type of community that arises (Sherry et al, 2002).

Along with these simple implications come two simple caveats. First, communities are more than the quotidian products of human self-organization. Communities are also *imagined* (Anderson, 1983; Appadurai, 1991). The ideological construction of affinity and identity not only cross-cuts the practical organization of people and activities, it is broader. In Anderson's use of the term, the "imagined community" applies to national ethnic and sovereign identity, by definition a larger population than the community of people one might meet in daily life. Real and imagined communities thus interact, creating powerful and layered *subjectivities*. Tensions arise among competing notions of purpose and identity, between ideologies of camaraderie and real inequalities. This reminds us that we as researchers cannot simply take at face value the ways communities are described for us. But it also points out that people are "participants" in communities that lie beyond the immediately observable. To ignore these realities as we focus on the "community" level would be inexcusably naïve.

Second, and related, we can not ignore the yet larger systems in which these networks of human agency are embedded. Two of the cases to follow focus on health care, for instance. Here one can not deny the role of the state, of global circulation of medicines (both

legitimate and counterfeit), capital, and labor (for instance in providing in-home care in the informal sector) as these continue to shape what health means and how it is socially achieved. The same can be said for virtually any other domain of scrutiny. While human social organizations are not simply "out there", neither are they formed anew each and every time, irrespective of broader social forces that shape what is possible.

CASE STUDIES FROM INTEL

In the following examples I would like to discuss how my own work and that of my closest colleagues has benefited from an approach that incorporates the above insights. Attending to the ways that humans actively create and participate in larger social organizations – however fleeting – and the ways these structures in turn shape human actions, provides us a firmer ground for making claims in our own corporations. A multiple level approach has helped us tell useful, grounded stories about consumers in the present, while also helping us begin to shift the conversation away from this obsession with individuation and consumerism towards a view that enables us to think about our products in terms of social systems. In addition, this shift gives us more to talk about at events such as this. It enables us to construct an approach to research that allows both an accumulation of research results over time and a cross fertilization of results among projects.

The Next Ten Percent project: identifying what "counts" in a community

My first example comes from work started in 2001, while I was still a member of the People and Practices Research Group at Intel. This project was an attempt to explore the possibilities for information technology beyond the wealthiest ten percent or so of the world's population who enjoyed access to the benefits of computing and the internet at that time. A couple important early themes to emerge in this project included (a) the (somewhat obvious) recognition that in most places people did not have the personal wealth to afford technology, and even when they did, did not always find personal ownership compelling; and (b) most of the really interesting uses of technology were less about consumer behavior and more focused on production. People of limited means are more likely to invest money to enhance their own ability to earn money, rather than on entertainment, consumption or even for delayed earning power represented by education of one's children.

We harbored no delusions of people, like that adorable little old Italian woman in the commercials, suddenly marketing their olive oil on the global stage. Nonetheless, examples of productive use of technology abounded. Outside Santiago, Chile, a network of telecenters called *"El Encuentro"* had turned a community center and radio station into a resource for entrepreneurial training and youth employment (the kids who worked as network administrators at the community center became outsourced consultants for a government telecoms network). In Hungary, we encountered *telehas* operators actively seeking government grants, via the Internet, for their fellow villagers. In India, a number of social ventures had created a network of what has come to be known "village kiosks", which are

not kiosks as we know them (ie., not like ATMs) but rather tiny businesses staffed by local entrepreneurs who purchase their own PCs, get access to software and turn around to provide various services to their fellow villagers at an affordable price. These might include access to government services, insurance, banking, farm market quotes, etc..

Most fascinating about these examples were their complex and nuanced approach to entrepreneurism. These organizations were not just about making money, although all of them had that goal, without question. They were, however, just as dedicated to creating and circulating other forms of capital. The director of the Chilean telecenter operation told us explicitly "*El Encuentro* is about creating social capital" – the bonds of community. The use of technology at this telecenter was specifically designed to enable more mutual interdependence within the community. El Encuentro became a stage wherein the needs of the imagined community stood in tension with what were some of the more obvious uses of the technology – computer gaming, for instance, was at first ruled out as a legitimate use of the computers at the telecenter. A Chinese i-Café this wasn't!

Similarly, in rural India, multiple forms of capital were exchanged and accrued around the village kiosks. The firm Drishtee, for example, connected rural Indians to government services via privately operated kiosks. The most obvious was economic: because of proximity, the kiosks saved villagers the expense and time of travel to district seats. Similarly obvious was the economic benefit of access without ownership – that is, community members could benefit from the technology without having to shoulder the burden of ownership themselves. The local kiosk operator, conversely, took on that burden in exchange for modest recurrent fees for use.

Less obviously, this mediated form of access also enabled citizens to benefit from technology's presence without having to learn how to use it – a barrier that is easy to overlook in places such as Silicon Valley, where everyone seems to know how to use a PC. For kiosk operators, mastery of this skill was a source not just of financial capital. Many of the local kiosk operators we visited became more trusted agents of government services than the government itself. Kiosk operations enhanced their social standing. Social capital even accrued to some kiosk customers. One woman I interviewed, born of low caste and illiterate, would doubtlessly have been without much recourse had she been forced to visit district government offices herself. She would have been too easy for clerks to ignore. But via the kiosks, she became an effective advocate, directing many applications, complaints and petitions of her fellow villagers through the relative anonymity and assured response the kiosks enabled.

Emphasizing technology as "personal" thus tends to hide the relationships that are established, changed or disrupted by the presence of technology. Who is the "user" in the above example? Is it the village kiosk operator? Is it the woman who brings the government

petitions of her friends and family? Is it the friends and family themselves?[3] Only by looking at entire community systems could we hope to identify where an appropriate opportunity for Intel might lie. To that end, the insights of cultural and political ecology seemed most appropriate for pointing out the right questions: what counts as a cost, a benefit, a resource or a need? How are these brought into alignment? Without this kind of perspective, if we had, for instance, focused too heavily on issues of personal ownership, or entertainment rather than productivity as the most interesting value proposition, we would have missed this important phenomenon.

This perspective paid off in a number of ways, the most important of which was guiding our attention to the right kinds of interventions for a product with the unfortunate, oxymoronic name of "community PC" (space doesn't permit more detail on this product, but see Sherry, 2006). Other results included an ongoing research agenda, and the germ of work within my new organization Digital Health.

Clinicians: Building an aggregate understanding of the functioning of systems.

In 2005 I joined Intel's newly formed Digital Health Group, where I have had the pleasure of working with a truly world-class research team. One of the first things that became obvious is that Intel got into this business without really understanding, in detail, how health care systems operate. This is not entirely a knock on Intel; I'm not sure many health care organizations understand how they really operate either – at least not at the level of decisions and work practices of their individual clinicians, health professionals and clerical staff (it's the whole "management consultant fallacy" thing again).

Not long ago, our marketing colleagues asked us to "go study doctors" because, they believed (partly correctly) that as high status individuals with some level of say-so over their choice of technologies (more so than, say, nurses), we could get some easy sales by designing something appropriate for them. So, being the good corporate citizens, we ignored their request and went to study nurses. This was not a popular decision, I can testify, but we recognized that we needed to jumpstart Intel's understanding of how health care works, and that the best way to do this was to start at the fulcrum. Nurses are where care happens.

Monique Lambert, a member of our health research team, proceeded to conduct a study of acute care hospital nurses on such an unprecedented scale and to a level of such amazing detail that I dare say she's still recovering from the effort. This was not a matter of a few focus groups. Over hundreds of hours of observations she has pieced together a picture of nurses' work practices that we'll be mining for years. However, it's not exactly that picture of nurses' work that I'm interested in exploring here. One of the most important things Dr. Lambert did was to help explicate the key points at which nurses interact with fellow clinicians, with doctors, emergency medical technicians, discharge planners, social workers,

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[3] See Miller and Slater (2000).

pharmacists, with patients of course, and a host of others who inhabit hospital settings. Our study of nursing can be seen as one stop, one vantage point on the system of health care. While she was doing this work, other colleagues were filling out a picture of what we call "the hospitalization cycle" by examining other perspectives: emergency medical services and the process of hospital discharge (and, all too often, readmissions).

Gina Grumke spent hours riding along with EMS teams, carefully observing and documenting incidents, and of course asking lots of apparently impertinent questions. Like the nurses research this study was complete unto itself, yielding a number of insights that are inherently valuable to our organization (including the insight that emergency services provide a huge amount of routine care in the community, a fact that we are currently exploring in more depth). Likewise, Nancy Vuckovic conducted research focused on the process and immediate aftermath of the hospital discharge process. This project has been likewise self-contained, albeit incrementally more "systemic"; that is, Nancy looked at the issue from the perspective of nurses, discharge planners, patients and others. This work has yielded a number of potential opportunities both in the hospital setting prior to discharge as well as in the home afterwards, to ensure that patients who are released "sicker and quicker" these days are better prepared to care for themselves.

I would like to point out how important this approach is to our – and hopefully Intel's – success. By identifying more recognizable, self-contained research projects, ostensibly devoted to understanding particular types of users, we've been able offer an acceptable research agenda to our colleagues.[4] By providing concrete results on discrete portions of the healthcare system, we've been able to keep the wolves at bay, as it were, while gradually building up a composite understanding of how doctors, nurses, patients, information, medications, technologies, resentment, intrigue and a host of other tangible and intangible objects flow through health care organizations and interact.

A "multiple" levels approach here was thus crucial, not just for making the work more manageable and acceptable. Some insights about nursing work are most apparent when adopting a more "micro-interactional" approach, exemplified by research Nancy Vuckovic conducted before joining our group (Vuckovic, et al, 2004). This work showed how the practice of "eavesdropping" is critical for maintaining situation awareness among nurses in an intensive care unit, and opened for scrutiny the idea that our technologies must also make that kind of awareness possible. Other insights, however, can only emerge when we see more of what happens "off stage", by following nurses, or physicians, or other clinical workers for longer periods of time, and understanding the power relations, constraints, and other factors that shape their own perceptions of their work, and responses to it. Large providers, insurance companies and governments exert tremendous forces that shape health care delivery on the ground – and these forces can be in outright conflict. Power relations

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[4] They got over the fact that we weren't studying doctors first, when they realized nurses liked their first prototype better than doctors did.

among various types of physicians, between physicians and nurses, and throughout the hospital shape behaviors and understandings of work. This is all well known, but until the research is done it is hard to know, in a concrete way, ready for design, what it means for a nurse can be put on the spot for patient information by a physician, what a nurse or physician or phlebotomist might be willing to carry, or why it may be easier to introduce many new products into a hospital at one time, rather than bit-by-bit.

Perhaps more importantly, this aggregation has allowed us to better identify gaps, disparities, or other interesting aspects of broader systems in a way that few individual participants in these system would be ever able to articulate themselves. This in turn helps us to more quickly identify with our colleagues where the interesting technology and business opportunities lie. By constantly traversing between the two levels we're able to have much more meaningful conversations about what might be interesting for a given type of individual while at the same time understanding how such a solution might ripple through health care organizations more broadly. While being realistic about the constant possibility of unexpected consequences, we also know that a detailed understanding of how health care works increases our chance of success.

The Global Aging Experience project: beyond individual values

In a fashion quite similar to the clinic-based research we have a team pursuing a project called the Global Aging Experience project, which consists of both an over-arching agenda and a series of discrete projects. One of the key areas of opportunity being pursued by the Digital Health Group as a whole is the huge wave of adults now reaching an advanced age. There are a number of reasons for this interest. The vast majority of all care for seniors with any form of disability or chronic disease is provided informally by daughters, sons or other loved-ones who may not live under the same roof as the elder. Technology could assist with some simple aspects of daily monitoring and care. Health care organizations currently provide little direct care to seniors – and will provide proportionally much less as the coming wave of aging boomers reaches full maturity, yet they are still facing spiraling costs. Operators of retirement homes and nursing homes may be interested in expanding their services "virtually" via technology, without the heavy capital investment of additional real-estate. All these factors suggest the need – felt perhaps most acutely by most elders themselves – to let people age more gracefully at home.

This work intentionally built on prior research at Intel (Morris et al, 2003). A familiar mantra of that prior work was "aging in place" (that mantra is employed much more broadly than just at Intel, of course). At its best, it means enabling people to avoid unwanted institutionalization. Our progenitor group had put much emphasis on networks of sensors and other technologies to be placed in the home to allow aging adults to avoid or recover from cognitive decline, falls or other adverse events that might land them in a nursing home.

In what looks like a fairly standard qualitative research project for this large and heterogeneous "market segment", members of my team conducted a massive, multi-country

Cackle of communities – *Sherry*

study of the subjective experience of aging across western Europe as a first step in gaining a broader global understanding of what it means to grow old and whether "aging in place" is indeed a universal value. As with the clinics project, our success in pursuing our research agenda has hinged on our ability to deliver, along the way, results that are recognizable and useful to our colleagues. One of the things we produced last fall, for instance, was a somewhat rough approximation of a segmentation model, along with fairly simple personas. These include categories that segment people according to both their ability and motivation to care for themselves, and their orientation towards future uncertainties.

We've also produced a "reframing" of a sort that anyone at this conference might recognize, in this case, an emphasis on the importance of moving away from a medicalization of old age to an emphasis on healthiness, ability and aspirations, which is certainly reflected in our data. But this simple reframing almost immediately entailed the need to understand whole communities. "Aging in place," it turns out, is fraught with implications about what needs to be "in place" throughout entire communities – good old fashioned geographic communities, that is – to make the proposition desirable or even feasible.

Part of this is obvious: many of the services that an assisted-living facility might provide (for instance, assistance with nutrition, hygiene or other so-called activities of daily living) are material. They need to be made locally available for a senior to access them from home. And other services – home maintenance, lawn care, etc. – must be available locally from trusted providers as well. Many of these resources are already found in the physical communities that people already inhabit. The challenge, however, is how to motivate and align these resources in such a way as to make them available, recognizable and useful to seniors.

Additionally, quite explicit in the discourse of seniors themselves is the expressed desire to remain active, productive members of their communities, to be able to participate in the life of these communities in various ways. If we focus too heavily on instrumenting households, the mantra "aging in place" can quickly devolve into a form of imprisonment, perhaps less desirable even than a nursing home. It doesn't just take a village to raise a child, it also takes one to enable graceful aging.

Transportation resources offer a perfect example. In most communities – modestly affluent places, at least – transportation is not a scarce resource. And yet, lack of access to transportation is one of the key causes of isolation and institutionalization among elders. Perhaps not surprisingly, transportation is intimately tied to social participation; cognitive and physical stimulation; household provisioning and numerous other services that make staying at home viable. One of our first follow-on studies, conducted by Simon Roberts and team in Ireland, was on rural transportation systems. There are some groundbreaking experiments underway in alternative forms of transportation for the elderly, both in the US and in Europe. From the perspective of technology, there are interesting possibilities for facilitating a better linking of available resources (volunteer drivers, community-based transport systems) and those in need of a lift. This is not to say technology is the answer.

Some of the weakest projects we've seen are the heaviest users of technology. But done correctly, technology could provide a tremendous tool for linking providers with those in need.

Our study of aging has thus become less a question of what gadgets to create for individual seniors and more an exploration of how technology can be used to catalyze networks to serve the needs of seniors, to help bring alignment among a variety of actors to enable transportation, nutrition, home maintenance, medical care, social engagement and numerous other yet-to-be discovered services people of advanced age will need to age in a fashion they desire. This is no mean feat, and it explains why we actively cultivate research and development collaborations. It would be foolhardy to try this alone. Our research has involved a number of academic, private and non-profit organizations, and will continue to do so. But one of the distinct values we can offer as social scientists in these collaborations is to help uncover, through careful observation and questioning, not just unarticulated needs but also the resources and assets that lie unrecognized in the community, along with a careful understanding of how these might be mobilized.

Which, in fact, applies to all of the above examples. I have grown to view our work as less a job of "understanding the user" and much more a task of understanding these alignments, these interactions by which people create their own complex systems, exchanging value and establishing bonds and constraints of various types. We can't do this until we look at these systems "inside and out," as it were.

CONCLUSION

But at the same time, the more intimate networks of human agency, those social organizations that people recognize in their own lives, seem to offer the most useful level for understanding how these broader forces impact individuals. These are the work organizations, the communities and other social groupings that both shape and are shaped by daily human activity.

I'm sure many of you, in particular those of you who are in the consulting business, will view this with great skepticism. "What I wouldn't give for the luxury of exploring these broader systems!" I recognize that when you've got three weeks to become the expert on a particular domain (not of your own choosing), asking the client to let you build a picture bit by bit must sound ridiculous. But I wonder…is it really out of the question to take a certain amount of time to try to understand and represent a view onto your data that accounts for these broader, emergent systems that are created through human agency? At the very least, understanding how our products are implicated in the creation of meaning, or as boundary objects in the formation of social systems, seems vital. To reiterate, it's not as if no one has thought of this (see, for instance Bruner (2005) for an EPIC paper that reflects this kind of understanding).

This is all fine from the point of view of being a better resource to our respective corporations, but it also has implications for us as a community here at EPIC. Still I suppose it is hard to believe we attendees of EPIC will ever "do theory" on a full time basis the way our academic colleagues do (or at least that's what I hear they do). That is not our job. What, then, do we circulate? Let me offer three very simple suggestions of the kinds of conversations I can imagine having:

- First, we might simply engage in discussions of how communities are seen to function from the perspective of our various research agendas. What are the types of communities that interest us? To what extent do the "players" we've identified in our work match up against those identified by researchers from other corporations? What "counts" in these networks or communities – what sorts of value is produced and exchanged and how? Given how Web 2.0 has seemingly captured the interest of so many different types of corporations, it may be we are ready to have such a discussion at this very meeting. In particular, there seems to be a certain naivety with regards to such systems, as if one can simply "design" a desired community. Given the preceding discussion, this seems highly unlikely.
- Second, additive discussions. By leveraging models of social systems already proposed and examined by ourselves and our colleagues, we might actually get a leg up on work we have yet to begin. Such models, if nothing else, might alert us, as researchers, what to be looking for the next time we embark on a given project with a given population. This obviously requires a certain level of openness. The fact that, most of the time, our corporations don't recognize this kind of knowledge as intellectual property (yet) might make this easier.
- Third, search for complementarities. By focusing on how products and services might shape the formation of social systems, we might discover new ways to do what most of us are paid to do: help imagine new products and services. Beyond simply comparing how we look at technologies, I would love to engage other researchers, working for entirely different kinds of corporations than mine, in an exploration of how our various products and services, real or imagined, might interact in these social systems. As mentioned, we've already begun this with transportation, and the results have been fascinating.

Yes, there is much to be worked out, both theoretically and logistically. Even that working out might provide us, as a community, with something to actually do together. And *that is how communities are made!*

NOTES

REFERENCES

Anderson, Benedict
1983   *Imagined Communities: Reflectionson the Origin and Spread of Nationalism.*
            London: Verso.

Appadurai, Arjun
1991   Global ethnoscapes: notes and queries for a transnational anthropology.
            In Recapturing Anthropology:Working in the Present, ed. RG Fox, pp.
            191–210. Santa Fe, NM: Sch. Am. Res. Press.

Bruner, Dan
2005   Social relationshipos in the modern tribe: product selection as symbolic
            markers. EPIC 2005 Proceedings. NAPA.

Greenberg, James. and Thomas Park
1994   Political Ecology. Journal of Political Ecology 1(1): 1-12.

Grudin, Jon.
1988   Why CSCW applications fail: problems in the design and evaluation of
            organizational interfaces. Proceedings of CSCW'88. ACM Press.

Hughes, John, David Randall and Dan Shapiro
1992   Faltering from ethnography to design. Proceedings of CSCW'92. ACM
            Press.

Hutchins, Edwin
1994   *Cognition in the Wild.* Cambridge University Press.

Latour, Bruno
1999   *Pandora's Hope: Essays on the Reality of Science Studies.* Cambridge, MA:
            Harvard University Press.

Miller, Daniel and Don Slater
2000   *The Internet: An Ethnographic Approach.* London: Berg.

Morris, Margaret, Jay Lundell, Eric Dishman, Brad Needham
2003   New perspectives on ubiquitous computing from ethnographic study of
            elders with cognitive decline. *Ubicomp 2003.* Springer.

Orr, Julian
1996   *Talking about Machines.* Cornell University Press.

Ostrom, Elinor.
1990   *Governing the commons: the evolution of institutions for collective action.* Cambridge
                University Press.

Preece, Jennifer.
2002   Supporting community and building social capital. *Communications of the
                ACM* 45(4): 37-39.

Roberts, Simon, David Prendergast and Tim Plowman
2007   Homes as indexes of the ageing experience. MS in preparation.

Sachs, Patricia
1995   Transforming work: collaboration, learning, and design. *Communications of
                the ACM* 38(9): 36-44.

Sherry, John
2006   Compressed time, expanded space. Paper presented at the Annual
                Meeting of the American Anthropological Association, San Jose, CA.

Sherry, John, Wendy March, Richard Beckwith, Tony Salvador and Steve Barile
2005   The life of the place: technology and communities. *HCII 2005* Las Vegas,
                Nevada.

Smith, Marc and Peter Kollock, eds
1999   *Communities in Cyberspace.* Routledge.

Suchman, Lucy
1983   Office procedures as practical action: Models of work and system design.
                ACM Transactions on Office Information Systems, 1, 4, 320-328.

1995   Making work visible. *Communications of the ACM* 38(9): 56-64.

Vuckovic, Nancy, Maria Lavelle and Paul Gorman
2004   Eavesdropping as normative behavior in a cardiac intensive care unit.
                JHQ online, Sept/Oct. 2004.
                http://www.nahq.org/journal/online/sep_oct/Eavesdropping_Normative.pdf