EPIC 2013 LONDON
ethnographic praxis in industry conference

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The **National Association for the Practice of Anthropology** (NAPA) is pleased to welcome you to this ninth annual ***Ethnographic Praxis in Industry Conference***. NAPA is a section of the American Anthropological Association and supports the work of practicing anthropology by helping practitioners refine their skills, develop their careers, and market their services, www.practicinganthropology.org

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CONFERENCE ORGANIZERS WELCOME

Welcome to EPIC 2013 and to the dynamic city of London. We are delighted you have chosen to attend the 9th annual EPIC conference and hope this will be an exciting and rewarding experience for you. London is a global city and one that lies at the heart of anthropology's story. This mattered greatly in its selection as host city for EPIC 2013. We hope the scale, dynamism and diversity of London will rub off on attendees who will find a city of sophistication and leading-edge thinking and practice. In part because of the broad range of practices and influences in this city we decided not to have an overarching theme at EPIC this year. London is home to many communities, traditions and energies that intertwine and flow. Presenters and attendees are thus encouraged to engage with and be influenced by these multiple muses.

Another reason for the location choice is that London can also justifiably claim to be at the heart of anthropology's story. London has played a pivotal role in the development of anthropology as a discipline from the formative years in the early 20th century to more recently developments in multi-disciplinarily and application in industry. This is particularly evident through centres of teaching and research excellence in the discipline (UCL, LSE, Goldsmiths) and through anthropology's suffusion into other educational settings such as centres of design (Central St Martins, Royal College of Art) and business (London Business School, Cass). Of course London is also home to a large number of practitioners of ethnographic praxis, in businesses and agencies of many sizes providing a wide range of business services. Our choice of location at the Royal Institution of Great Britain seems apposite given our intention to foster the exchange of ideas across disciplines and to widen the 'gene pool' of the EPIC community.

EPIC 2013 features a wide range of ethnographic applications in industry, policy making and design, with contributions from Asia, Latin America, Europe, and North America. Contributions speak to multiple themes, such as ethnographers' relation to Big Data, complexity, mobility and technology, the informational economy, new forms of sensory marketing, rituals of consumption and many other topics.

To give these topics space for discussion we have also introduced new formats. Firstly, Salons, which draw inspiration from the historical period when the venue was designed and built, are design to create intimate conversations on key topics. Second, the Town Hall debate provides a venue for a large audience to discuss opportunities and challenges facing ethnographic praxis from data analytics and new processes of more rapid product and service development. We hope that the venue and the city, the people you meet and the content and activities you participate in will give you the opportunity to reflect on your work, explore new possibilities for the diffusion of ethnographic practice. Our aim has been to create a program that will renew your passion for and interest in your work and allow you to feel part of an energetic professional community.

Our sincere thanks go to a highly energetic and creative team of local supporters who have contributed in thoughts, words and deeds to this year's event. We sincerely hope their attention to detail will not go unnoticed. Our special thanks go to the entire program committee for their work in selecting and curating a body of high quality papers, artefacts, pechakucha presentations and workshops. The committee was supported by a larger body of reviewers that evaluated the submissions and provided feedback to the authors. We extend our thanks also to the advisory committee who were forthcoming with support and advice during the year and whose collective experience allows the EPIC experience to be consistent, and consistently high quality. We would also like to give a special mention to the Proceedings team who worked within tight deadlines to ensure that this document reached attendees in time for the event. Our special thanks to Ed Liebow and Inga Treitler for sharing their wisdom from past years to help make a complex process as smooth as possible, and Bev Langevine for lending a hand this year.

Most importantly, we want to offer our sincere thanks to our 2013 sponsors whose support literally makes EPIC possible. At the time of writing this introduction the following companies had committed their support to the conference: Intel, Citrix, Microsoft, Google, Convo, Steelcase, Pitney Bowes, Moment Design, In/situm, Facebook, Sony, IBM, Sapient, MIT Press (IJLM), Experientia, ID, Daishinsha, ReD, SCAD, Osaka Gas, Fujitsu, PDD, Gravity Tank. AAA, Microsoft, Claro, DigitasLBI, UCL, Hakuhodo. Finally, we want to express our appreciation to The Royal Institution of Great Britain for providing a beautiful facility that has created a unique setting for EPIC 2013. We also wish to acknowledge the support of the American Anthropological Association and the National Association for Practicing Anthropologists for their contributions of people and financial resources.

Please enjoy the Proceedings, as an official record of EPIC 2013 and as a reminder of your experience in London. We look forward to welcoming you to EPIC 2014 in New York City.

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The EPIC 2013 Conversation

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Oracles, fear, wonderment and magic graced the Faraday Theater of the Royal Institution of Great Britain once again. They appeared, appropriately, intertwined with the story of the advancement of science, and of technologies of knowledge. At the 9th annual Ethnographic Praxis in Industry Conference, the very fundamentals of humanity, from senses to mediation, were explored and questioned. What an honor to be hosted at this esteemed organization to engage in the exploration of ethnographic praxis in industry!

Experimenting with a theme-less program, the conference exposed the breadth and range of current ethnographic practice. In this year's conversation we note just some of the threads and themes we observed to play out. But before that, we want to offer a reflection on the very existence of EPIC and its mission at the cusp of its 10th birthday.

The ethnographic marketplace matures with new challenges ahead

A couple of years ago we realized the Board faced a rather extraordinary and humbling problem. We had an over-abundance of opportunities to grow in new and compelling ways – by adding regional events, by broadening the market share of participation, by teaching ethnographic methods to practitioners and business stakeholders alike, by extending our channels of communication. These are just some of the creative and enthusiastic ideas brought forward. As EPIC continues to develop, to respond to shifting social and business climates, and to benefit from the energies of so many creative and thoughtful participants, we are sure to encounter even more.

This problem signaled, we believe, a maturation of the scene of ethnographic practice in industry. A scene evidenced especially by the extension of the practitioner-base to include attendees from more business and academic settings and from around the world. Along with

this expansion, however, we see new kinds of challenges. The introduction of user research into many organizations has not been accompanied by an investment in more exploratory forms of research. While new business realities have heightened a focus on customers, users and stakeholders, these shifts have not necessarily resulted in research investments that value exploratory work seeking to challenge underlying assumptions of product categories and business directions. Even organizations that have had long-standing commitments to user research and ethnographic methods continue to keep those investments extremely small-scale. In other words, the maturation that we've witnessed remains entangled with an on-going tension regarding the value and role of ethnography in industry.

This maturation has invited a lot of reflection about the specific role of EPIC given the growth and the new accompanying challenges in this diversifying ecosystem of practice. One is tempted to read the setting of the Royal Institution as sign we have arrived. But exactly who has arrived and what kind of setting is it? How secure are those positions? What is EPIC's role in this shifting landscape? These are questions we hope to continue to explore and address over time.

It's useful to remind ourselves that EPIC's aim is two-fold. First, the organization is committed to illuminate social phenomena through theory and practice, and to explore and debate those phenomena. Second, we are committed to linking this knowledge work to an agenda of change inside the business contexts in which we work. What makes us unique is not only that we can interpret and comment on the social phenomena that we investigate, but that we are often positioned in ways that make us accountable for using this understanding to make change in industry. This unique position that we occupy in our organizations and with respect to our business partners also makes our work fundamentally problematic. More often than not, it is the case that the gravitational pull for business is to not change, making us minority voices.

The EPIC London program offered an abundance of discussion on these two related points of engagement. The varied program expertly curated and executed through the capable hands of Simon Roberts, Tim Malefyt, Rachel Singh, Cat Macaulay and a slew of volunteers and program committee members has provided us with a range of content on the state of knowledge and practice in the world of ethnographic praxis in industry.

Given EPIC's overarching aim to understand and to drive change, the annual conference program focuses less on teaching methods for doing ethnography and social research and more on the knowledge, understandings and implications that come out of the research that gets done. These kinds of understandings are formed through ways of doing work. They are made and constructed. They have histories. They need to be debated and discussed. They are the basis for engagement with our business partners and for the kinds of transformations that may or may not follow. We aspire to appeal to critically engaged practitioners and scholars who are dedicated to going beyond the 'just so' stories we encounter so often in business, and for EPIC to be a place for these discussions and debates to occur. Here we summarize some of the key conversations and points of engagement from this year's conference.

Some themes in and around the EPIC program

The opening and closing keynotes, Tricia Wang and Genevieve Bell, provided us both ambitious and yet grounded reference points for considering the work that we do and the challenges that we face. Tricia Wang's indictment of methods for prediction and the explicit message that we as practitioners are often called upon to answer the question of "what's next" led to an exposition of the ways in which the historical shift to metrics enabled a basis for prediction that was later assumed by computing. Genevieve Bell reminded us of the ways technology captures the socio-technical imagination, and our role in navigating toward advancements that bring wonder and new extensions to what it means to be human.

Data, death and the delight of senses

An entire curated session focused on **data**, as a central shift that our businesses grapple with and that we as ethnographic practitioners struggle to approach. Kim Erwin approached the topic less in terms of the new forms of data propagation and more from the standpoint of big qualitative data and proposed "small packages" as a set of design principles for analytic support. John Curran asserted an ethnographic re-appropriation of the term "big," citing Malinowski and his notion of big claims. We struggled with our own language—what do we mean by big data? what is personal data?—and sought to surface potentially useful means to frame the problem. Brittany Fiore usefully proposed the enticing notion of "data valences" as a way to consider the meaning-making capacities of data with people. Clearly at the early stages of our own discussion, we fully expect the debates on data to continue into the coming years.

Death made a surprising, if at times delightful, appearance at numerous points across the program, including the recounting of a theoretical deathmatch! Responding the reality of their fast-paced, highly results driven context of practice (surely the reality of every practitioner present) and the common lament that it is difficult to draw actively on social and cultural theories that we know animate our thinking, Dauchter and his colleagues at Ricoh sought to find a way to engage existing theory for their work. They devised a game to explore the implications of a select group of works from chosen theorists on their current project. Their mode of making theory less abstract reminded us of the concrete role of theory in our approach to social phenomena.

Death was also a theme for Megan Bannon of Sapient Nitro, who explored people's ways of making sense of Facebook profiles that live on beyond people themselves. In a reminder of how conceptions of death are socially constructed, discussion afterward brought attention to the varying cultural responses to death, and the differing implications for social media management that could be drawn.

We noticed a welcome inclusion of explorations of **senses**, of sensorial forms of experience beyond the dominance of sight. Prior EPIC presentations have called for attention to the senses (such as Cefkin in 2006 and Tunstall in 2006). A number of Pecha Kucha presentations over the last few years lean towards this sensibility, and this year was no exception. J Paul Neeley's encouragement to "consider everything" meant just that – consider all that you consume, experience and endure for its effects on your state of health.

His telling of his year dedicated to extensive self-tracking offered a deeply experiential sense of change. Paul Ratliff's exploration of the joy of ordinary moments likewise delighted the audience while prompting deeper self reflection. Han Pham highlighted how trust is intimately connected to our senses.

David Howe's Day 2 opening keynote address was titularly about senses in marketing, but delved much deeper into how senses are our means to *make sense* of the world. It was also another reminder that the import and "sense" placed on them is often socially and culturally determined.

Value of ethnographic engagement

In his Day 2 closing keynote address, Danny Miller wove a tour-de-force argument against claims on both sides of the spectrum that the mediating effect of technology was changing humanity either for better or worse. Echoing Tricia Wang's compelling assertion in the opening keynote that it is less the precision of metrics driven by computation and more the communicative extension enabled by technology, Miller argued that it is connectivity that makes us human. And he developed this point through the telling of his dip into applied ethnographic work in a hospice center, exploring the social dimensions of end-of-life experience. Both Miller and Wang also made impassioned and compelling arguments for the value of ethnography.

Dynamic ecosystem

Still a few presentations, particularly those by Alice Peinado and ken anderson, surfaced the challenge of the shifting business landscape, our accountability to business and how we navigate it. ken anderson challenged us to consider that perhaps the fundamental assumptions that drove our work in the 90s and early 2000s had shifted and that the models we used to explain behavior do not remain stable over time. anderson proposed that perhaps it was time for us to consider new forms of engagement with the people we study, new types of interventions and, by extension, new types of subject positions for the people we represent back to our businesses.

EPIC epistemologies

As EPIC and the ecosystem that revolves around dimensions of linking understandings of social phenomena to change in industry grows, confronting the various ways of knowing that underlie these understandings will become necessary. While hints of the varieties of epistemological traditions informing EPIC participants' ways of thinking were evidenced throughout the program, the final session, curated by Martha Cotton, served a particularly rich demonstration of this variety. From empiricist (Arsel and Bean) to postmodernist (Arnould and Cayla) to nearly phenomenological (Gonçalves and Fagundes), the varying ways of knowing brought to EPIC and evidenced in this year's conference set the scene for conversations to come to the fore in the future. We welcome this opening and look forward to these conversations.

Day 1, Opening keynote: The conceit of Oracles

TRICIA WANG
Independent

Day 2, Opening keynote: The "race to embrace the senses" in marketing: An ethnographic perspective

DAVID HOWES
Concordia University

Pier 1 Imports is a store that specializes in home decor, including wood and wicker furniture, draperies, and scented candles. On the cover of its Fall 2000 catalogue there is a picture of a tabletop fountain made of slabs of brown and grey speckled marble. Down the right edge of the cover is a series of coloured boxes. Each box is imprinted with the name of a different sense. At the top is feel (golden yellow), then smell (lawn green), hear (purple) taste (lust red), and finally see (burnt orange). The slogan reads: "Get in touch with your senses™"

A full page advertisement for Westin Hotels & Resorts which appeared in 2007 features a bunch of lush green leaves spattered with dewdrops and the line: "White tea. The calming new scent of Westin." There is a flap which releases the scent of white tea when opened. Just above the hotel logo is the slogan: "This is how it should feel." The chain had recently introduced The Westin Heavenly Bed® with its "ten layers of pure comfort."

When Apple launched the iPod touch in 2007 (or iTouch as it is also known), much emphasis was placed on the haptic interface of this combination music and movie player, game console and personal digital data assistant. "Touch your music, movies, and more," the ads suggested, and: "Everything you touch is easy, intuitive, and fun." This was all thanks to the "Revolutionary Multi-Touch interface." There is no need to type commands or use a stylus since users can do everything they want with a simple motion of their fingers – tap, swipe, pinch, drag, flick.

Why all these invocations of the senses in contemporary advertising? Clearly, there is something stirring in the marketplace. Other examples include Salem's "Stir the Senses"

campaign, Friskies' "Feed their senses", Movenpick's "Amaze your senses" and the idea of Greece as a place to "Explore your senses". The list goes on.

Advertising guru and Saatchi & Saatchi Worldwide CEO Kevin Roberts speaks of "the race to embrace the senses" that has come over his profession (Roberts 2005: 106). Three books with the same title, "Sensory Marketing," appeared within months of each other in 2009-2010. What is it about the senses that so appeals to marketers and advertisers? What is driving all this hype? To answer this question I would like to offer an ethnography of "How Marketers Think." This title purposely reverses the direction of the gaze that informs the work of Harvard Business School professor emeritus and former director of the Mind of the Market Lab Gerald Zaltman in How Customers Think.1 In Part I of this essay, by holding up a mirror, I expose how Zaltman and other business professors construct consumers' brains and senses based on a range of unexamined cultural assumptions. I also highlight the larger historical processes, such as the privatization of sensation, that can be seen as shaping the "mind of the marketer". In Part II, I examine the work of the "sensory professionals." These are the scientists responsible for testing the sensory design of products ranging from frozen food to automobiles before they go to market. In this part also, my concern is to expose the unquestioned assumptions that inform the "sensory evaluation" of consumer products and to point to some of the ways in which a culturally-informed anthropological (as distinct from the prevailing psychophysical) methodology would yield radically different insights and results.

PART I: HOW MARKETERS THINK

Let us call the advocates of sensory marketing "sense experts." One point they uniformly insist on is the newness of their approach. Thus, in Sensory Marketing, Swedish business professors Hultén, Brouwes and van Dijk (2009) speak of a "new epoch" dawning in which the senses will be the prime focus of marketing. (Formerly, marketing was all about the product or all about the service a company had to offer.) They go on to advise companies on how to develop strategies for each of the five senses so as to create the "supreme sensory experience" for their customers. The holism of this approach is touted as a way of clarifying a firm's identity and values and at the same time establishing a more individualized connection with the consumer on account of the subjectivity and emotionality of sense experience.

In the introduction to Sensory Marketing, University of Michigan marketing professor Aradhna Krishna starts by chiding her fellow professionals for having largely "missed the fact" that products are sensual in nature. She then advances the proposition that "the more firms can create, accentuate, or highlight the sensuality of their products, the more appealing these products can be for consumers" (Krishna 2010: 1) Next, Krishna discusses the recent history of product marketing. She distinguishes a series of periods leading up to the current time of the senses. First there was the1940s through'60s, "post-Depression" or "no-nonsense" era. During this period, she writes, consumers "looked carefully at price and what the product offered". The sensory aspects of products were hardly mentioned, or "invisible." People lived frugally, opting for inexpensive items and lower-priced stores.

In the 1970s, Krishna continues, it was discovered that branded goods could command a premium, with Levis jeans being the prime example. The focus accordingly shifted to building brand names and logos. But, according to Krishna, the focus on name and logo distracted attention from the other aspects of products in the same way price did previously. As a result, the potential sense appeal of commodities remained occulted. Only recently, in the new millennium, have firms started "actively looking" at and seeking to emphasize the sensuality of products, while iconic brands like Tiffany (with its famous robin egg blue) or NBC (with its tri-tone chime) stand out precisely because of their "sensory signatures."

Krishna notes that even the names of brands have become sensory in the new era of sensory marketing. For example, in the domain of food products there is "5 Gum" chewing gum. It purports to elicit all five senses, whence the name and the catchphrase: "5 Gum Food - Stimulate your senses." In the domain of technical products, there is the iPod touch from Apple. Krishna underscores the way that, in the case of the iTouch:

> the product name itself brought attention to a sensory aspect of the product and gave ownership to iTouch of that sense, the sense of 'touch.' The product name iTouch has connotations for the way the product feels when we use it and for the way it responds to our fingers. This was yet another prescient move made by Apple to play up the senses when few other competitors were doing so (Krishna 2010: 6)

Let us step back for a moment and consider how well-founded Krishna's claims are. The first thing I would note about the iPod with its so-called multi-touch interface is that it is not about touch. It is about accessing sound (in the form of i tunes) and images (in the form of pictures or videos). It belittles touch because its screen, being made of glass, is devoid of texture.

There was a time, not long ago, when touch mattered to the operation of communication technologies. I refer to the days of the rotary dial phone. I happen to still have one such phone in my basement and bring it out every once in a while to practice dialing, even though it is not connected to any network. Dialing a "9" is different from dialing a "1." It involves exertion. There is resistance. By contrast, the iphone neuters resistance.

I do not own an iTouch or iphone but I do have an iPad. Rather perplexingly, it does not always respond to my touch. I am told that this may be because the interface reacts not to touch but to temperature, and that perhaps the blood in my veins is too cold to activate the sensor. I do not appreciate being painted as a cold-blooded reptile, but this remains the most likely explanation, and I have found that rubbing my hands together vigorously before using my iPad definitely helps.

I suspect that I am not the only one who suffers from this particular "disability." There could indeed be many people who feel excluded or deeply frustrated by the haptic interface. Hence, it worries me that Apple "owns" touch, as Krishna says, for that means the future is going to be very flat, however "intuitive", and however "fun."

Setting my personal reservations aside, I have a number of more serious difficulties with Krishna's account of the birth of sensory marketing. Capitalism did not just discover the senses yesterday. The date is more like 1852, the year the first department store, Le Bon Marché, opened, in Paris (Miller 1981). That was the date that capitalism began to transform from a mode of production into a mode of presentation (Howes 2005). To elaborate, one of the distinguishing features of the department store was that each of its divisions or "departments" carried a different line of merchandise, from clothing to furniture to toys. This enabled customers to shop for many items under one roof, and at the same time it exposed them to many items they had not intended to buy but might be led to desire.

Second, the department store was a space of visual fascination with its palatial architecture and floor after floor of entrancing merchandise all laid out on tables. This open display of goods contrasted with the way goods had formerly been hidden away behind counters or in boxes, and the shopper had to ask a clerk to retrieve some item in order to inspect and possibly purchase it. In keeping with the new emphasis on ostentation, department stores like Bon Marché came to figure among the prime visual attractions of a city: they were places to see and be seen, as Rachel Bowlby brings out well in Just Looking (Bowlby 1985: see especially Figure 3)

Third, the department store allowed customers not only to look at but also to touch the merchandise - without the mediation of a salesperson. This increased the risk of theft and damage, to be sure, but that concern was offset by the notion that once a shopper had held an item in their hands, they would be more likely to want permanent possession of it. Thus, department stores were full of both eye-catching and hand-catching displays (Classen 2012: 191-7).

While the department store thus presented two kinds of inducement to buy, visual and tactile, it was the visual register that predominated. This occurred first in the form of the store window display that beckoned passersby to enter, second in the form of the posters and billboards that sought to attract the attention of more distant potential customers, and third in the form of the printed catalogues, some of which, like the Sears-Roebuck catalogue, even brought the store to the consumer.

There was, however, a problem with the hyperemphasis on the visual that distinguished the nascent consumer capitalist regime from its predecessor formation, industrial capitalism. (In industrial capitalism the accent was on disciplining the senses rather than pleasuring them, and production rather than presentation – see Howes 2003a: ch. 8). The problem was that as more and more of the visible surfaces of the city and countryside came to be colonized for advertising purposes, visual fatigue set in. Consumers' eyes glazed over due to the surfeit of visual stimuli. This raised the question: How do you catch the eye of the consumer when all your competitors are trying to do the same?

FIGURE 1. ***Competing for the Consumer's Gaze. "A Nation of Nations," 1976 Bicentennial Exhibition. Courtesy of Smithsonian Institution Collections, National Museum of American History, Behring Center.***

The solution lay in multiplying the sensory bases of product differentiation. This principle was hit on accidentally by the Coca-Cola Company in 1916 (if one may believe the display on this topic in the Coca-Cola Museum in Atlanta, which I had the opportunity to visit recently). At the time, Coke came in straight-sided glass bottles much like those of all the other soft drink manufacturers. The only thing that distinguished a Coke bottle from, say, a Pepsi was the paper label. These labels had the annoying tendency of peeling off when the bottle was jammed in amongst other bottles in the dispenser boxes filled with melting ice. Coke therefore held a competition to design a distinctively shaped bottle that would enable customers to identify their product even if they could not see it when they reached into the icebox. Out of this competition came what is known as the "contour bottle," which is said to have been inspired by the curves and grooves of a cocoa bean. The inspiration may have been off (a cocoa bean rather than a cola bean – what were the designers thinking?) but the design caught on and became one of the most iconic shapes of the twentieth century. The Coca-Cola twin sphere bottle fits so snuggly in the fold of one's hand that it is hard to resist reaching for one again and again and again. Coke patented the design, of course.

Adding feel was an important breakthrough as a means of product differentiation and persuasion (Howes 2005: 285-7). It was soon supplemented by adding sound. The first jingle was composed in 1926. It advertised the General Mills breakfast cereal known as Wheaties with the tune "Have you tried Wheaties?" Other famous jingles include Brylcreem's "A little dab'll do ya" and Coca-Cola's "I'd like to teach the world to sing" (or "It's the real thing"). Like the bottle that nestles in your hand these tunes nest in your ear, and have indeed been called "earworms" on account of the way they bore into your consciousness (Sacks 2007). Another 1920s start-up was the Wired Radio company (1922) which in the 1930s was renamed Muzak (a trademarked name, incidentally). It used the electrical grid to pipe program music into everything from malls and elevators to dentists' offices, and was

supposed to be effective at modulating consumers' moods. "The right beat can turn browsers into buyers," one ad for the service claimed (Baumgarten 2012)

It took some time for the next sense to be added, smell. The scent strip was not invented till 1981, but then immediately took off. They were used extensively in magazines to advertise perfumes and colognes. As the technology for scent delivery has grown more sophisticated, scent-marketing has mushroomed into a billion dollar industry, with ScentAir leading the pack. Now, just as most commercial environments come with a signature soundtrack, so many commercial environments come fragranced: automobile showrooms, hotel lobbies (like Westin Hotels & Resorts with its signature white tea scent), casinos, and even sports stadiums.

And so was born what could be called the checklist approach to sensory branding, which was already becoming the new normal by the year 2000, as the Pier 1 Imports catalogue illustrates. (This move was first theorized by Pine and Gilmore 1998.) However, the new multisensual marketing strategy proved no less problematic than the hypervisual strategy that preceded it. The main problem is that if every company is pursuing this strategy, it is no longer so different, and thus fails to fulfil the goal of product differentiation. What do you do when you have used up all five senses (i.e. you have selected a signature colour, a signature sound, a signature scent, etc. for your brand) and all your competitors are doing the same (just with a different colour, different sound, different scent, etc.)?

One strategy is to outnumber your competitors by claiming that your product offers a sixth sense. This strategy has been tried by a surprisingly high number of automobile brands. A television commercial for the 2006 Hyundai Tucson sports utility vehicle had the following voiceover:

> While the Hyundai Tucson is designed to excite all the senses, it also provides you with a 'sixth sense' in the form of electronic stability control: a safety feature that anticipates trouble, then, automatically intervenes, reducing the likelihood of a rollover. And it comes standard on every Tucson. The 2006 Hyundai Tucson: proof that, as senses go, you can never have too many.

A few years earlier, Toyota used the following line to promote the Lexus ES 300: "You Might Expect A Luxury Sedan To Cater to Your Senses. But All Six of Them?" In this case, the sixth sense was defined as "ergonomics: the uncanny ability of our cabin to have everything in exactly the place you would most likely want it" (see Howes 2005: 290). The latest automobile manufacturer to get on this bandwagon is Rolls-Royce, with its "Ghost Six Senses" model (see Howes and Classen 2014: 125).

Another strategy is simply to blitz the senses, to "stir" or "feed" or "amaze" the senses, as discussed previously. Glutting the senses in this way runs the risk of simply overwhelming the consumer's consciousness, however, as not only visual fatigue but sensory fatigue sets in.

Perhaps the biggest problem with the checklist approach, however, is that all of the most effective stimuli are steadily being privatized through trademark law. Initially it was only the brand name and logo of a company that could be trademarked, the idea being that this would prevent confusion in the marketplace (i.e. one company passing its goods off as those of another). Trademark protection was extended to colour first (it helped that Pantone

had devised a universal system for distinguishing and naming colours, making them easier to register), but then in the 1990s more and more sounds and scents and shapes, and even store layouts, came to be trademarked (providing they were sufficiently distinct) or patented. It was this development – the invention of property in sensation – that, more than any other factor, touched off the "race to embrace the senses" of recent years as companies scramble desperately to colonize the most sellable divisions of the sensorium in advance of their competitors. In other words, it is the creeping commodification of sensation, not the "discovery" that products are sensual in nature (as Krishna holds) that is the determining force behind the proliferation of appeals to the senses in the contemporary marketplace (Howes and Classen 2014: 114-8; Jones 2003).

This state of affairs begs the question of whether sensations should be considered property in the first place. I am reminded of a Peruvian folktale called "The Theft of Smell". It tells of a stingy baker who takes his neighbour to court for "stealing" the smells wafting from his bakery. The judge rules that the neighbour should pay the baker - with the sound of clinking coins. This cautionary tale underscores the ludicrousness of the idea that there can be property in such an ephemeral trait as odour. Of course, it comes from outside the culture of capitalism. It is a peasant fable. It should nevertheless give us pause. Maybe the aggressive expansion of Western intellectual property law in recent decades, which has resulted in the "propertization" of sensation, personas, and even life itself, is not so rational.2 Maybe the culture is possessed, literally. Maybe we need to come to our senses, and fight this latest form of commodification, before we lose them (our senses) forever. Recall the complacent, and even celebratory tone with which Krishna hailed Apple's recent acquisition of touch (thanks to the iTouch).

If we dig deeper into the ideology behind the current "race to embrace the senses" in marketing, we find that this movement is grounded in the idea that the senses can be used to bypass reason and appeal directly to the emotions (Malefyt and Morais 2012: ch. 5). The roots of this approach actually extend back to the rise of Behaviourism in the early twentieth century. Accounts of behavioural conditioning by psychologists encouraged marketers to think that they might make use of such conditioning for their own purposes (e.g. Sheldon and Arens 1932: 97-100). If dogs could be conditioned to salivate for food at the ringing of a bell, then could not customers be conditioned to "salivate" for a product at the sight of a logo? This approach presented people not as rational beings, but as creatures of habit and impulse who could be conditioned into certain responses. While within psychology the influence of Behaviourism declined in the later twentieth century, the possibilities it opened up of sensory and emotional conditioning continued to hold a huge attraction for marketers.

In recent years, Neuroscience has supplanted Behaviourism as the pet science of the marketing profession. In How Customers Think, for example, Gerald Zaltman writes that "95 percent of the decision-making process takes place below the conscious level" and that marketers must therefore aim their products and pitches at a sensory-emotional, rather than linguistic or logical level (2003: 1). Brain imaging is presented as offering an important new tool, or at least validation, for this approach. It is supposed to reveal the real seat of decision-making. As "brain scans suggest that only a small portion of the brain's neural activity ultimately surfaces in language" (Zaltman 2003: 2), the conclusion is that an alternative to relying on language (i.e. advertising copy) to persuade customers must be

found. The alternative that presents itself is sensory stimuli: sights, sounds, smells, touches, tastes. Whence the recent explosion in sensory marketing, which has been coterminous with the rise of the "experience economy."

The "experience economy" (a term popularized by Pine and Gilmore 1998) is one in which, as far as marketers are concerned, product information and the making of rational purchase decisions should be the last thing on consumers' minds – eclipsed (if not obliterated) by the impact of all the highly effective strategies of sensation management with which the "experience designer" structures a given product or environment. The emphasis in Pine and Gilmore's treatise is on making an "experience" as memorable as possible through "engag[ing] all five senses" and that way dominating a customer's recall (Pine and Gilmore 1998: 104). They hold up Disney as a prime purveyor of "experiences" as distinct from those companies that remain stuck in the old rut of simply selling products and services. Disney uses products as props and the provision of services as the stage for instilling "memories" that can last a lifetime. People pay for memories.

One finds a similar assault on memory being waged by Martin Lindstrom in Brand Sense: Build Powerful Brands through Touch, Taste, Smell, Sight, and Sound. According to Lindstrom, human beings come equipped with a "five-track sensory recorder", and by our very nature "we're at our most effective and receptive when operating on all five tracks." The challenge facing companies now, if they wish to cut through advertising clutter (Goldman and Papson 1996), is to break out of the "two-track" or "2-D impasse" imposed by the prevailing audiovisual media and move towards "5-D branding". This is because: "The more sensory touchpoints leveraged when building brands, the higher the number of sensory memories activated. The higher the number of sensory memories activated, the stronger the bonding between brand and consumer" (Lindstrom 2005: 69).

The ultimate goal behind all this sense-mongering, if we follow Lindstrom's reasoning through to its conclusion, is for brands to inspire the same "irrational" fervour as religions. Religions "touch us at a fundamental emotional level, which precludes any rational discussion" (Lindstrom 2005: 169).3 Religions are able to do this, Lindstrom holds, because they have mastered the "Ten Rules of Sensory Branding", which include using sensory stimuli (incense, chants, candles, wine, etc.) and rituals to build a strong sense of community amongst their adherents. Follow the same rules, Lindstrom advises marketers, and your customers can be touched at the same level.

In a similar vein, the "lovemarks" marketing concept publicized by Kevin Roberts (2005) proposes that the future of brands lies in shedding their function as trademarks, which elicit confidence by indicating a trustworthy source, and coming to function as "lovemarks" which, by mobilizing the emotions of the consumer, induce "loyalty beyond reason." The way to accomplish this is through the senses. "Lead with your senses," Roberts writes in his list of "Five things to do tomorrow":

1. Approach everything you do with all five senses on high alert. If it doesn't cuddle up to at least two or three of your senses, ask why not.
2. Come up with an idea for how each of the five senses connects with your brand. No cheating! Five senses, five ideas.… (Roberts 2005: 126).

In the final analysis, he suggests: "The only breakthroughs will only come with and/and. Taste and texture. Sight and sound. Taste and touch. Smell and taste" (Roberts 2005: 107). Check! Check! Check!

It is no accident that smell, taste and touch are the senses most in vogue in the current sensory marketing literature (as suggested by the order in which the senses are listed in the subtitle of Lindstrom's book). They are, supposedly, the least rational - and therefore most susceptible to persuasion - of the senses. The fact that smell is described by scientists as conveying sensations directly to the deepest recesses of the brain with next to no intermediate processing makes this sense of particular interest. "Only two synapses separate the olfactory nerve from the amygdla …" we are told by psychologist Rachel Herz (2010: 90). By associating products with distinctive odours, marketers hope to make them intensely and instantly memorable, increasing future sales. Hence the subtitle of the third in the recent spate of sensory marketing books: Sensory Marketing: Smells Like Profits (Solomon 2010).

The whole concept of the senses as "direct links" to the brain, which animates so much of the discourse of sensory marketing is, however, fundamentally flawed. Marketers are certainly correct in their acknowledgement of the impact of sensory messages. However, when they see the senses as "direct, provocative, immediate" (Roberts 2005:105), they fail to realize that they are adding an additional level of construction (and therefore mediation) to the senses with their marketing slogans and imagery. (By way of example, think of the trademarked phrase "Get in touch with your sensesTM" on the cover of the Pier 1 Imports catalogue, which legally prohibits copying.) This is similarly the case when marketers depict the senses as primal: "Our senses being primal," Krishna (2010: 4) writes, "we react immediately and subconsciously to them, unlike to a brand name or an attribute, both of which are learned." There is no recognition here of the fact that the senses are made, not given, or, in other words, that the senses have a history (Classen 1993, 2012; Howes and Classen 2014; Classen, Howes and Synnott 1994). Nor do marketers recognize their own wishful thinking - their dream of a "royal road" to consumers' hearts and wallets - in their constructions of consumers' senses and desires. Rather, to their way of thinking, it is all a happy matter of biology and evolution. Thus, Roberts writes:

> The range of our senses is extraordinary. Thank evolution … The world constantly changes. Who won the evolution game? … Answer: The ones who responded fastest to the widest range of stimulation and information. …
> The senses alert us, enflame us, warn us as well as fill our hearts with joy. They have protected and enriched us throughout our evolutionary story
> (Roberts 2005: 108)

Similarly ahistorical (putatively "evolutionary") accounts of how the senses function can be found in such books as The Evolutionary Bases of Consumption (Saad 2007) and The Consuming Instinct: What Juicy Burgers, Ferraris, Pornography and Gift-Giving Reveal About Human Nature (Saad 2011). These books project the sexual and other impulses of the thoroughly modern (Western) male back on the caveman and purport to demonstrate how these "instincts" were "selected" by evolution.

To discover that the senses of consumers are shaped by history and culture -- and not just by nature or "evolution" -- it is only necessary to look across cultures. When we do this we can find the same product with the same sensory attributes eliciting different responses from consumers with the same sensory faculties but different sensory associations and preferences. Take the example of India, a country with an enormous market for consumer products but with consumer preferences and associations that sometimes differ widely from those of Westerners. Cadbury, for instance, had to withdraw its dark chocolate offerings from the Indian market because their bitterness was unappealing in a country that likes its sweets to be very sweet. In another example of cultural differences in sensory inclinations, whereas in the West televisions are usually marketed on the basis of their picture quality, in India, where having a "big sound" is important, the electronics company Onida successfully promoted its televisions as offering superior audio capabilities (Kumar 2007).

Broader cultural associations also play an important role in marketing. Purity, which traditionally has very strong cultural and religious resonances in India is often emphasized in advertising, as conveyed by such slogans as "Purity in Each Drop", "for Every Mother Obsessed With Purity", "Pure Banking, Nothing Else" and "Purity-Sealed" (Cadbury chocolates). Tata brand salt, one of India's most trusted brands, gained its position through being marketed on the basis of its purity, a particularly apt association as salt has the symbolic significance of integrity in India (Shah and D'Souza 2009:371). It is clear from such examples that even such basic sensations as sweet and salty are mediated by culture and not simply straightforward sensory reactions (Howes 2003: ch. 8).

PART II: THE SENSES IN AND OUT OF THE LABORATORY

We have seen how Krishna's account of the birth of sensory marketing suffers from what historians call "presentism" (a common fallacy) and is oblivious to the impact of social forces, like the privatization of sensation, on marketplace dynamics. We have also seen how other sense experts, such as Roberts and Zaltman, are susceptible to what anthropologists call "naturalization" due to their fetishization of the asocial, ahistorical paradigms of Behaviourism and, more recently, Neuroscience.

To shift our focus somewhat, Krishna's account of the "discovery" of the sensuality of products also ignores the massive contribution made by all the men and women who, for decades, have toiled away in research laboratories testing the sensory characteristics of commodities. They are called "sensory professionals" and the senses are their stock in trade. The original name for this area of research was "organoleptics" and its origins, at least in the US, can be traced back to the 1940s and the wartime effort to provide acceptable food to American troops (Pangborn 1964). The title of "organoleptician" has since been dropped, replaced by "sensory professonial." The sensory evaluation of food products remains central to their practice (which goes under the name of "sensory analysis" or "sensory studies") but the scope of the products that now fall within their purview has expanded significantly to include everything from personal care to household cleaning products, and home decor to automobiles. Sensory professionals have also lobbied hard to expand their role within the companies they work for, seeking to convince management that the application of sensory evaluation techniques is crucial to every stage of product development, from conception to

consumption. They like to use the language of driving, as in "sensory properties drive consumer acceptance and emotional benefits" (Kemp et al 2011), and it has had the desired effect.

The science of sensory evaluation rests on a fundamental paradox. On the one hand: "Most sensory characteristics of food can only be measured well, completely, and meaningfully by human subjects" as opposed to scientific instruments. On the other hand, it is considered important that human subjects behave as much like scientific instruments as possible: "When people are used as a measuring instrument, it is necessary to control all testing methods and conditions rigidly to overcome errors caused by psychological factors" (Poole et al. 1991: 1). In a similar vein, Morten Meilgaard et al (2010) affirm that the key to sensory analysis is to treat the panellists as measuring instruments. As such, they are highly variable and very prone to bias but they are the only instruments that will measure what we want to measure so we must minimize the variability and control the bias by making full use of the best existing techniques in psychology and psychophysics.

The controls in question include creating a sampling environment that is as sensorially neutral as possible with regard to such factors as temperature, colour, and odour, and ensuring that "irrelevant" sensory factors, such as the size of the samples, do not impinge on the evaluators' judgement. Furthermore, assessors are trained to evaluate products "monadically" - that is, to assess one sensory characteristic at a time: the use of blindfolds, nose clips and "ear defenders" is advised to ensure that panelists maintain the desired focus (Kemp et al. 2011: 2.2.1.5 and 3.2), though a true professional should be able to dispense with such aids. Focus is also enhanced through isolating one assessor from another by having them perform their tasks in individual booths or cubicles (for illustrations of the design of such cubicles see Meilgaard et al 2010: 24-30). In addition, assessors are commonly instructed not to discuss samples before (or after) evaluation since this might create expectations, which are considered one of the most serious potential sources of error; and to work in silence, since "comments or noises made out loud e.g. urgh! or Mmmm! can influence sensory judgments" (Kemp 2011: 2.2.1.2). Panelists are otherwise instructed to disregard their "subjective associations" since the objective is to "provide precise, consistent, and standardized sensory measurements that can be reproduced" (Poole et al., 1991: 15).

There are basically three kinds of tests used in sensory evaluation experiments:

1. **Discriminative tests** (to determine whether or not a difference exists among samples);
2. **Descriptive tests** (to identify sensory characteristics that are important in a product and give information on the degree or intensity of those characteristics); and,
3. **Affective tests** (to measure how much an evaluator likes a product sample based on its sensory characteristics).

There is at least one kind of test missing from this repertoire, as we shall see presently.

Finally, the variability of responses is controlled for through the use of standardized questionnaires and standard numerical scales (e.g.Stone et al 2012; Meilgaard et al 2010) as well as through statistical analysis of the results of the experiments, and the plotting of such results in the form of graphs and tables (see Figure 2). Only those results which are "statistically significant" are considered "meaningful." In other words, while sensory evaluation experiments are concerned with assessing the qualities of products, it is the quantification of sensation that (really) counts. There are some cautionary voices: "Statistical analysis is not a substitute for thinking" (Groopman quoted in Stone et al 2012: 2).5 But in the final analysis the interpretation of results boils down to tabulating responses and pinpointing averages so that any trace of the "subjective associations" of individual panelists can be eradicated from the over-all picture of a product's characteristics.

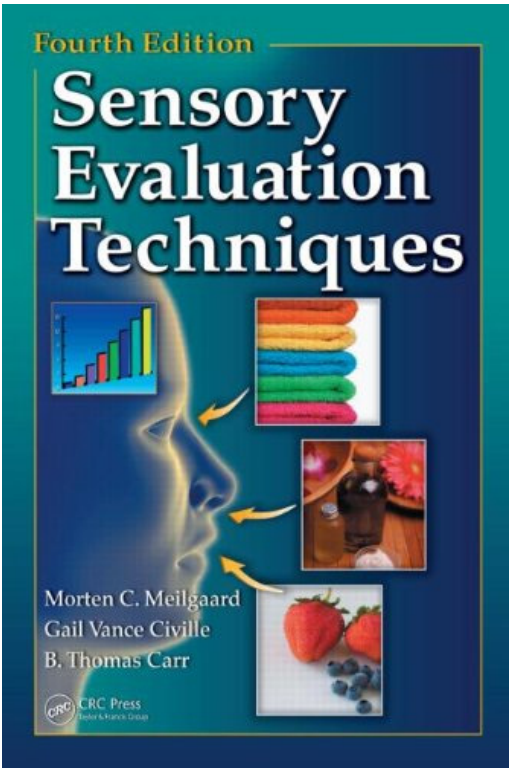

Figure 2. ***The Quantification of Sensation: Cover of Sensory Evaluation Techniques (Meilgaard et al 2010) showing the reduction of sense impressions to numerical graphic representations***

To an observer, it might appear difficult to distinguish between the protocol of a sensory evaluation test and the protocol of the sensory deprivation experiments of the 1960s, since many of the controls are quite similar (see Zubek 1969) It is indeed remarkable the degree of sensory restriction to which the sensory professional is subjected in the interests of producing results that are "precise, consistent" and, above all, reproducible (Poole et al 1991).

Let me cite a case study published in a recent issue of the Journal of Sensory Studies that both aptly exemplifies the technique of sensory evaluation and, ironically, calls into question the results of virtually every study ever published in that journal. Researchers at the University of Mainz (Oberfeld et al 2009) found that the colour red suggests sweetness when they had participants taste white wine served in black glasses under different ambient lighting – red, blue, green or white. It was the same wine, but participants said it tasted 50 percent sweeter in red light compared with blue or white li ght. This study was unusual for the way it did not just focus on the product, the way most sensory studies do. It modelled an environment. And it did not just treat the senses additively (the way Roberts or Lindstrom would). Rather, it allowed that they might be interactive. In the result, it was found that the red ambient light, which was not a property of the product (the wine), but rather the environment, influenced the perception of the product's flavour.6 Hence, the wine's taste must be recognized as contingent on its context of consumption, but it is precisely context that the design of the sensory evaluation laboratory (except in the case of this study) is designed to rule out. Ergo all of the results ever published in the Journal of Sensory Studies are valid to the extent that the products concerned are consumed in the laboratories in which they were tested, but nowhere else. Now I ask you: who wants to drink wine alone in a booth in a sensory research laboratory?

It is difficult to imagine a more asocial or, practically speaking, more asensual environment and protocol than the environment and protocol of a sensory research laboratory. This is due to the assumption that, as Meilgaard et al. put it: "we must minimize the variability and control the bias [of assessors] by making full use of the best existing techniques in psychology and psychophysics."

The Senses in Everyday Life

What if the methodology of some other discipline, besides psychology and psychophysics, such as anthropology, were incorporated into the practice of sensory evaluation? Anthropology has, in fact, begun to make inroads into the field due to the rise of the subdiscipline known as "sensory anthropology,"7 as exemplified by the work of Sarah Pink (2004, 2009), Timothy Malefyt (Malefyt and Morais 2012), John Sherry (2006), and the Concordia Sensoria Research Team (CONSERT), among others. The principles of this emergent mode of inquiry may be summarized as follows:

- Sensory anthropology takes the study of product perception out of the sensory research laboratory and into the street, the home, the bar or whatever the "natural environment" of the consumer may be;

- It understands acts of perception to be cultural act as well as biological and psychological processes;

- Its methodology is one of participant sensation, or feeling along with one's informants, as opposed to subjecting them to some predetermined protocol and list of questions the way a sensory scientist would.

- The focus of sensory anthropology is on eliciting "the native's point of view," or rather, because one doesn't want to privilege the visual over other senses, the native's "ways of sensing" (Howes and Classen 2014) – that is, the practices (including technologies) which frame a given group's perception of the world, and the meanings with which those perceptions are imbued.

- "As we sense, we also make sense," in Phillip Vanini's felicitous expression (Vannini et al 2012). This formulation plays on the polysemy, or double meaning, of the word "sense." This word includes both sensation and signification, both feeling and meaning in its spectrum of referents, which should be conceived as forming a continuum.

The polysemy of the word sense is lost on sensory scientists. The signifying (or "symbolic") and also social dimensions of perception are occluded by their research protocols. By limiting the sorts of tests they use to the discriminative, the descriptive and the hedonic, they prevent themselves from ever investigating what could be called the semantics of perception. A semantic test, such as an anthropologist would be the first to utilize, would seek to "determine the meanings or mental associations stimulated by a given product's sensory characteristics" (Howes 2003b: 119).

In addition to highlighting the issue of sense-making, as will be discussed further below, research in the sensory anthropology of consumption has shown that consumers may be more or less discriminative in a particular sensory register, depending on how it is weighted or valued in their culture or subculture. By way of example, consider Sarah Pink's study of "the sensory home," which was informed by the methodology of "sensory ethnography" (Pink 2009).

The Sensory Home

In this study, Pink (2004) compared attitudes toward household cleanliness and practices of housework in Spain and the UK. Her informants included students and retired people, as well as single and married women (or "housewives") of middling age. She asked her informants to take her on a tour of their house or flat and recorded their actions and words on video. The tours typically involved poking her head in cupboards, and being invited to "smell this," or "feel that," in addition to conversing with her informants (thereby breaking the silence that normally prevails over the assessment of products in the sensory research laboratory).

For the Spanish subjects, dust referred to matter that had infiltrated the home from the outside world, and was classified as dirt to be eliminated. For the British subjects, dust referred to the flakings of persons and matter such as paint or plaster inside the home, and people were more tolerant of a certain build-up. It was not dirt as long as it did not smell. One young man stated that when the floor of his apartment started to feel sticky it was time for cleaning.

Pink found that the practice of cleaning house frequently involved people "dancing uninhibitedly" to their favourite music while wielding a broom or mop. Thus, housework had an audio component, a kinaesthetic component (which involved more than just scrubbing), and it also involved setting out scented products, like incense and essential oils as a finishing touch. In other words, cleaning did not involve eliminating odours so much as enhancing the existing smell of the home. Significantly, Pink found that all of her informants compared themselves (often negatively) to what they suspected a "real housewife" would do, thereby incorporating a social dimension into what might otherwise be seen as a very private practice.

Pink's study of "the sensory home" brings out how consumers do not necessarily use products "as directed" but rather "negotiate" social meanings through them and in so doing construct identities for themselves. Consumption is a creative process, Pink argues, wherein products do not "drive" or "trigger" responses in a straightforward fashion, but rather are selectively deployed to construct "worlds of sense" within which people can feel "at home."

The Interplay of the Senses

As noted previously, sensory evaluation tests frequently involve the construction of barriers between people, between the senses, and between the "subjective associations" of the assessor and his or her response to the sensory characteristics of the product tested. This is accomplished through training and through the architecture of the sensory research laboratory with its individual booths. Assessors are instructed to discriminate, describe and express their preferences, but not associate. Do these firewalls work? They might seem to work in the context of the laboratory, though they would hardly work in everyday life, but even in the laboratory it is dubious that the play of associations between the senses can be forestalled. In one of the studies we reported on in Aroma: the Cultural History of Smell (Classen Howes and Synnott 1994) involving a test of facial tissues, it was discovered that respondents found pine-scented tissues to be "fresher" but also rougher than unscented facial tissues, even though there was no actual difference to the texture of the tissues used in the two samples. The reason should have been obvious: the respondents did not dissociate the scent of pine from the feel of pine needles, which are, of course, prickly. This is because "As we sense, we also make sense" (Vannini et al 2012).

In another study reported on in Aroma, respondents in a Chicago shopping mall were asked: What odour causes you to become nostalgic?

People born in the 1920s, '30s and '40s said that such odours as rose, burning leaves, hot chocolate, cut grass and ocean air made them feel nostalgic. Persons born during the 1960s and '70s, in contrast, grow nostalgic at such scents as Downy fabric softener, hair

spray, Play-Doh, suntan oil, Cocoa Puffs, and candy cigarettes (Classen, Howes and Synnott 1994: 202-3)

The trending evidenced by this survey, when the responses are grouped by decade of birth, are significant: there has been a shift away from "natural" odours towards "artificial" ones, and many of the latter come already trademarked. This pattern brings out nicely the extent to which the sensorium is an historical formation:

It is not only in clothing and appearance, in outward form and emotional make-up that men are the product of history. Even the way they see and hear is inseparable from the social life-process …. The facts which our senses present to us are socially preformed in two ways: through the historical character of the object perceived and through the historical character of the perceiving organ (Horkheimer quoted in Levin 1997: 63 n. 1)

A study conducted a few years back by the Concordia Sensoria Research Team brings out further the sociality of sensation and the indissociability of the senses. We asked: What accounts for the popularity of Corona, the best-selling imported beer in Canada? Preliminary research suggested that part of the answer must have to do with gender. Men are, notoriously, far more avid drinkers of beer than women, and in the case of most brands the ratio is 5 male drinkers to one female drinker. In the case of Corona, however, the ratio is more like 3 to 2. This means that its popularity among women is key to its success. So we set out to investigate why women prefer Corona. Our quest took us to a range of bars and restaurants, many with a Mexican theme, where we talked with both men and women about their preferences. This displacement was essential, since in anthropology one wants to encounter subjects on their own ground and elicit the categories they use to order the world.

We did not go in with a predetermined set of questions. Instead we let the questions emerge in the course of interaction. Some subjects said that they had encountered Corona while on vacation in Mexico. For them, drinking Corona when back in Montreal was a way of injecting some festivity or "vacation spirit" into the drudgery of everyday life. More typically, however, those subjects who drank Corona regularly said they liked it because it is "light."

FIGURE 3a. ***Corona***

FIGURE 3b. ***Molson Canadian***

Technically, Corona is not a "light beer." It has the same alcohol content and carb levels as regular, domestic beers. This response, then, is an example of consumer-added meaning (and value). We needed to discover what motivated this categorization. What was it about the sensory characteristics of Corona that could explain this "misperception" (which is not a misperception at all, of course, from the native point of view)?

The design of the Corona bottle struck us as one of the factors contributing to the perception of the beer as "light." Corona comes in tall, slender bottles that are clear and translucent. By contrast, most domestic beers, such as Molson Canadian, come in short, stubby, brown-coloured bottles (see figure 3 a) and 3 b) that even look more weighty, more dense than the former. Furthermore, the colour of Corona is light, like sunshine, compared to the golden colour of Molson. From our conversations with our research subjects, it appeared that they were condensing – or "associating" – a number of different sensations into one: the bright (or "light") tint of the beer and the translucency (as well as slenderness) of the bottle was identified in their minds with lightness of taste (or, put another way, absence of heaviness). This impression was borne out by the gestures people used to describe their taste experience. When men talked about what they liked in a beer they would pat their stomachs whereas the women would rub their thumb and fingers together. The latter gesture suggested that what women most appreciate in a beer is a refined or delicate taste, whereas men are more interested in a full (and filling) flavour. Indeed, those men who preferred domestic beers claimed that Corona "has no taste" (by which they meant body) whereas those men who drank Corona with their female friends dissociated themselves from more "heavy drinkers," as they styled their male counterparts.

The Anti-Aesthetic of the Big Box Store

There is one last issue that calls for discussion here and that is the ambience of the big-box store. Its no-frills aesthetic seems to contradict everything that has been said about playing up sensuality in the new era of sensory marketing. When it comes to "sensory design" (Postrel 2003), the big-box store seems like a big black hole. This impression is, however, premature. The big-box store calls upon us to use our senses more discerningly, not less. By way of illustration, let me summarize the results of another CONSERT case study which involved comparing the ambience of a typical big box store with that of an equally typical high-end department store. As we shall see, the apparent anti-aesthetic of the big-box store is no less a sensory marketing strategy for being minimalist.

There is a notable difference to the location of the two establishments: the department store, in existence since 1866, is situated in the heart of the downtown, and is considered to be one of the city's landmarks. The big-box store, which first opened in June 2000, is situated in a suburban shopping complex (and is only accessible by car).

The former presents a majestic stone façade inlaid with display windows which reflect the changing of the seasons. Every Christmas, for example, the idyllic scene of a miniature country village populated by furry mechanical bunnies and other creatures going about their daily round fills the front store windows. Passers-by cannot resist stopping to look and let themselves be charmed. The big-box store has no windows, only a cement and aluminium-sided storefront with a fake peaked roof and the store name in bold block letters. In its grey and blue-ness it resembles a battleship looming out of a sea of cars, as one informant put it, even if it is supposed to be reminiscent of the small-town storefront of old.

The interior lay-out of the two establishments also differs markedly, since the department store has seven levels, connected by elevators and escalators. Riding the escalator, being able to look down while ascending (effortlessly) on the moving stair, gives the shopper a sense of social mobility. By contrast, the big-box store is laid out on a single level as if to underscore the democratization of consumption which it makes possible, in contrast to the hierarchization of consumption (and society) at its upscale counterpart.

Huge chandieliers hang suspended from the ceiling of the grand magasin, which dazzle the eye. The shopper's gaze is also diverted by the intricate, Baroque or Rococo-style plaster mouldings which festoon the ceiling. By contrast, the steel trusses and lattice-work that support the ceiling of the big box-store do little to arrest the eye, and by their very functionality direct the gaze back down and around instead of upwards.

The steel trusses have the additional function of housing the fluorescent lights, which illuminate the rows upon rows of 3-to-4 metre high shelving, in the same uniform "daylight". At the grand magasin, the lighting, like the arrangement of the merchandise, is more variegated. Spotlights bathe select items in their own unique glow as opposed to a uniform glare.

On the topmost floor of the grand magasin, you sometimes see shoppers flounce on the beds and recline in the comfy chairs. At the big-box store, the furniture tends to be nailed to its perch and shoppers are left to infer the quality of a sidetable, for example, from the picture on the box it comes in (unassembled) or divine the softness of a duvet from poking a finger through the small hole in the plastic wrap. At the grand magasin, the merchandise

does not come packaged in plastic. It is laid out on shelves and tables. One shopper, pulling on a pair of gloves, remarked that it felt like putting one's hand in butter, the leather was so supple.

Apart from the dazzling lighting, the most salient sense impression to strike the shopper upon entering the grand magasin is the heady potpourri of expensive perfumes, which emanate from the cosmetics counters. In addition to being invited to sample the perfumes, female shoppers can have their colours read and their faces made up by the legions of attendants (all youthful, all dressed in black, all immaculately coiffed) who pack holsters full of lipstick, blush and eyeliner. Those women who take advantage of this "free trial" leave the store looking -- and feeling -- completely different from the way they felt upon going in.

There is no perfume counter at the big-box store, nor is there any discernible scent, and definitely no touching (except when shoppers accidentally run into each other with their overflowing shopping carts). However, there are many helpful sales associates on hand, as well as the ubiquitous greeters. The latter both welcomes and bids goodbye to the store's clientele, making sure that each shopper is equipped with a cart upon entry and does not set off any alarms upon exit.

Significantly, the corps of "sales associates" at the big box store includes people of all ages and ethnicities, and they wear everyday clothes under their blue aprons, so that they are not that differently attired from the clientele. In this way, the sales associates lend a common touch to the establishment, even though their job description prohibits them from touching.

The dominant soundmark at the big-box store is the non-stop beeping of the price scanners at the check-out counters, supplemented by the strains of a popular local radio station, regularly interrupted by storewide announcements summoning a sales associate to help some shopper or advertising an in-store bargain. The dominant soundtrack of the department store is a mix of preselected instrumental music (relaxing and uplifting at the same time), and every afternoon just before closing time a Scottish bagpiper parades from top to bottom filling the air with the skirl of his pipes. This nod to "tradition" (the store was founded by Scots) is complemented by the distinctive forest green, navy blue and yellow plaid boxes and bags which merchandise is wrapped in for taking home (unless a shopper would prefer a bag with a designer logo belonging to one of the boutiques). At the big box store, purchases are stuffed in grey plastic bags. Grey, by its very neutrality (being neither white nor black), signals the store's inclusivity in contrast to the exclusivity of the signature colours of the department store.

Conclusion

While in practice marketers have been experimenting with the senses for some time, it is only recently that the academic discipline of marketing has discovered the senses and the sensuality of products. Krishna was right in this regard (even though the reasons she gave were wrong). Other disciplines, such as history and anthropology, turned their attention on the sensorium some decades ago. This turn, which is now commonly referred to as the sensory turn, has generated a vast and varied literature on the senses as object of study and means of inquiry (see Howes 2013). In this essay, I have shown how the fledgling subdiscipline of sensory marketing could be expanded and enriched through taking

cognizance of research in the history and anthropology of the senses. I have also exposed the pitfalls of relying too heavily on sensory psychology and psychophysics. It is hoped that this essay might stimulate more conversation, and in particular more critical conversation, between these subdisciplines.

ACKNOWLEDGEMENTS

I wish to thank Timothy Malefyt and Simon Roberts for inviting me to speak at EPIC 2013. I should note that this is not the same paper I presented at the Conference. It is twice as long, because I wanted to respond to the points and questions that emerged in the many deeply absorbing conversations I had with fellow conference-goers after the plenary. Part of the research on which this paper is based was conducted under the auspices of the "Multi-Sensory Marketing" research project directed by Dr. Bianca Grohmann of the Department of Marketing of the John Molson School of Business, and supported by a grant from the Social Sciences and Humanities Research Council of Canada. I wish to thank the Council, and the students who assisted in the data collection, as well as Bianca and Jean-Sébastien Marcoux of the Ecole des Hautes Etudes Commerciales, Montreal, for many illuminating discussions. An earlier version of a number of the arguments presented in the first part of this essay appeared in chapter 5 of Ways of Sensing: Understanding the Senses in Society, co-authored with Constance Classen, published by Routledge/Taylor & Francis.

NOTES

1. The title of Zaltman's book perhaps unwittingly echoes the title of Lucien Levy-Bruhl's classic How Natives Think. In this work Levy-Bruhl attributed a "pre-logical mentality" to "primitive" peoples. Levy-Bruhl's theory was debunked within anthropology by E.E. Evans-Pritchard who, in his famous book on Witchcraft, Oracles and Magic among the Azande showed that the Azande were no less rational than Westerners, they simply started reasoning from different cultural premises, and by Claude Lévi-Strauss who, in The Savage Mind, introduced the notion of the "science of the concrete" to account for what was distinctive about the classificatory systems of traditional societies. As will be shown presently, Zaltman projects a subrational mentality onto the consumer, and views the senses as the fast-track to the consumers' emotions. The burden of this essay is to show that consumers have more sense than business professors like Zaltman (or Krishna) allow.

2. On the propertization of personas (celebritry personas), and life itself (as in the bizarre case of the patented Harvard "oncomouse") see Sheryl Hamilton's Impersonations: Troubling the Person in Law and Culture. On Latin American folklore as cultural critique see Michael Taussig's analysis of the tale of the "baptism of bills" among the people of the Cauca Valley, Colombia (Taussig 1980). It is another cautionary tale for capitalists, inspired by the life experience of the

peasant, who understands commodities in terms of their use-value and is suspicious of the fetishization of exchange-value in capitalist economics.

3. This is a highly revealing construction of the meaning of religions and of marketing, since it presumes that in both cases the attachment is an irrational, sense-based one. Underlying this construction is the longstanding Western opposition between the intellect or mind, on the one hand, and the body and senses on the other. (Although traditionally religion would have been ranged on the side of the mind or spirit rather than the body.) It is ironic (and not a little pathetic) that, while contemporary branding appears to embrace the body and senses, it is actually more concerned with upholding and even strengthening the old mind/body split – that is, with separating the senses from the intellect and using them to tap the subconscious.

4. For a well-grounded, properly historical account of the changing role of the senses in the marketplace see Mack (2010, forthcoming) and Rappaport (forthcoming) as well as Classen (2012)

5. "Just because one obtains a graphical display or a series of tables with associated statistical significance does not mean it has any meaning or external validity" (Stone et al. 2012: 2). These are wise words, but, regrettably, Stone et al fall back on exactly the same range of tests and same kinds of statistical analysis as their fellow sensory professionals.

6. In the on-line summary of their conclusions, the authors of the Mainz study write:

   Ambient lighting influences how wine tastes, even when it has no effect on the color of the wine in the glass. Our results show that the context has a stronger influence on the taste perception than formerly believed. These findings can be relevant for the architectural designing of restaurants and wine shops.

   How can the effects of ambient color be explained?

   The simple hypothesis that whenever a certain light color makes a person feel comfortable he or she likes the wine better could not be affirmed. The emotions elicited by a certain light color do not seem to be the cause of the effects.
   An alternative explanation could be an influence of color on cognition, for example by making us more accessible and responsive for a certain taste. Likewise, associations could play a role, e.g. " green = immature" [or "red = sweet".] (Oberfeld-Twistel 2013).

   The Mainz study departs from the vast majority of research in sensory evaluation by acknowledging the significance of context, recognizing the senses as interactive,

and refusing to reduce the explanation of the observed effects to the mobilization of the emotions alone. Its focus on the interaction of the senses is particularly noteworthy. While this point has been one of the main tenets of research in the anthropology of the senses since the beginning (see Howes and Classen 1991: 258; Howes and Classen 2014: ch. 6; Howes 2013), it is due largely to the highly original and perspicacious work of the maverick experimental psychologist/"symbolist scientist" Charles Spence, of the Cross-Modal Research Lab at Oxford, that a focus on intersensoriality has begun to supplant the compartmentalized understanding of the sensorium that prevailed until recently in the brain and consumer sciences (see Howes 2011: 177-9; Spence 2005, 2007))

7. For an account of the development of the field of sensory anthropology see Howes 2003: chs. 1 and 2 and Howes 2013.

REFERENCES CITED

Baumgarten, L.
2012 "Elevator Going Down: The Story of Muzak." *Red Bull Music Academy Magazine*. http://www.redbullmusicacademy.com/magazine/history-of-muzak. Accessed 1 November 2014.

Classen, C.
1993 *Worlds of Sense: Exploring the Senses in History and across Cultures*. London: Routledge.

2012 *The Deepest Sense: A Cultural History of Touch*. Champaign: University of Illinois Press.

Classen, C., D. Howes and A. Synnott
1994 *Aroma: The Cultural History of Smell*. London and New York: Routledge.

Evans-Pritchard, E.E.
1982 *Witchcraft, Oracles and Magic among the Azande*. Oxford: Oxford University Press.

Ewen, S.
1988 *All Consuming Images: The Politics of Style in Contemporary Culture*. New York: Basic Books.

Goldman, R. and S. Papson
1996 *Sign Wars: The Cluttered Landscape of Advertising*. New York: The Guilford Press.

Green, J.
2000 *Clean Your Clothes with Cheez Whiz: And Hundreds of Off-Beat Uses for Dozens More Brand-Name Products*. Los Angeles: Renaissance Books

Hamilton, S.
2010 *Impersonations. Troubling the Person in Law and Culture*. Toronto: University of Toronto Press.

Herz, R. S.
2010 "The emotional, cognitive, and biological basis of olfaction: implications and considerations for scent marketing." In *Sensory Marketing: Research on the Sensuality of Products*, edited by A. Krishna. New York: Routledge.

Howes, D.
2003a. *Sensual Relations: Engaging the Senses in Culture and Social Theory*. Ann Arbor: University of Michigan Press.

2003b "Evaluation sensorielle et diversité culturelle." *Psychologie française* 48 (4): 117-125

2005 "Hyperaesthesia: the sensual logic of late capitalism." In *Empire of the Senses: The Sensual Culture Reader*, edited by D. Howes. Oxford: Berg

2011 "Hearing Scents, Tasting Sights: Toward a Cross-Cultural Multimodal Theory of Aesthetics." In *Art and the Senses,* edited by Francesca Bacci and David Mellon. Oxford: Oxford University Press.

2013 "The Expanding Field of Sensory Studies." *Centre for Sensory Studies Occasional Papers*. http://www.sensorystudies.org/sensorial-investigations/the-expanding-field-of-sensory-studies/. Accessed 1 November 2013.

Howes, D. and C. Classen
1991 "Epilogue: Sounding sensory profiles." In *The Varieties of Sensory Experience: A Sourcebook in trhe Anthropology of the Senses*, edited by David Howes. Toronto: University of Toronto Press.

2014 *Ways of Sensing: Understanding the Senses in Society*. London and New York: Routledge / Taylor & Francis.

Hultén, B, N. Broweus and M. Van Dijk
2009 *Sensory Marketing*. New York: Palgrave MacMillan.

Jones, P.
2003. ""Tis a tale full of sound and colour - signifying nothing?" *The Lawyers Weekly* 23 (9).

Kemp, S., T. Hollowood and J. Hort
2011 *Sensory Evaluation: A Practical Handbook*. Oxford: Blackwell.

Krishna, A.
2010 "An introduction to sensory marketing." In *Sensory Marketing: Research on the Sensuality of Products*, edited by A. Krishna. York: Routledge.

Kumar, S. R.
2007 *Marketing and Branding: The Indian Scenario*. New Delhi: Dorling Kindersley.

Levin, C.
1997 *Modernity and the Hegemony of Vision*. Berkeley: University of California Press.

Lévi-Strauss, C.
1964 *The Savage Mind*. Chicago: University of Chicago Press.

Lindstrom, M.
2005 *Brand Sense: How To Build Powerful Brands through Touch, Taste, Smell, Sight, and Sound*. New York: Free Press

Mack, A.
2010 "'Speaking of Tomatoes': Supermarkets, the Senses, and Sexual Fantasy in Modern America." *Journal of Social History* 43 (4): 815-42.

"The senses in the marketplace." In *A Cultural History of the Senses in the Modern Age, 1920-2000*, edited by D. Howes. London: Bloomsbury. (Forthcoming)

Malefyt, T. and R. Morais
2012 *Advertising and Anthropology*. Oxford: Berg.

Meilgaard, M., B. T. Carr and G. V. Civille
2010 *Sensory Evaluation Techniques*. 3rd edition. Boca Raton, FL: CRC Press.

Miller, M.B
1981 *The Bon Marche: Bourgeois Culture and the Department Store, 1869-1920*. Princeton, NJ: Princeton University Press.

Oberfeld-Twistel, D
2013 *Wine and Color: Effects of Ambient Light on Taste and Aroma*. http://www.staff.uni-mainz.de/oberfeld/wine2.html. Accessed 1 August 2013.

Oberfeld, D., H. Hecht, U. Allendorf and F. Wickelmaier
2009 "Ambient lighting modifies the flavor of wine." *Journal of Sensory Studies* 24 (6): 797-832.

Ogden-Barnes, S. and D. Barclay
2011 *Store Sense: Reclaiming the Four Walls through Sensory Engagement*. Melbourne: Deakin University.

Pangborn, R. M.
1964 "Sensory evaluation of food: A look forward and back." *Food Technology* 18: 1309.

Pine II, B.J. and J. H. Gilmore
1998 "Welcome to the experience economy." *Harvard Business Review* 76 (4): 97-105.

Postrel, V.
2003 *The Substance of Style*. New York: HaperCollins.

Rappaport, E.
"The senses in the marketplace: Stimulation and distraction, gratification and control." In *A Cultural History of the Senses in the Age of Empire, 1800-1920*, edited by C. Classen. London: Bloomsbury. (Forthcoming)

Roberts, K.
2005 *Lovemarks: The Future Beyond Brands*. New York: PowerHouse Books.

Saad, G.
2007 *The Evolutionary Bases of Consumption*. Mahwah, NJ: Lawrence Erlbaum Associates.

2011 *The Consuming Instinct: What Juicy Burgers, Ferraris, Pornography and Gift-Giving Reveal About Human Nature*. Amherst, NY: Prometheus Books.

Shah, K. and A. D'Souza.
2009 *Advertising and Promotion*. New Delhi: Tata McGraw-Hill.

Sheldon. R. and E. Arens
1932 *Consumer Engineering: A New Technique for Prosperity*. New York: Harper.

Sherry, J.
2006 "Sporting sensation." *The Senses and Society* 1 (2): 245-8.

Solomon, M.
2010 *Sensory Marketing: Smells Like Profits*. Upper Saddle River, NJ: FT Press.

Spence, C. and M. Walton
2005 "On the inability to ignore touch when responding to vision in the crossmodal congruency task." *Acta Psychologica* 118: 47-70.

Spence, C., D. Sanabria, S. Soto-Faraco
2007 "Intersensory Gestalten and crossmodal scene perception." In *The psychology of beauty and Kansei: New horizon of Gestalt perception*, edited by K. Noguchi. Pp. 519-579. Tokyo: Nihon University College of Humanities and Sciences.

Stone, H., R. Bleibaum and H. Thomas
2012. *Sensory Evaluation Practices*. 4th Edition. San Diego, CA: Academic Press.

Taussig, M.
1980 *The Devil and Commodity Fetishism in South America*. Charlotte: University of North Carolina Press.

Zaltman, G.
2003 *How Customers Think: Essential Insights into the Mind of the Market*. Cambridge, MA: Harvard Business Review Press.

Zubek, J., ed.
1969 *Sensory Deprivation: Fifteen Years of Research*. New York: Appleton-Century-Crofts.

Day 2, Closing keynote: Attaining humanity

DANIEL MILLER
University College London

Day 3, Closing keynote: Magical thinking

GENEVIEVE BELL
Intel

PAPERS

Session 1: Big Data/Ethnography or Big Data Ethnography

ROGERIO ABREU DE PAULA, Curator
ACM

The first session explores the many ways and forms Data shape our lives. What are new roles, forms of research, methodologies and practices that contribute to the on-going exploration of boundaries between "big data" and ethnography.

"Is Data the new oil?" This has become a proverbial question that many organizations and research institutions have been asking themselves when they face the ever increasing proliferation of data (and data discourses, thereof). This is an enticing postulate, but not one without controversies. But, if data is the new oil, what does it mean for our ethnographic praxis? What roles will ethnography play? What forms of research methods and practices will spring up? In fact, what do we mean by data? These are some of the questions that lie at the heart of EPIC's on-going methodological and practical pursuits. All papers in this session thus contribute to this on-going debate by exploring the boundaries (epistemological, methodological, and practical) between "big data" and ethnography. From describing the use of mixed-methods for investigating mobile money to exploring the emergence of analytic technology tools to help ethnographers collect and explore data to investigating the 'meanings' of data in data-intensive social settings, such as, health and wellness communities, this session will offer a broad perspective on the subject, asking us to reflect not only on our own research practices but on the future of our field.

Five misconceptions about Personal Data: Why we need a people-centred approach to "Big" Data

ABBY MARGOLIS
Claro Partners

We produce vast amounts of data in our daily lives. Email, text, search, check-in, photos, payments – all these activities create a trail of digital exhaust. This personal data has been triumphantly declared a "new asset class" by the WEF, compared to oil as the world's newest economic resource, and sparked a big data race to gather it. This paper argues that this gold rush can obscure the real value of personal data by forgetting a fundamental rule of innovation: start with the person. The paper draws on global ethnographic research with data-driven individuals, experts, and start-ups to address five common misconceptions about personal data. It concludes with a set of simple principles and business case examples to bring a human-centred, small data perspective to life.

INTRODUCTION: BIG DATA GOES BOOM

We produce vast amounts of data in our daily life. Worldwide, we send 144 billion emails daily. Every second, we post 700 Facebook updates, write 600 tweets and initiate 35,000 Google searches. We transact $6.5 trillion yearly on Visa cards. These activities—plus texting, checking-in, pinning, Instagraming, signing-in, making mobile payments—all create a digital by-product. Data is superabundant. Figuring out how to extract value from all the digital exhaust is driving the current big data boom: a corporate-sponsored, frenzied and competitive race to gather and mine our personal data.

Data analysts use the term "big data" to convey the enormity and complexity of our digital output. For them, the data is very big indeed—and expanding. Ninety percent of all data created in history has been created in just the past two years. Worldwide storage is expected to increase from 329 exabytes in 2011 to 4.1 zettabytes in 2016. It is difficult to even translate what this metric means, but according to a 2010 Economist article, one zettabyte is equivalent to all the information in existence that year. One zettabyte would take something like eleven billion years to download using today's broadband (Franks, 2012 p. 89). Big Data is, in fact, immense.

Analysts look at this immense aggregation of bytes, and see an unwieldy data set unlike anything they've crunched or made sense of before. Our data already exceeds current storage capacity, and of that vast amount of data, only about five percent is structured. Yet, despite the difficulty of harnessing its value, many are convinced that big data will become the world's most important resource; the fuel for the next economy. In a 2011 report, the World

Economic Forum declared our personal data a "new asset class" equivalent to oil and money in potential economic importance:

> "Personal data will be the new 'oil' of the 21st century… It will emerge as a new asset class, and a person's data will be equivalent to their 'money'. It will reside in an account to be controlled, managed, exchanged and accounted for, just like banking services operate today."

Conferences about big data are now being held all over the world, from Minsk to Malta. Chief Information Officers are regularly joining the executive suite and one HBR article even proclaimed the job of data scientist to be the sexiest of the 21st century. Merely the promise of personal data's potential value has sparked the current boom. As Tricia Wang writes, "Big data can have enormous appeal. Who wants to be thought of as a small thinker when there is an opportunity to go BIG?"

As the hype grows, nearly every company wants a part of big data, but this gold rush potentially obscures much of the real value of personal data. First of all, it often fetishizes the data (and the data scientist), positioning it as the prize itself rather than the enabler of possibilities. Next, it can misplace the business opportunity: only a few companies have the capacity and resources to analyse data at this large scale. Lastly it risks forgetting the most fundamental rule of innovation – start with the person. We already know that successful product, service and experience innovation starts with an understanding of real people and their real needs, so why has this basic principle been largely absent from the obsession with big data?

This paper draws on research that looked to discover new value in the data boom through a global investigation of people's experiences with and the new emerging business opportunities around personal data. It proposes a new perspective on personal data— one that shifts our attention away from what is technically possible and tantalisingly profitable to focus first on what people need.

We are not alone in calling for a more human-based approach to the big data discussion. However, we are advocating a people-centred perspective that runs deeper than simply putting data tools and privacy into people's own hands (cp. Green 2012). We also want to move the discussion further than arguing for a more qualitative approach to the data itself (although this is an important point raised by others: see Crawford 2012, Rasmussen and Madsbjerg 2013, Wang 2013). Instead, our key point is that in the midst of a data boom, it is also imperative for businesses to think about how they can use the personal data to provide value back to the individuals who are both its source and consumer. This paper argues that the best opportunity in the emerging personal data economy may not be the mining, processing and selling of data. Rather, there is equal opportunity to discover the benefits that data can provide directly to customers and to deliver that value back through compelling services that address their specific needs, desires and frustrations.

METHODS: A PEOPLE-CENTRED APPROACH TO THE PERSONAL DATA ECONOMY

In 2012, at Claro Partners, we conducted a six month global consortium project investigating the emerging "Personal Data Economy". It began with the observation that personal data is fundamentally changing the way we work, live and play. Data is the output but, more importantly, it's also the input of a digitally-networked society. We could see a shift in everyday behaviour, noticing how people use personal data to make everyday decisions on things like what to eat, where to go, and how to get there. We saw new products and services, from the fitness tracker Fitbit and social app Highlight, to the adaptable thermostat Nest and the new banking interface Simple, transforming the way in which people interact with their data - and the value they receive from it. We call the collection of services that enable these new experiences the "Personal Data Economy" or PDE. The PDE is not built by solely mining data; instead it is built by using data as another resource in the creation of services that are valuable to people and delivered through experiences they want. Meaning, the PDE is an emerging economy of services, outside of data aggregation and targeted advertising, which focuses instead on meeting people's needs in new ways. We believe it provides business opportunities as big as, or greater than big data.

In partnership with three international clients from the banking, telecom and technology sectors, our team interviewed more than sixty individuals, experts and start-ups in cities around the world, including San Francisco, London, Berlin, Tokyo, São Paulo, New York and Boston. Our research was grounded in the belief that in order to understand how to create value from personal data, we need to start with the person, rather than the data. So, instead of looking at data to try and understand what it might tell us about human behaviour, we started by looking into human behaviour to see what it could tell us about the role of data in people's everyday lives.

We designed the research around human stories relevant to each location. For example, we talked with members of the flourishing Quantified Self (QS) movement in San Francisco. This is a community of "self-quantifiers" who track, share and make use of their personal data, with the intention of changing their own or others' behaviour. They track a variety of behaviours around finance, health, diet, life planning, mood and mental acuity, in pursuit of new forms of self- and human knowledge. For them, data is like a sixth sense. In London, we interviewed urbanites to gain insight into how they use digital technologies and connected devices to engage with and navigate their city, both physically and emotionally. We observed how they use and create real-time data to orient themselves to their surroundings, fulfil immediate needs, participate in their community and to make decisions about things like utilities, transportation, health, shopping, public services and entertainment choices. We wanted to better understand these experiences. In Berlin, we explored data unrest, going from hacker dens to parliament to discuss digital rights with people who have political ideas and investment in personal data, including members of the Pirate Party. In Tokyo, we focused on NFC technology-enabled experiences and in São Paulo, on social networks and self-made business opportunities. All of these stories offered unique insights into the new experiences and behaviours emerging around personal data. In total, we conducted thirty-one 1:1 interviews.

In our research, we also interviewed twelve start-ups who are defining new offers built on personal data. For example, we met with the creator of Chromaroma (a game built on top of London Transport data and played by thousands of commuters), Kitakore (a Japanese recommendation engine), Gravity Eight (a site for collecting a broad variety of self-tracking information), and other start-ups looking to create entertainment, recommendation, tracking, discovery or other types of services built on top of personal data. Lastly, we met with twenty experts like Wired's Ben Hammersley, Urbanscale's Adam Greenfield, and MIT's Sandy Pentland to discuss the role of personal data in disrupting both business and society.

Our interviews were more than mere conversations. We used collaging, follow-alongs, workshops, participant observation and other creative means to engage, be shown and told, and dig deep into people's data-driven experiences. Below are some of the insights and patterns we synthesized.

KEY INSIGHTS

We categorized insights developed from our research into three areas: the consumer, the personal data experience and the misconceptions about personal data.

Data-Driven Consumers Are A New Class Of Consumer

> "Current questions about track/do not track, or how to provide user control and consent are not relevant. We need a new way to make sense of consumer agency."(Kaliya Hamlin, Executive Director at the Personal Data Ecosystem Consortium)

One of our key research takeaways was that rather than approaching data as a new asset class, we need to approach the data-driven consumer as a new class of consumer. Too often, users are treated merely as data-creation widgets in the PDE. This is the wrong approach. As, Alessandro Acquisti (2010) reminds us, individuals are both the producers and the consumers of personal data. Individuals will drive the PDE by playing both roles.

These consumers/producers understand that their data has value economically, socially and individually. They understand this because they interact and live with their personal data in the context of everyday life. It is crucial to acknowledge that people don't just unconsciously generate data; rather, they author it. They are makers of their own self-image, goals and brands. They are exploring and discovering new things that they can do based on their data every day: change and track behaviours, interact with other people and objects from a distance, make better decisions. New opportunities in the personal data economy will be built on fulfilling the needs of this new consumer/producer and on discovering how to offer better services in the moment rather figuring out how to mine the digital footprint they leave behind.

The current personal data experience Is burdensome

Despite being savvy and surprisingly aware of their own digital footprints, data-driven consumers/producers face many challenges. It should come as no surprise that the struggle is not to obtain more data! People are overwhelmed and inundated with data. Instead, their biggest obstacle is making sense of it. How can people pick out the most relevant pieces when they are navigating data streams that seem to treat every data point with equal importance? One interviewee discussed the numbing sensation she felt as she learned about what her friend had for dinner and the latest terrorist tragedy in the same perusal of her Facebook feed. These types of deadening experiences were common. A re-occurring theme amongst our participants was the question of how to extract real meaning from all the data they compile. For example, we talked to a diabetic who tracked lots of information about his diet and exercise with tools like FitDay and RunKeeper, but he had no means of comparing it with data he tracked about his blood glucose. In fact, he couldn't even understand his glucose tracking in isolation and instead had to visit the doctor each month for an interpretation of the results. In the end, he had lots of data but little meaning. He felt both more numb and dumb in the presence of all his data.

On another level, people generally felt the social burden of always being "on" and struggled to manage all of their social relationships. We heard story after story of teenage-like awkwardness as people were unclear about how to behave online; when to respond and when not to. People recounted instances of showing-off, boasting and abuse that they felt would never be socially acceptable offline. Rules and social norms of engagement were unclear to them. These are only currently being defined, and there is opportunity to help individuals establish them.

One of the deepest struggles we heard about was with attempts to separate social identities. While there is an overall industry trend towards identity convergence, it is usually for the benefit of business. Companies, in an effort to improve marketing or ad sales, encourage individuals to synchronise their profiles, to sign-in across the Internet with a single platform log-in. While sometimes convenient, it is more often undesirable for consumer/producers. People generally did not like having work, school and special-interest acquaintances to be networked with one another. People didn't like this uniformity which led their phone to alert them to an advertisement from the Gap as if it were of equal importance to a message from a spouse. Overall, people were tired of being treated as the average of themselves. As one young New Yorker explained, "I may visit Amazon as a Foodie, a Gen Y expert, or a business analyst, but I don't want to be treated as all three at once…I will just end up getting a lame recommendation for another Harry Potter book that I don't want!"

Five common misconceptions fuel and misguide the data boom

The more we researched these new data experiences, the more we realised that there were some common misconceptions about data that need to be dispelled before new opportunities could be defined.

Misconception #1: Personal data is equivalent to big data – Big data is the latest hype driving a mass industry effort to extract and analyse the bits and bytes we generate. However, the competitive business advantage in the Personal Data Economy lies in small data. Taking advantage of this means turning attention away from big data sets (and the cool hackathon-created applications) to focus on real unmet user needs. Only once you identify those needs does it then make sense to explore how to access the relevant data and define how its application can fulfil those needs. Of course there are opportunities for aggregating, analysing and brokering big data, but this isn't the core value of the Personal Data Economy. Besides, the number of businesses adept in data aggregation and analysis will be few and will already have a core competence in those areas. There is vast opportunity for companies to look to small data and build experiences that are relevant, personalised, and valuable to customers themselves.

Misconception #2: Personal data is the new oil – Personal data is often likened to oil. In many ways, this can be a misleading metaphor. While personal data is likely to be an important resource in the future economy and certainly has sparked a new mining boom, comparisons to oil obscure much of its real value. Personal data is a unique asset precisely because its value cannot be determined by its resale potential. It is not an interchangeable commodity. Unlike oil or even money, my personal data has greatest value directly to me. When it comes to creating services in the Personal Data Economy, the more aggregated and anonymised that data is, the less value it retains. Where I went, what I bought, how far I ran…this data will always make most sense and be most relevant to me, the person that created it. Value in the oil economy is vastly different and so the comparison is limited.

Misconception #3: The core issue around personal data is privacy – One of the most intense debates in the big data boom revolves around privacy. The discussion proposes that consumers are unaware of the ways in which their data is extracted and used. From this, safety and privacy have been perceived as the most addressable user needs, leading companies to offer benefits primarily in security, storage and anonymity. Personal data lockers are one of the most commonly mentioned concepts in this space. These are virtual vaults for storing information and giving individuals the ability to determine how and where they exchange it with others. However, we remain skeptical about the benefits and use case of such a scheme. It is doubtful that a data locker could be designed that is not a crushing burden to manage, and in any case, we wonder if a data locker even fulfils a real user need. When the individuals we interviewed talked about their privacy, they were talking not about a security issue, but a social one. They discussed it in relation to their identities and levels of intimacy within a range of relationships in their social lives. Privacy meant appropriate sharing, managing social circles and maintaining relationships; not keeping their data isolated under lock and key.

It is important to recognise that most personal data is, from its very inception, created as part of an interaction with other people. That is, it was never wholly private to begin with – some of our most personally valuable information is also very public. In a networked society, we are driven to share. We post, link, check-in, like, and otherwise create data for

others as much as ourselves. So, when it comes to personal data and privacy, security alone is rarely compelling an offer.

Misconception #4: The value of personal data is in its sale – There is growing public assertion that individuals should have rights and control over their own personal data. New business models are being devised to allow users to sell their personal data to the parties they choose. Author/blogger Doc Searls criticises the idea that personal data might have sale value to the individual. He argues it is an unproven idea based on the conventional advertising model where marketers pay third parties for personal information. The persistence of this advertising model as the only approach we can imagine as a model for unlocking value from personal data is disheartening. Is this really the only viable business model for the Internet? Still, Searls' proposal – that we are moving from an attention economy, where advertisers compete for consumer attention, to an intention economy where consumers themselves advertise their own intent – represents only a small shift in how we treat the value of personal data. It is simply a shift in who controls the exchange. Consumers controlling the exchange value, however, is yet another unproven model. There is little evidence that individuals want to invest the time and attention to participate in such a scheme. We should be careful not to mistake users' desire for services that offer more trust, transparency, and control for a desire to completely manage and market one's own digital footprint.

Misconception #5: Personal data is for data scientists – As businesses collect and store more and more data, they are seeking to employ data analysts to make sense of it all. But analysis of personal data is not beyond the capacity of individuals. In fact, they are often the best-qualified to do so. Self-quantifiers were only one extreme example, but many of our research participants were using things like Nike+, Tripit or self-made tools through IFTTT to capture data they felt relevant to their lives. One Japanese man we met, for example, linked his Twitter feed to his Google Calendar so that he could better track his daily activities in an instant journal-like way that made sense to him. With relevant tools people can make sense of and act on their data. The rise of the data scientist is in part related to the enticing promise that big data will help companies to function more intelligently and efficiently. Yet many IT infrastructure analysts believe that the majority of these efficiencies have already been squeezed out in the past decade. Furthermore, there are other opportunities that come from approaching data as something that empowers people first. This requires moving beyond functional capabilities and understanding personal data's social and emotional value. This understanding can then be turned into new services and experiences of data instead of into yet another targeted ad.

BUSINESS EXAMPLES AND OPPORTUNITIES

Businesses and start-ups are beginning to emerge with new business models and propositions that treat data as most valuable to users themselves. As part of our research we created a landscape to visualise the vast scope of these services in the Personal Data Economy. The landscape is an interactive tool that allows viewers to explore new

propositions that deliver the value of personal data directly to the user. It includes offers around discovery, recommendation, social interactions, prediction, identity and access management, and the Internet of Things, amongst others.

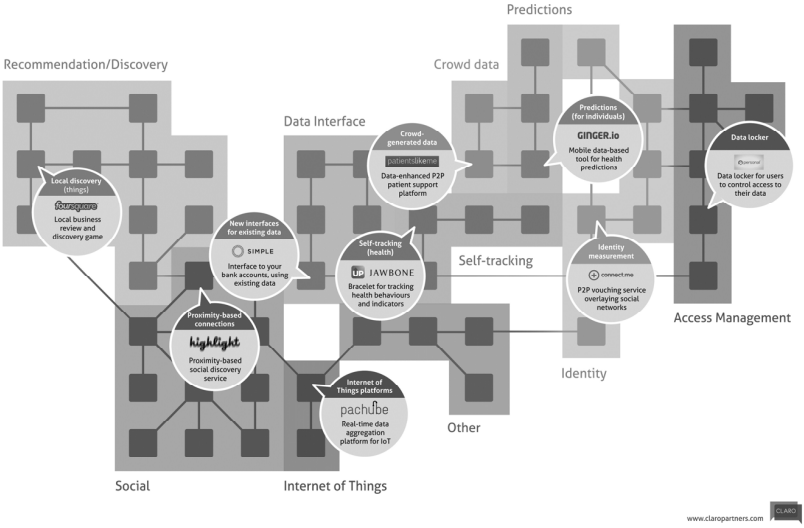

FIGURE 1. ***Personal data economy landscape***

One of the major discoveries in looking at this landscape was that while we included over 250 services, the majority of them are fulfilling a single human need: the need for mastery. These mastery services focus on using personal data to measure things, make one more efficient, help optimise a behaviour or achieve a goal. Location services like AroundMe exemplify this space. They use your location data and Google Maps to help you efficiently locate a restaurant, museum or shop. This is an obvious place to start, as it is a relatively straightforward application of the data. However, our research revealed other opportunity areas based on connecting more deeply to people's emotional needs, like for example, the human need for intimacy. In a world flooded with data where all our relationships seem to merge into a single platform or interface of shallow interactions, people we spoke to expressed both a sense of loss and a craving for more intimacy. People were rediscovering email attachments as a means of directly exchanging with a single person, using more closed social networks like Path, or dividing social groups across platforms as a way to create the kind of intimacy they preferred. But can't we imagine and create better services to enable intimacy?

Our research highlighted Snapchat as one company to watch in this space, and now we believe it's incredible and rapid growth can be in part explained by its ability to respond to the need for intimacy in a way that many other services don't. Snapchat is a real-time picture and video sharing service that allows users to decide for how many seconds others can see a photo they share. After the viewing period, the photo or video disappears. By letting people impose this time constraint, Snapchat gives context and a better experience to personal data sharing; it provides precisely the type of social-based privacy that many people crave. Furthermore, the photo's transience makes the very act of sharing more meaningful and valuable to users themselves. It creates a moment of intimacy between two people, rather than burying that content within a larger data stream. That is, it feels more like sharing in the traditional sense.

Another interesting company in this landscape is Foursquare. Unlike Snapchat, Foursquare needs a huge amount of personal data to fully function. However, Foursquare gathers that user-generated data to provide relevant information back to users themselves. Foursquare offers personalised discovery and sharing rather than aggregating all user data to target users with ads, or help them be more efficient. For example, it can suggest where you might like to eat tonight based on your friends' preferences; and it can provide this recommendation within your personal and social context. Furthermore, rather than starting with the data, Foursquare first created a compelling service with an engaging game element that generated the personal data it later used to build its increasingly-personalised offer. It is a service that keeps the user experience at its core.

Savvy users understand that just because Snapchat erases the image, or Foursquare gives them a badge, doesn't mean that the companies are not collecting and storing their data. In reality, most people are keenly aware that companies have access to their personal data and understand that it's the price they pay in exchange for the platform's value proposition. In order to function, Snapchat needs access to your contacts. Similarly, Foursquare's Radar needs to understand your social network to push alerts when you are passing a location where your friends are gathering. In the end, Foursquare and Snapchat simply deliver a better experience, and do so in an environment of trust, transparency and control. They offer a service relevant that consumers consider an equitable value exchange for their personal data.

CONCLUSIONS

It seems that today everyone is focusing on big data; how to make money from it, mine intelligence from it, and transform business from it. To be sure, big data can yield powerful insights and greatly impact the business landscape. However, this paper argues that big data in itself is not a strategy for innovation. Furthermore, the big data hype is also distracting us from other business opportunities and experience innovations that provide value directly to potential customers. We believe the PDE provides new opportunity for organisations to deliver real value to people and advocate for a people-centred perspective to create something meaningful and new.

This paper highlights the emergence of a Personal Data Economy, in which services provide value to people by building on top of their data (shown in its vast scope and variety

in the PDE landscape). The intent of this paper is not to dismiss or ignore the Big Data Economy, but to emphasize that creating value in the Personal Data Economy requires us to take a very different approach. Business ethnographers and anthrodesigners, among others, have already argued for a new approach to data, pointing out that it would be a mistake to equate data-mined discoveries with real "customer intelligence" (Lee and Sobol 2012, Wang, Crawford). These writers rightly recommend we take a more qualitative, data with depth, or thick data perspective. However, a people-centred approach to data demands more than the usual Geertzian method. At Claro Partners, here's what we think are the key principles to taking a more people-centred approach to the Personal Data Economy:

3. **Start with the person.** In the Personal Data Economy, data is not the oil but rather one of the resources in the service design toolkit. In the Personal Data Economy, we don't begin with analysing or crunching data, rather we begin with thinking about people and their everyday needs. Data then becomes one tool to help design better services and experiences for people.
4. **Become observers of the role data is playing in people's lives.** Data is increasingly something we interact with in our everyday lives. We need better understanding not only of the data we generate as exhaust, but also of how we live with that data and act upon it. Services designed with the idea that personal data is an inherent part of and crucial input into the experience, rather than just the output, will create new value in the PDE.
5. **Identify new unmet needs.** What are both the functional and emotional needs when it comes to experiences with our personal data? Many services in the PDE are, in fact, still quite functional. It is perhaps obvious how data can help us be more efficient, precise and informed, but the power of personal data is more than functional. Our personal data connects us emotionally to who and what we care about. It is a footprint of who we are, what we do and what we aspire to. It has the capacity to meet human needs such as intimacy, belonging and recognition. As one attendee at a San Francisco Quantified-Self meetup explained: "capturing the sense of a moment is different than capturing a data point." Even for these data-driven folks, the emotion of a moment and the context of creation are critical to the value of their personal data. In the PDE, there is vast opportunity to consider how to meet these emotional and context-based needs, especially as consumers' functional needs for information are increasingly satiated.
6. **Create Tools.** Create tools to help businesses identify, design, and create business models around more relevant services with data as an enabling resource to tap into when needed. This means rethinking the tools you currently use to include data as an input, an output, and at times even as an actor in a larger network.
7. **Design The Whole Data Experience.** Design how and where the data is generated, volunteered or inferred; how and when the user can access it; how they have to manage the data (or ideally not at all); how they can view it and manipulate it to create meaning; how they share, contribute, exchange the data, and finally if and when they archive, delete or retire the data.

We firmly believe that there is great business potential in personal data, but it will not be fully realised by aggregating and mining it. There are huge opportunities in the Personal Data Economy; opportunities to design ways to give value back directly to users through compelling services that address their specific needs, desires and frustrations. So, rather than go big with data, we recommend starting small. And rather than big data, we recommend to focus on relevant data. To understand what is relevant to people, we need to begin with their needs. We can use these defined needs as the first filter to work out what data is needed, how to access it, how to use it, and how to deliver it back to the user.

REFERENCES

Acquisti, Alexander
2010 "The Economics of Personal Data and the Economics of Privacy." In *Proceedings of the OECD conference on The Economics of Personal Data and Privacy*. Paris, France: OECD.

Crawford, Kate
2013 "The Hidden Biases in Big Data." *Harvard Business Review Blog Network*. http://blogs.hbr.org/cs/2013/04/the_hidden_biases_in_big_data.html.

Davenport, Thomas and D.J. Patil
2012 "Data Scientist: The Sexiest Job of the 21st Century." *Harvard Business Review Blog Network*. http://hbr.org/2012/10/data-scientist-the-sexiest-job-of-the-21st-century/.

Franks, Bill
2012 *Taming the Big Data Tidal Wave: Finding Opportunities in Huge Data Streams*. Hoboken, NJ: Wiley.

Green, Shane
2012 "The Era of Small Data Begins." *Getting Personal – My Data and the Digital Me*. http://rshanegreen.com/2012/03/06/the-era-of-small-data-begins.

Lee, Lara and Daniel Sobol
2012 "What Data Can't Tell You about Consumers." *Harvard Business Review Blog Network*. http://blogs.hbr.org/cs/2012/08/what_data_cant_tell_you_about.html.

Rasmussen, Mikkal and Christian Madsbjerg
2013 "Big Data gets the Algorithms Right but the People Wrong." *Business Week*. http://www.businessweek.com/articles/2013-07-16/big-data-gets-the-algorithms-right-but-the-people-wrong.

Searls, Doc

2012 *The Intention Economy: When Customers Take Charge.* Boston: Harvard Business Review Press.

The Economist
2010 "Special Report: Managing Information." *The Economist*, 25 February.

Wang, Tricia
2013 "Big Data needs Thick Data." *Ethnography Matters.* http://ethnographymatters.net/2013/05/13/big-data-needs-thick-data/.

World Economic Forum
2011 *Personal Data: The Emergence of a New Asset Class*. World Economic Forum.

Small packages for Big (qualitative) Data

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Smart devices and online research platforms are changing the landscape of qualitative data collection and analysis. While data collection mechanisms have flourished, analytic tools to work with that data have not meaningfully evolved. Changes in professional practice and advances in technology are creating new opportunities—and new pressure —to develop software tools that are focused, simple to use, fit flexibly with a variety of analytic processes, adapt to different data sets and do not lock data into proprietary formats or researchers into predefined analytic processes. We call such tools Small Packages for Big (Qualitative) Data. This paper defines the concept and introduces three such early stage tools—Voyant, Mandala Browser and Nineteen, and links qualitative research to another field experiencing similar changes and tool development, the Digital Humanities. Lastly, we present a case study to demonstrate how Small Packages can focus investigations, build early-stage familiarity with data, and inform subsequent analysis.

THE CHALLENGES OF BIG QUALITATIVE DATA

The qualitative research field is experiencing a confluence of factors that are collectively creating an opportunity to rethink analytic tools and their role in qualitative research. Most of today's analytic tools were developed in the 20th century, on 20th century platforms and for a context of practice that is quite different than the 21st century conditions in which many researchers practice today. Today's conditions, and the factors these authors see as relevant to software development for qualitative research, are as follows:

Technology-driven abundance

Field researchers are rapidly adopting smart devices, apps and internet-based tools to bring new efficiencies to their own data collection. Mobile devices, apps and wireless data transmission are also being integrated into a new class of research platforms—such as dScout, Revelation, QualVu, ethos, and others— that allow researchers to engage informants remotely through self-reporting. These tools are powerful additions to the researcher's toolkit: they open up new user groups for study, allow researchers to launch studies at a global scale and to engage study participants 24/7. However, with the power comes new data abundance.

While data abundance has always been a hazard of the profession, digital collection can quickly magnify the challenge. Now, more than ever, we have the ability to generate vast amounts of research data from more participants, in shorter time. We call this Big Qualitative Data, a reference not simply to the amount of qualitative data that can be collected and accumulated—not yet on par with the revolution in quantitative Big Data revolution—but for the complexity of that data, the speed of its accumulation and the

resulting challenge to researchers who must manage and analyze it using tools that were not designed for this scale of work.

We call out the adoption of online research platforms in particular because they are also creating a new condition for the researcher: large-scale self-reporting studies can generate potentially massive amounts of user data that is all new all at once. As a consequence, the researcher's task of building a mental model or a structured understanding of the study data can become overwhelming, making analysis more difficult, tools more important, and rigor all the more essential.

Tighter timeframes, limited resources

This newfound ability to scale up qualitative data collection coincides with an increase in pressure to further reduce analysis time. While corporations are accelerating their integration of ethnographic methods into development processes (Cefkin, 2010; Rhea and Leckie, 2006; Malefyt, 2009), corporate timescales have continued to shrink (Malefyt, 2009; Thrift 2000). Compressed business cycles have been a driver of "rapid ethnography" practices, a response by the research community to better serve organizational needs and to keep qualitative researchers at the corporate table (Ladner, 2012; Cefkin, 2013; Isaacs, 2013). Another response is the adoption of mixed methods research to better ensure that research projects produce more than one type of investigative perspective and lean towards the predictive. These and other changes in qualitative research in corporate settings are driving new kinds of research problems, new users of the output (designers, strategists, planners, etc.) and new forms of relevant data. While our study approaches and data collection methods are advancing, we argue, our tools are not keeping pace.

New forms of data – and an opportunity

Digital qualitative data has more predictable forms and formats. Again, we call out online research platforms as a coherent and concentrated example of this: Online platforms tend to deliver data as pre-segmented, bite-sized chunks of text, photos or short videos, rather than large bodies of textual narrative or hours of uncut video. Additionally, XML encoding and .csv files are now fairly standard. Standard formats and predictable data open the door to new computational support—the kind that quantitative analysts have always had but qualitative researchers have not.

And here we come to the pressing issue: As data sets sprawl and analysis time shrinks, analytic tools and computational support for qualitative research have not meaningfully evolved. Twenty-five years ago, mass market tools emerged that materially advanced the efficiency of researchers by bringing computer support to the research process. These tools, such as NVivo, ATLAS.ti and MAXQDA, were built as comprehensive analysis platforms, architected around a linear analytic model and a proscribed approach for organizing and analyzing qualitative data.

Today, changes in the context of practice—from advances in digital data collection tools to the rise of corporate ethnography and its demanding timeframes to growing interest in qualitative perspectives in new domains—has produced a class of practitioners who would

benefit from greater flexibility than established tools can provide. This includes the ability to tailor workflow to fit the variable nature of individual projects and team processes, as well as the means to experiment with or advance new analytic processes. This class of practitioners, and perhaps even traditional practitioners, we believe, would benefit from a more open design paradigm in software development.

A NEW VIEW: SMALL PACKAGES FOR BIG (QUALITATIVE) DATA

What might an open approach to software seek to address? We propose the following: tools that fit flexibly with a variety of analytic processes; that adapt to different data sets; that are focused and simple to use; and that do not lock data into proprietary formats nor researchers into predefined analytic processes. We call this paradigm *Small Packages for Big (Qualitative) Data*. Its key attributes are as follows:

1. Modular, loosely-coupled, purpose-driven tools;
2. Visualization-driven interfaces to engage large data sets; and
3. Dynamic interaction environments for exploration and sense-making.

Principle 1: Modular, loosely-coupled, purpose-driven tools

How does a Small Packages paradigm flexibly support analysis? We think of Small Packages like a nurse's toolkit: a collection of small, focused tools that require minimal training and effort to use, that have clear contexts of use and that *extend* the natural abilities of practitioners, rather than replace them. We also propose that the tools be "loosely coupled," referring to a concept in system and interface design that seeks to reduce the interdependencies of components in a system in order to increase independent functioning and create more flexible responses (Orton & Weick, 1990). Loosely-coupled tools, then, are designed to work well together, but do not require each other or necessitate a particular sequence to produce useful results.

A suite of independent, purpose-driven analytic tools that work together through common, standards-based data formats would better fit the way qualitative researchers work. Specifically, they pursue research problems using a series of independent methods and tools to investigate aspects of the problems. Tools to support this, then, should be developed to tackle individual, focused problems as well: how to visualize, organize and investigate data related by tags; how to investigate data based on language patterns; how to visualize large numbers of diary entries, etc. A suite of purpose-driven, independent tools would allow researchers to run their data through as many Small Packages as they see fit, each optimized around a particular task, and none forcing the researcher into a pre-determined process.

Principle 2. Visualization-driven interfaces to engage large data sets

Visualization of qualitative data is an important attribute of Small Packages and key to its ability to aid researchers with large data sets. As datasets generated by online platforms or collected in databases grow in raw size, they can quickly surpass the ability of researchers to

apprehend in a reasonable amount of time. While software cannot increase the reading speed or working memory of an individual, it can provide tools that tap our native abilities to visually process large amounts of data with minimal conscious interpretation, so as to spot patterns more quickly (Healey, et al., 1996; Ware, 2008; Few, 2009; Tversky 2011). Quantitative expert Steven Few calls this "thinking with our eyes." Data visualization has long been valued in the quantitative world (Bertin, 1967; Tufte, 1983; Cleveland & McGill, 1984; Slone, 2009) but its adoption in qualitative settings is much more recent (Miles & Huberman, 1994; Slone, 2009; Erwin 2011).

In qualitative analysis, the visual display of information can be an effective offset to the human tendency to "jump to hasty, partial, unfounded conclusions," and to "overweight vivid information" when engaging large data sets (Miles & Huberman, 1994, p. 11). Objective displays of data, they argue, help researchers draw valid interpretations and take needed action (p. 91). Cognitive scientists agree: as Nickerson, et al., (2013) highlight, externalized visual representations add a measure of permanence to insights and free up cognitive resources by allowing researchers "to use working memory for inferences and mental revisions" (p. 14).

It is the "bigness" of Big Qualitative Data that opens up new opportunities to apply visualization methods developed for quantitative data to qualitative data: By using colour, size, shape, position and other visual variables, qualitative data can be visually coded. That is, units of data can be temporarily assigned visual attributes. Common variables for visual coding might include day, time, participant, activity, tagged words, etc. However, any variable collected consistently across a qualitative data set can be assigned a visual code, i.e., "store shopped at" or "media used." Once variables are represented in a visual way—circles of a given colour, for instance—the data can be represented abstractly and compactly to fit onscreen in a unified display. Visually-coded qualitative data can then be clustered, ordered or juxtaposed to show quantity, correlations and other relationships.

Principle 3: Dynamic interaction environments for exploration and sense-making

This third attribute of Small Packages advances Miles and Huberman's central thesis that the building of the data display by the researcher is integral to the analytic progression (Qualitative Data Analysis, p. 11). It also reflects Bowen's notion that iterative interplay between data collection and analysis is key to discovery (Bowen, 2008). Small Packages enables these actions by turning data displays into dynamic interaction environments that allow researchers to quickly configure, explore and then reconfigure their data in new ways. Stephen Few (2009) notes that technology used this way allows us to hold a "dynamic dialog between the analyst and the data." We call this ability to quickly prototype data, "data poking."

Data poking is an important concept in Small Packages, as it encourages researchers to see and touch all their data in an informal manner multiple times before engaging in deep analysis. This act of exploring and prodding the data prior to coding creates knowledge that can drive efficiencies in the formal analytic process—Given & Olson (2003), for example, advocate an upfront step aimed at the organization and preparation of data as critical to

effective analysis. Data poking is a complementary concept, focused instead on preparation of the *researcher*. Upfront explorations create familiarity with the data, raise questions about its nature, and aid the researcher in building a mental model of the dataset and its contents to carry into analysis. This kind of upfront familiarization stage is particularly important when the data has been generated via online research platforms, as the researcher may not have had direct experience of the data during its collection.

THREE "SMALL PACKAGE" EXAMPLES

In this section, we introduce three tools that fit the Small Packages paradigm. *Voyant* and *Mandala* come from the Digital Humanities, a field that shares the qualitative researcher's interest in visually enhanced, computer-supported inquiry into large amounts of texts. The third, *Nineteen*, comes from the design research field, specifically from the two authors of this paper.

The Digital Humanities offers particularly fertile ground for qualitative researchers seeking new tools, especially tools that work with large data sets in the focused, independent manner we advocate with Small Packages. Not well known to qualitative researchers, the Digital Humanities is a field of study emerging from the introduction of computing to the humanities (a more precise definition of the Digital Humanities has not come together in a way that scholars in the field can agree on; however, few disagree with this bare bones description). As with qualitative research, the introduction of computing has changed humanities scholarship in important ways. The first is the creation of large digital collections (texts, images, video and even artefacts) that offer unprecedented quantities of sometimes hard-to-access material for investigation. For example, the Medici Archive project is an exhaustive collection of the courtly archives of early modern Europe, currently over four-million letters occupying 6,429 volumes and a mile of shelf-space in printed form (see the http://dhcommons.org/projects for this and other active DH projects). While this scale of material may seem unfathomable to qualitative researchers typically working at the project level, it is not out of the realm of possibility, as digital data collection makes massive compilations possible (these authors are aware of at least one organization that is in the process of collecting and compiling user activity research from countries across the world). The challenges and opportunities of digital collections are similar for both fields: digital collections offer a new ability to combine previously separate datasets into a single corpus for study; they open up new forms of inquiry that were either not possible or not useful before; and they challenge the current tools and approaches that have not been optimized for data sets of such great diversity, complexity or scale.

Of particular relevance to the qualitative researcher is a second effect of computing in the humanities: their development of new digital tools. Digital Humanists are developing data visualizations, text-mining algorithms and interfaces that support exploratory inquiry to take advantage of data now in computational form. Such efforts are often government funded, including support from the relatively new Office of Digital Humanities at the NEH. As a result, the Digital Humanities is rapidly advancing computer-enhanced text analysis techniques and visualizations of encoded data, and opening up new ways to perform research in the process.

Below we show three examples of Small Package-style tools, all working with the same data set for easier comparison. The data used is the output of Revelation, an online research platform, used to engage 25 participants in a study of household management behaviours over a two-week period. This data set contains 118 entries of their shopping diaries; each diary entry contains ten variables, such as store shopped, item shopped for, description of the experience, satisfaction level, shopping style (online, offline or a mix), in addition to time, date, participant and segment. This dataset, therefore, contains 1180 units for analysis—modest in scale but one of thirty activities users were asked to engage in over the course of the two-week study.

Voyant

Voyant (http://voyant-tools.org/) is an online text analysis environment designed to explore and compare large texts. It employs a dashboard interface (see Figure 1) with multiple tools that can be kept open or closed, allowing the researcher to optimize their work environment. Sinclair, its creator, describes Voyant as "designed for humanists who wish to spend more time exploring their corpus than learning complicated, statistical and analytical software" (Sinclair & Rockwell, 2012 p. 259). Voyant's default interface offers six fundamental tools, but can be customized from a larger library containing twenty text investigation tools.

On opening a file, Voyant creates a Cirrus cloud to represent high-frequency words in the text (researchers can apply and edit numerous Stop Word lists). From there, researchers are presented with multiple tools to help analyze or explore a single text, or to compare multiple texts. As an example of Small Packages, Voyant itself is a modular series of tools—some statistical, some visual, some exploratory. While Voyant is designed to be both an analytic and a reading environment, qualitative researchers may find it most useful as a means to get familiar with new data: Its core toolset quickly filters and clusters subsets of text, accelerating the identification of telling language and larger themes for deeper coding.

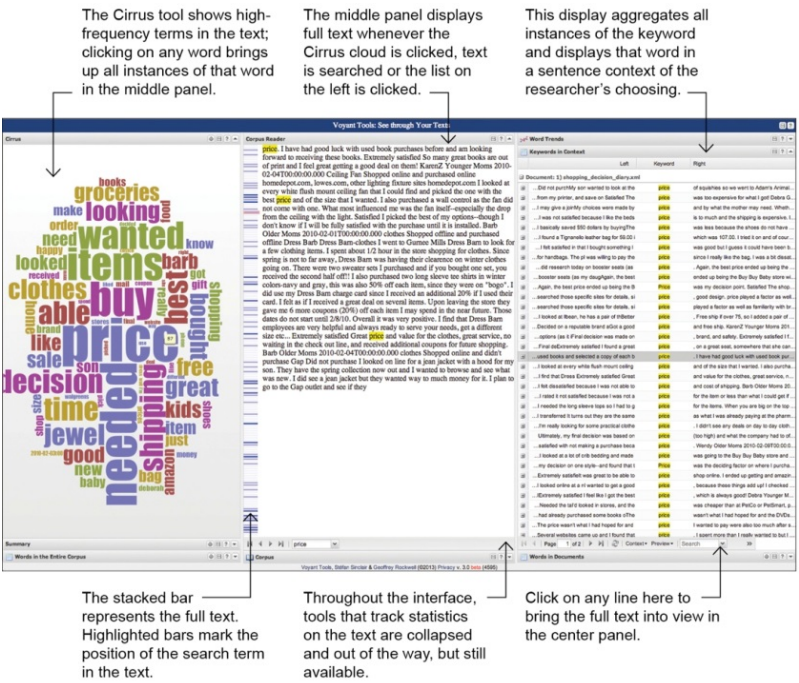

FIGURE 1. ***Here we've arranged the Voyant interface to show three of its tools. Note the Cirrus cloud highlights that "price" is a high frequency word in the shopping diary (82 instances). Clicking on "price" brings up every instance in the panel on the right, allowing the researcher to quickly establish the contexts of use. Clicking on any line on the right pulls the full text into the central panel for closer reading.***

Mandala

Mandala (http://mandala.humviz.org/) is a desktop tool that allows researchers to build rich visualizations of a text based on search terms, and to see how those texts interrelate when two or more search terms are applied. The interface uses a magnet metaphor to search and "attract" units of text based on search terms entered by the researcher. These are represented as a cluster of circles on the screen (see Figure 2) that then act as a direct interface to those units of text. Mandala is built on Ruecker's principles of Rich Prospect Browsing (2006, 2011), which advocate that effective visual interfaces represent all elements of a collection at all times, that those representations become the means for accessing further data, and tools are provided to the researcher for manipulating those elements into meaningful representations.

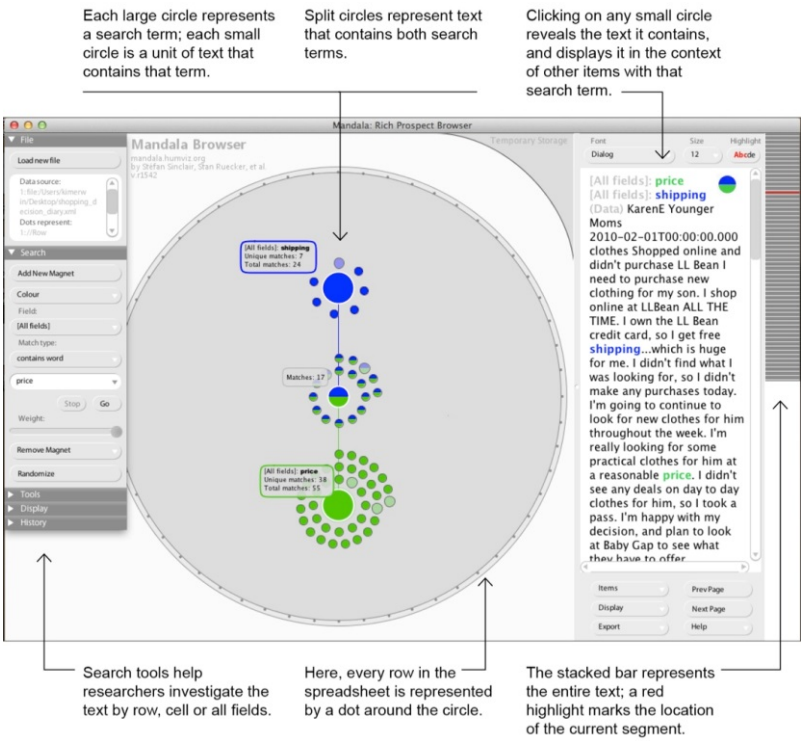

FIGURE 2. ***Using Mandala, we pursue the insight from Voyant that price is an important concept to understand. First, the researcher searches for "price" (all text that contains this term is represented by small circles at the bottom of the screen). Next, on a hunch, the researcher searches for "shipping" (small circles at the top). Notably, Mandala highlights that 17 entries use both price and shipping (split circles in the middle)—a co-occurrence that bears looking into. To read all text containing either term, the researcher can browse the source data using the right-hand screen.***

Both Mandala and Voyant are tools explicitly developed to enhance what humanities scholars' term "distant reading." Distant reading, which focuses on non-linear reading across texts, stands in contrast to traditional, "close reading" (reading from beginning to end) of a small number of texts. Digital humanities scholars believe "distant reading…is a *condition of knowledge*: it allows you to focus on units that are much smaller or much larger than the text: devices, themes, tropes—or genres and systems" (Moretti, 2000). The concept of distant reading is a substantive topic too large to explore in detail in this paper; however, it offers a potentially powerful point of overlap between digital humanities scholars and qualitative researchers: both professions utilize text-based methods of inquiry; both are encountering

larger and larger amounts of text to assess; both suspect that larger samples and the patterns they hold may bring forth new meaning that smaller samples cannot; both would agree that focusing on a few individual texts/people only makes sense if the researcher is convinced that only a few of them matter. From a Small Packages perspective, it makes sense for both fields to collaborate in the development of new tools that advance new analytic practices not possible before the digitization of data and the widespread use of computers for analysis.

Nineteen

Like Mandala, *Nineteen* (http://data.pollari.org/) also reflects the principles of Rich Prospect Browsing, but is a web-based tool designed to support researchers who work with spreadsheets to manage their data. Nineteen represents every row of data in a spreadsheet as an individual unit onscreen (see Figure 3). A small set of controls allow researchers to display, explore and read these units, which can be clustered or ordered based on any variable in the columns. Nineteen is useful in that it helps researchers see all their data at once, and allows them to arrange and rearrange that data to quickly discover correlations (i.e., activity patterns by time or date), outliers (such as over or underactive participants or segments) and other issues that are hard to spot in a sprawling spreadsheet. The intended use of Nineteen is as a first-stage exploration of digital data, using dynamic visualizations and direct manipulation to generate a quick mental model of the data and to accelerate and inform subsequent data analysis. Nineteen's features are explained more fully in the case study immediately following.

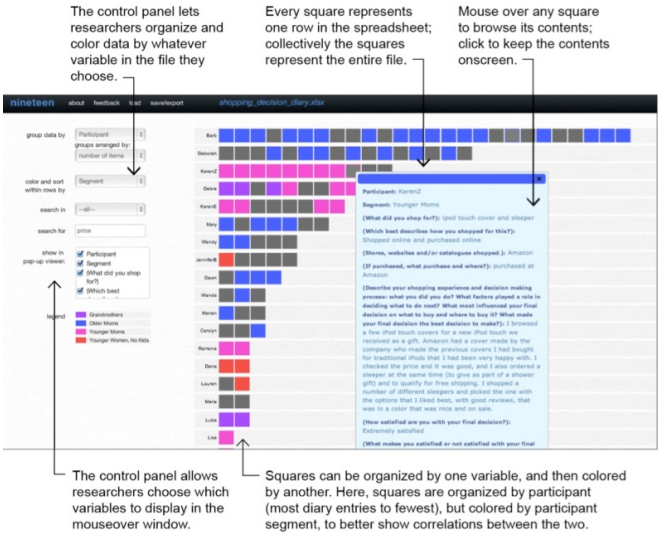

FIGURE 3. ***Here, Nineteen represents every diary entry as a square. Using the control panel on the left, the researcher has arranged diary entries by participant, from most to fewest entries, and colored them by the 4 participant segments. We quickly see that two participants in the same segment have generated a substantial number of the overall entries—a potential issue to investigate and factor into pattern detection efforts. Adding in the search term "price" highlights all entries/squares that mention price, and again allows the researcher to quickly browse that subset of entries.***

F: A CASE STUDY WITH NINETEEN

In this section, we explore an application of Nineteen, as used by a design planning team at the IIT Institute of Design on a research-driven design project for Chicago Public Media and its public radio station, WBEZ.

In 2011, WBEZ partnered with a class of graduate students, including author Ted Pollari, led by Professor Tomoko Ichikawa and in consultation with author Professor Kim Erwin. The class was asked to execute a rapid process of research, analysis, and concept generation, moving from initial recruitment of study participants to presentation of final concepts in approximately eight weeks. This was accomplished with the use of an online research platform, Revelation, to collect research data and Nineteen as a support tool for engaging that data.

The study produced a great deal of data in a short period of time. From an initial pool of 125 self-selected WBEZ listeners, the study included 25 participants self-reporting their activities over six days via Revelation. The recruited cohort included five participants in their 20s, ten in their 30s, five in their 40s and five in their 50s. In total, participants completed

441 sets of responses and activities, some of which were repeated multiple times, generating text and images for the design team to analyze. To show how Nineteen was of value in this scenario, we will discuss the use of Nineteen as both a monitoring and reading device as data came in, and as an early-phase analytic tool used with the data generated.

First, Nineteen proved useful to the team as a data-monitoring tool. Each day, team members would export data from Revelation (which has limited support for data analysis) to monitor responses as they came in. Nineteen proved useful as a data monitoring tool because the visual environment allowed researchers to shift between a high-level aggregate view of the data to a close inspection of individual responses without changing screens. This simultaneous paring of abstracted and detailed views allowed the team to identify specific participants who needed additional engagement to improve response rates or quality. It also allowed the team to build and evolve an understanding of the participants, both as individuals and as a collective. In addition to a browsing tool, a number of students chose to use Nineteen as a reading and viewing interface because of its ability to present the text and image responses of *all* participants to a specified task (see Figure 4).

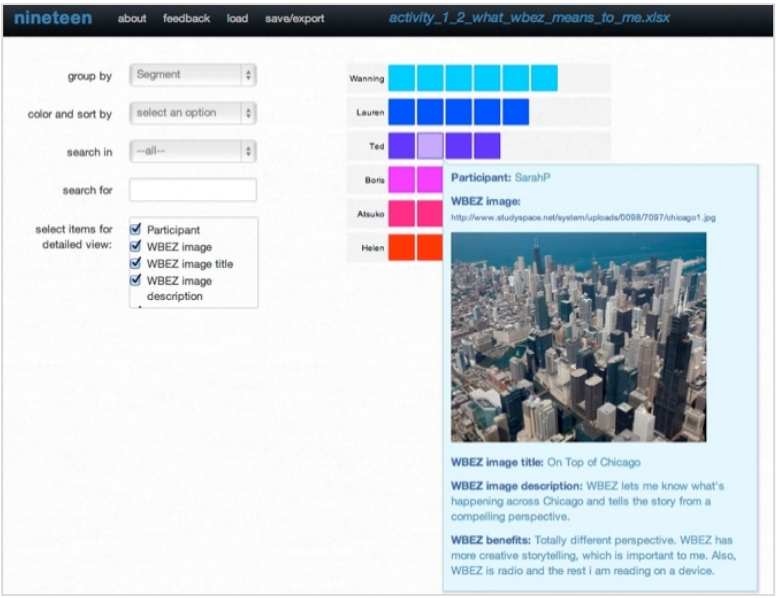

FIGURE 4. ***Keeping pace with the data: Each square represents one participant's response to an assigned activity. Here the researcher is browsing all responses to the question, "What does WBEZ mean to you" and the resulting text and images.***

In the analysis phase, one early task for Nineteen was simply to see whether participant responses to a given activity balanced across individuals and segments. A quick visual

assessment of Figure 5 reveals a response rate proportional to the number of people in each segment.

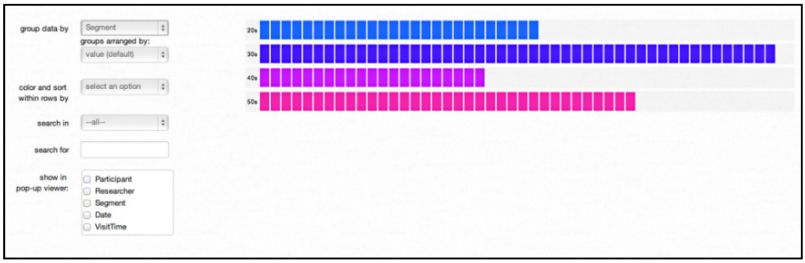

FIGURE 5. ***Checking on the data: here we see the total participant responses to the WBEZ usage log, organized by segment. Each entry in the log is represented by a rectangle. A quick look tells us that, given the number of participants in each segment, the number of entries per segment is roughly even—a good sign.***

Early expectations among WBEZ staff and the design team were that its website might be a major point of interaction for participants. However, a quick look at usage log entries by channel (Figure 6) told a different story—it was clear that radio was by far the most common point of contact. This was true regardless of participant age (Figure 7).

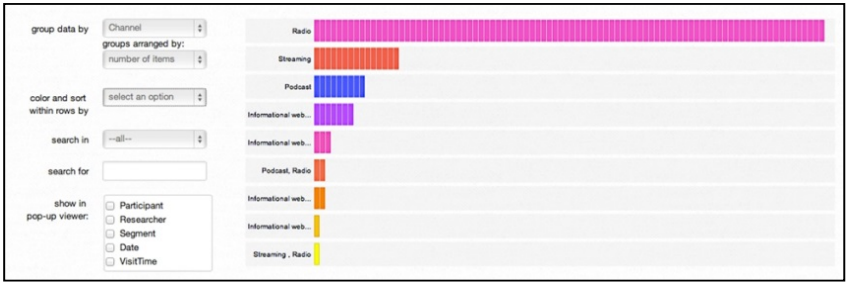

FIGURE 6. ***Despite early theories that recruiting participants through social media might make the website a dominant touchpoint among the group, results of the Usage Log show that most entries were about radio experiences, not web experiences.***

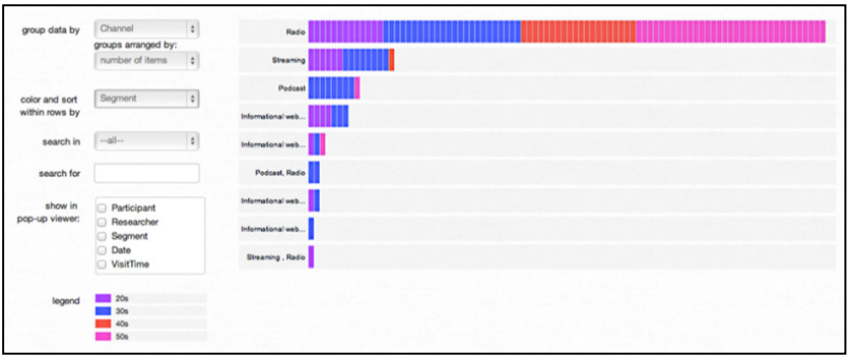

FIGURE 7. ***When the visualization is recolored to reveal participant age, we see that radio is the central experience point of the brand, regardless of age.***

Usage Log responses viewed through Nineteen also allowed the team to explore how WBEZ users interact across media. For example, the team sought to understand Facebook's role in driving contact with WBEZ. Nineteen's full-text search feature revealed many entries (Figure 8) that include the word "Facebook." Using the pop-up feature to read just those log entries revealed two things. First, entries that matched "Facebook" and used the website as a channel came from only two participants; however, those entries all mentioned being driven to the WBEZ website by Facebook and not the other way around. Second, in most of the other cases, participants noted Facebook usage occurring *while* listening to content from WBEZ. This suggested a possible theme that eventually emerged from the study as a whole: WBEZ is often a constant companion during listeners' days, sometimes as the focus of attention, and other times as a background companion as participants multitask.

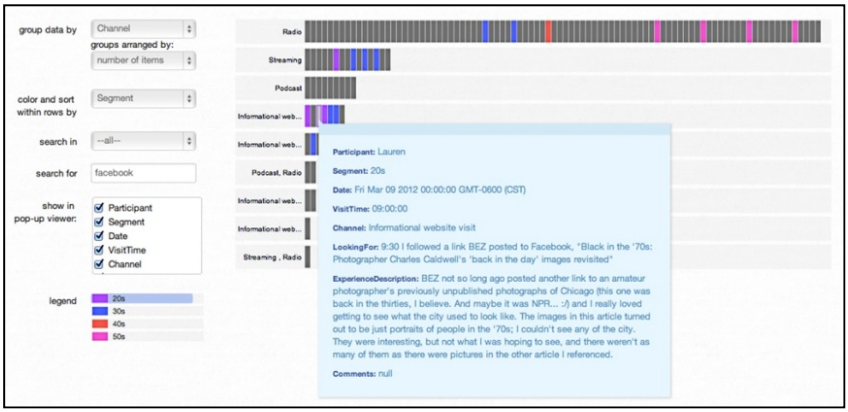

FIGURE 8. ***Still viewing Usage Log entries by media type, the search function highlights those containing the word Facebook, now readable as a collection.***

Is time a revealing lens? Each user's entry in the Usage Log data contained timestamps, allowing Nineteen to display how those entries fall out over the course of a day. In figure 9, we see that entries are logged relatively evenly until around 7pm; this was reflected across all age segments as well. This visualization also helped correct one researcher's early impression that participants were using podcasts more during the evenings, but a quick re-colouring by channel revealed this to be unsupported by the data.

FIGURE 9. ***All entries in the Usage Log are arrayed by time of entry. Note the small early morning peak and relatively constant logging during morning, afternoon hours.***

The use of Small Packages like Nineteen to poke at data does not replace the need for in-depth analytical efforts. But as demonstrated by this case study, and as suggested by Given and Olson (2003) and Erwin (2011), more work up front can speed later analysis by allowing researchers to more quickly form and test models of their data. In this case, the use of Nineteen directed the WBEZ team's attention to two provisional insights that emerged more strongly during close reading of the entries and developed into design principles for prototype development: first, that *WBEZ is radio* and their users value it for the qualities it entails; second, *WBEZ is a constant companion* for some listeners: at home, at work, in the car, WBEZ is the soundtrack to their day. The team used those two insights as part of a network of ideas that were instrumental in developing the WBEZ Broadcast Browser concept[1] presented to the WBEZ board in spring of 2012.

Methodological implications of Small Packages

What might be the impact of engaging Small Packages in an analytic process? The most substantive implication for analysis is also the most intentional: Employing focused, loosely coupled, task-driven tools can allow researchers to be more responsive and diverse when crafting their analytic processes. If the impact of similar tools in the Digital Humanities is any indication, a Small Packages approach in qualitative research is likely to generate new analytic approaches and new forms of knowledge that complement and inform traditional code-focused approaches. Our own early experiences using these tools in team settings

[1] A video demo is available at https://vimeo.com/43589121

produced analytic processes that became more iterative, non-linear and exploratory, and created insights that then focused and accelerated the inductive analytic processes that followed. As a result, we suggest that Small Packages be used upfront, before inductive coding, to help the researcher create a structural understanding of the data from multiple viewpoints (see Figure 10) and proceed from there.

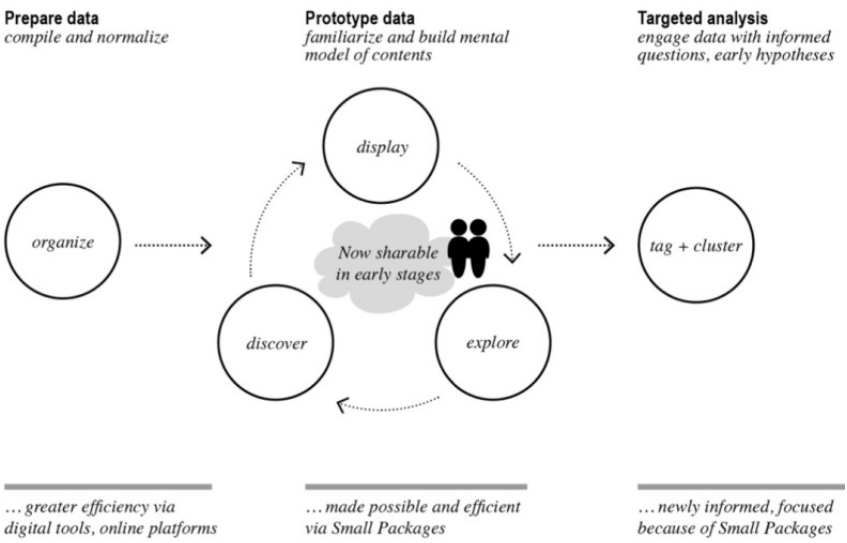

FIGURE 10. ***The small packages concept proposes a new step in the analytic process, one that is fast, visual, iterative, and exploratory. This new step allows researchers to engage more deeply with their data earlier in the process to drive efficiencies in later coding efforts.***

Small Packages has other procedural implications: Because they are by design decoupled from the larger analytic process, Small Packages can allow researchers to engage in early explorations of data almost as quickly as it arrives. This enables parallel work processes of data collection and analysis, and more closely mirrors the traditional notions of grounded theory in supporting an interplay between data collection and analysis processes (Bowen 2008, p. 13). Enabling researchers to be immersed in the data as it unfolds also means they are able to recognize potential problems with their data collection tasks or with specific participants, and opens up the possibility of addressing them quickly enough to minimize the impact on the research in progress, instead of discovering issues well after data collection had ended.

A more speculative implication involves the inclusion of more people in the analytic process: The visual and dynamic nature of Small Package transforms data into a compact object that is then easier to show and share with others in the early stages of analysis, before codes have solidified or insights have been culled. Qualitative analysis is often a shared effort among immediate team members. However, engaging clients, stakeholders or subject matter experts —people who benefit from early inclusion— can prove difficult in the early stages, when data is unstructured and hard to conceptualize. Small Packages, then, can aid in the communication of research.

CONCLUSION AND NEXT STEPS

We are witnessing a tremendous revolution in qualitative research. Never before have researchers in business and academic environments had the ability to collect so much data in such tight timeframes. While this is exciting, it poses clear challenges: traditional analytic tools have not enabled researchers to keep up with the increased volume of pre-organized, bite-sized chunks of data produced by online research platforms. Traditional computer assisted qualitative data analysis software tools were built for different challenges and, as such, new tools must be developed to help researchers cope with this new paradigm.

The Small Packages for Big (Qualitative) Data concept is not a substitute for an active and engaged researcher. Instead, it aims to more quickly engage researchers with their data and their analytic processes by accelerating a structural understanding of what could otherwise be an insurmountable avalanche of data. To do this, the small packages concept builds on modular, loosely-coupled tools, emphasizing visualization and employing dynamic interfaces to enable parallelizable and responsive workflows. This enables researchers to quickly explore their data, raise questions about its nature, and aid the researcher in building a mental model of the dataset and its contents to carry into analysis.

As we've shown, a number of tools already exist that fit with the Small Packages paradigm, many coming from the Digital Humanities. We believe that qualitative researchers would be well served by fostering a cross-discipline development and sharing of analytic tools. The Small Packages paradigm sets the stage for this by advocating for tools that are focused in scope, and thus more amenable to being adopted outside of their original discipline.

Going forward, we recognize that one substantial challenge for tools that fit the Small Packages paradigm is to work on *robustness*—all three tools discussed above are still in development and are still considered beta or prototype software. Further, it is clear that more work must be done to make Small Packages a more complete suite of analytic tools. We hope that by identifying the need for this shift in paradigm, we will encourage a similar shift in the aims of researchers and programmers tasked with developing new tools. By explicitly embracing the principles of the Small Packages concept, we believe that more effective tools can be built, tested and put into use more quickly.

REFERENCES CITED

Bertin, Jacques
1967 *Sémiologie Graphique: Les diagrammes, les réseaux, les cartes*. Paris: Gauthier-Villars. *Translated by* William J. Berg as *Semiology of Graphics: Diagrams Networks Maps* (The University of Wisconsin Press, 1983).

Bowen, Glen
2008 "Grounded theory and sensitizing concepts." *International Journal of Qualitative Methods* 5.3: 12-23.

Cefkin, Melissa
2013 "The Limits to Speed in Ethnography," *Advancing Ethnography in Corporate Environments*, 108-121. California: Left Coast Press.

Cefkin, Melissa
2010 *Ethnography and Corporate Encounter: Reflections on Research in and of Corporations*. Pp1-9. Berghahn Books.

Cleveland, William S., and Robert McGill
1984 "Graphical perception: Theory, experimentation, and application to the development of graphical methods." *Journal of the American Statistical Association* 79.387: 531-554.

Ewin, Kim
2011 "The Visual Coding Of (Big) Qualitative Data: New Analytic Methods And Tools For Emerging Online Research." In *Diversity and unity*: *Proceedings of IASDR2011 4th World Conference on Design Research*. Roozenberg, , L. Chen, and P. Stapperseds.. Delft, The Netherlands, October 31 - November 4, 2011.

Few, Stephen
2009 *Now you see it: simple visualization techniques for quantitative analysis*. Analytics Press.

Given, Lisa and Hope Olson
2003 "Knowledge organization in research: a conceptual model for organizing data." *Library and Information Science Research* 25: 157-176.

Healey, Christopher G., Kellogg Booth, and James T. Enns
1996 "High-speed visual estimation using preattentive processing." *ACM Transactions on Computer-Human Interaction (TOCHI)* 3.2: 107-135.

Isaacs, Ellen
2013 "The Value of Rapid Ethnography." *Advancing Ethnography in Corporate Environments*. Pp 92-107. California: Left Coast Press.

Ladner, Sam
2012 "Is Rapid Ethnography Possible? A cultural analysis of academic critiques of private sector ethnography"(guest blog entry). *Ethnography Matters*, January 13, 2012. http://ethnographymatters.net/2012/01/26/is-rapid-ethnography-possible-a-cultural-analysis-of-academic-critiques-of-private-sector-ethnography-part-2-of-2/.

Malefyt, Timothy de Waal
2009 "Understanding the rise of consumer ethnography: branding techno methodologies in the new economy." *American Anthropologist* 111 (2): 201-210.

Miles, Matthew and Michael Huberman
1994 *Qualitative Data Analysis: an expanded sourcebook*. Sage Publications.

Moretti, Franco
2000 "Conjectures on World Literature." *New Left Review* Jan-Feb: 56-57.

Nickerson, Jeffrey, et al.
2013 "Cognitive tools shape thought: diagrams in design." *Cognitive processing*: 1-18.

Orton, J. Douglas, and Karl E. Weick
1990 "Loosely coupled systems: A reconceptualization." *Academy of management review*, 15.2: 203-223.

Rhea, Darrel and Lisa Leckie
2006 "Digital Ethnography Sparking Brilliant Innovation." *Innovation: the IDSA Quarterly Design Journal* Summer 2006: 19-21.

Ruecker, Stan
2006 "Experimental interfaces involving visual grouping during browsing." *Partnership: the Canadian Journal of Library and Information Practice and Research* 1.1.

Ruecker, Stan, Milena Radzikowska and Stéfan Sinclair
2011 *Visual Interface Design for Digital Cultural Heritage*. Ashgate Publishing, Surrey UK.

Sinclair, Stéfan and Geoffrey Rockwell
2012 "Teaching computer-assisted text analysis." *Digital Humanities Pedagogy: Practices, Principles and Politics*. Brett D. Hirch, ed. Open Book Publishers.

Slone, Debra
2009 "Visualizing qualitative information." *The Qualitative Report* 14.3: 489-497.

Thrift, Nigel
2000 "Performing cultures in the new economy." *Annals of the Association of American Geographers* 90 (4): 674-692.

Tufte, Edward
2001 *The visual display of quantitative information.* 2nd Edition. Cheshire, CT: Graphics Press.

Tversky, Barbara.
2011 "Visualizing thought." *Topics in Cognitive Science* 3.3: 499-535.

Ware, Colin
2008 *Visual Thinking for Design.* Morgan Kaufmann.

Big Data or 'Big Ethnographic Data'? Positioning Big Data within the ethnographic space

JOHN CURRAN
JC Innovation & Strategy

This paper offers a cultural analysis of the different narratives that currently frame the concept of Big Data. With specific attention to how the ethnographic community has approached Big Data, I will make the point that the ethnographic community needs to rethink what its offer is within the business world. Instead of trying to position ethnography as a discipline that provides deep insights to human behaviour (which we often call 'the why'), while Big Data offers broad accounts based on large data collection, I make the case that both approaches should be seen as being positioned within an ethnographic space. This is because both ethnography and Big Data are interested in human behaviour and the cultural field and both are interested in generating insights. We should therefore situate Big Data and ethnography as a relationship that exists in a new epistemological field, a field that is both interpretative and data driven. This field I call 'Big Ethnographic Data.

INTRODUCTION

> "To do something interdisciplinary it's not enough to choose a 'subject' (a theme) and gather around it two or three sciences. Interdisciplinary consists in creating a new object that belongs to no one" (Barthes in Clifford 1986)

The relationship between numbers and human and cultural narratives has historically oscillated between trying to forge relationships with each other to mudslinging criticism at each other (Hammersly 1989). The relationship has never been harmonised but instead has been based on a game of justifying importance over each other. Which process is the most relevant? Which is the most 'true'? Which is the most reliable approach? These questions form some of the common pillars that frame this uncomfortable relationship.

With the ever-increasing visibility of Big Data we are seeing this debate develop further. Gone is the tennis match between 'quant' and 'qual' and welcome the tennis match between the big serving Big Data verses the human focused approaches to data collection, especially ethnography. How this match will end is unpredictable since little is known about the new big server, however, if we look back at history we might get a clue that neither will run out winners. By using the example between 'arm-chair' anthropologists and the birth of ethnography at the turn of the 20th Century, we can learn that criticisms towards Big Data carries many of the same characteristics directed at arm-chair anthropologists, by the then new anthropologists (especially Malinowski) (1922) that promoted a new field work, ethnography.

This paper will focus on two areas. The first one will be based around a cultural analysis of the fast emerging debate between Big Data and ethnography. It will argue that instead of recreating similar debates around the need for a human centred approach as well has statistical representation, we need to re-evaluate the 'ethnographic offer'. The second will make the claim that as ethnographers, we need to take a reflective approach to this debate and instead of trying to enter into a similar debate around relevance of data collection, we should explore how the discipline of ethnography needs to develop and fundamentally re-shape its offer within the non-academic space.

This paper will make a bold attempt at beginning of a new discussion on 'what ethnography is' in relation to Big Data and make the point that ethnography needs to create a new paradigm that shifts from shaping its identity by claiming to understand the 'whys' around cultural behaviour to one where it and Big Data are actually focusing on the same epistemological field, one that is situated within human behaviour and crucially cultural interpretation. Both should therefore be seen as interpretive epistemological approaches to analysis for human behaviour and cultural dispositions. Therefore, I want to try and explore ways in which we can move away from positioning ethnography as something that Big Data needs to one where both are actually ethnographic. In other words, both explore the 'big' by understanding culture holistically. They should therefore both sit in a similar space which I call 'Big Ethnographic Data'.

Before developing this argument, I want to state that this paper should be read as a document to generate discussion that will at least allow us to step back and begin to develop the core offers and merits of an ethnographic approach and theoretical thinking. It is not set up to be fixed. And as the author, I would hope that it would be challenged and developed through discussion and debate. I am not at this stage offering a new model but instead set out the infrastructure to start building one as a community.

DEFINING BIG DATA – A CULTURAL ANALYSIS

Defining Big Data seems to be a complex task since it appears to have the ability to quantify so many areas of our lives, if not all areas of our lives through digitalisation and 'datafication'. The technology revolution has provided platforms that have enabled data to be collected on mass and at a more rapid rate. Trawling through many definitions I have come across two broad areas of interest. The first is its ability to collect data on large issues relating to, for example, health, illness, economics, planning and energy. Here Big Data works as a means of understanding human centred macro trends. A good example of this is Google Flu Trends[1] that can track in almost near to real time influenza epidemics so to help direct medical resources to the most important places. Big Data is also being used as a 'preventative' approach to predicating and forecasting within financial and retail spaces. Leading US banks such as Wells Fargo and Bank of America, consumer goods companies such as Coca-Cola and 3M, and retailers including Wal-Mart are all using Big Data analytics

[1] http://www.google.org/flutrends/

to improve the running of their business models and to anticipate changes in demand before they actually occur (Financial Times, 2013).

The second area, and the one I want to focus on for this paper, is how Big Data makes cultural profiles of who we are. The who-we-are part relates to every aspect of our lives: from what political dispositions we might have, to what we buy as consumers, to the media we attach ourselves to and to who we like and who we worship. Journalist, Steven Poole, has recently written in the New Statesman that through "Big Data analysis, the "cloud" comes to know an awful lot about us. Simply analysing a person's Facebook "likes" can identify a person's sexual orientation or history of drug use" (2013). Amazon can now understand more about its readers through e-books than ever before in the publishing world. They can understand the types of books that people enjoy, the length of time it takes to read and when and where in the book people 'drop off'. Commercially, the outcomes for Amazon are massive, because they are able to understand the taste-zeitgeist of their readers and potentially manufacture books to fit into their readers' tastes. Or at least dictate to authors how their books should swing. This is revolutionary within the world of publishing that has traditionally relied on reviews and sales to cage consumer taste. Alex Alter (2012), writing in the Wall Street Journal explains that:

"In the past, publishers and authors had no way of knowing what happens when a reader sits down with a book. Does the reader quit after three pages, or finish it in a single sitting? Do most readers skip over the introduction, or read it closely, underlining passages and scrawling notes in the margins? Now, e-books are providing a glimpse into the story behind the sales figures, revealing not only how many people buy particular books, but how intensely they read them."

What we are seeing is that through social media and technology, Big Data is beginning to move in to a position where it can generate mass social profiles on groups and individuals that offer more than just "what we do" to "what we like" and interestingly, "how we think". Here we are seeing "datafication" exploring and trying to understand the cultural spaces where human behavior is shaped, similar to what the French anthropologist, Pierre Bourdieu, called the habitus (1977) which focuses on how values, dispositions and tastes are formulated and shaped within social groups in an everyday context. Crucially, the habitus is acquired within the 'field' where the relationship between individual subjectivity and social structures is molded. I will explore the similarities in more detail between what Big Data is attempting to focus on and what ethnography does focus on later in this paper. But what is important about Big Data sitting in the space of culture is that the cultural data becomes an attractive area of investigation and a prized asset and commodity. For example, The Financial Times recently wrote an article called Building a Big Data Strategy (June 4th, 2013) where the journalists claimed that the "data-driven economy is upon us. First-generation internet companies such as Google and Amazon, have demonstrated "data alchemy" - turning data into gold - and now others realise that great opportunity can be seized by using Big Data and the big ideas that come along with it".

It appears that Big Data is not just about collecting mass amounts of data relevant to human life it also attempts to provide a key outcome of such data – ideas.

QUESTIONING BIG DATA – A GENERAL VIEW

Along with all the positive waves associated with Big Data comes a tsunami of concerns about how Big Data is structured and what it can or cannot offer and for whom and for what purpose. Protecting our privacy against the ability of every part of our lives to be monitored has led to journalists, academics and industry professionals to call for an ethical code that will protect our individual and social privacy so that all powerful bodies do not control what we do through a Foucauldian (1977) gaze where surveillance makes our bodies become "docile". This takes place under the structured and psychological system of self-regulation of the body and self thus not knowing when we are being watched and monitored. Like prisoners, we act out in a way that makes our behavior suitable to the needs of the institutions of power, or to use Althusser's (1970) term – the State Apparatus.

Jane Frost, Chief Executive of the Market Research Society in the UK explains in Marketing Magazine (May 30th 2013) that issues around data privacy are now crucial so that large organizations understand limitations in what they can or cannot have access to. She makes the important point that:

> Businesses need to provide clear explanations of why they want personal data, what it will be used for and, critically, what steps they are taking to ensure that they are acquiring and using data in a responsible way…. At the moment, there is no way for consumers to own their data and tie it in with their right to be forgotten. People are requesting data privacy more and more but there is a time when data will suddenly be out there and people will be surprised by how it is being used. Customers see organizations as responsible for the whole supply chain meaning that trust and transparency must be present at every point of interaction.

Within commercial, public and political fields, trust between organization, consumer and voters is critical and therefore, calls for transparency in regards to what is being done with everyday data are important no doubt.

However, the temptation for large organizations to gather data with a new and more sophisticated trawler net becomes an interesting topic where mass data can create mass insights so that those big organizations can better the brands and products their consumers buy, and provide them with more options based on their personal and social characteristics. Good brands and good products also create trust right?

Take for example the UK supermarket chain Tesco. By using Big Data, and lots of it, they were able to understand the consumption habits of new parents pre and post the arrival of their first born baby. What Tesco focused on, amongst many aspects of the new families lives, was that when parents were buying nappies. Tesco would send them discount vouchers for beer because they realized that the father would have less chance of going to the pub (The Economist, May 19th 2012).

Therefore, the concept of consumer trust becomes more complex than stating the need for transparency when we know that trust between consumers and organizations is partly formulated on emotional, psychological and cultural needs. This then sets up a more

complex structure to what an ethical code could look like. Fundamentally, Big Data provides the ability to tap in to the desires[2] of the consumers in ways that can be unconscious to them.

By exploring issues around data and privacy we can see that there are concerns relating to the role of people and their sense of self and privacy rights. This is countered with discourses of excitement or utopia where Big Data will make the world a better place for us all. An example of this utopia is captured in a recent article by Jane Wakefield of the BBC where she explores how Big Data is being used to understand what makes cities 'happy' or 'unhappy'. She states that research carried out by the Advanced Computing Centre at the University of Vermont used 37 million geo-located tweets from 180,000 people in the US to explore this concept. They found that words such as 'starving' and 'heartburn' were more used in tweets within cities with high rates of obesity. However, the key point of this type of research is to monitor in real-time the changing behaviours or urban populations (BBC, 27th August 2013).

A final critique of Big Data I want to briefly explore and which leads on to the following discussion on the relationship between Big Data and ethnography, is the concept of 'raw data' or the notion that Big Data is akin to a directionless machine that needs to scoff as much data as possible so to keep its parts oiled and alive. In other words, there is so much data that it is difficult to know what parts of it to analyse. Steve Poole in The New Statesman (May 29th 2013) states that when "you have a hammer, everything starts to look like a nail" and thus becomes tempting to hit and hard to quantify because you are hitting so many nails. While Carl Miller of Demos Think Tank in London, recently posted a blog for the EPIC London 2013 conference and argued that due to the often arbitrary and incidental way that data is collected it can often ignore context, culture and nuances because the data is so raw (2013). Therefore, Big Data has an identity that is potentially both clumsy and unsophisticated. However, is this really the case? In a blog post for *The Wire* titled "Why 'Big' is Blinding Us to the Real Value of Big Data" (28th August 2013), Matt Asay makes the point that only 28% of 'smart companies' state that data volume is their primary driver to using Big Data. He explains that the "smartest companies therefore first determining which questions it needs to answer, develop a hypothesis of data sources that will answer them, and then use flexible data infrastructure to capture the data". Therefore, asking the right questions first is key, which of course is difficult to do and get right.

Although Big Data is a very visible and attractive topic within the global media, business, politics and academia, it is still at the stage of development and maturing leaving us trying to understand how its arrival will change the world. Being part of change of any type, both good and bad, comes with a sense of pain and conflict before things settle. It is this stage that I think we are at.

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[2] The idea that Big Data focuses on desires was an insight I took from a Royal College of Art (RCA) graduate on the Design Interactions MA called Owen Wells.

ETHNOGRAPHY QUESTIONING BIG DATA

I am interested in how the commercial world of ethnography has responded to Big Data's popularity. This is partly because I am an anthropologist and ethnographer that works in the business world, but also because I think the current discourses around what Big Data is offers ethnography the conceptual space to deconstruct its own offer, both internally within the ethnographic discipline and to the outside world.

I want to explore some important points that have been made from within the ethnographic field so as a means of marking where the current arguments are situated. Later on in this paper I will take these to understand how we might re-think the ethnographic offer in relation to Big Data.

Core to ethnography is its ability to understand everyday life and how humans, as social beings, make sense of their worlds and social structures. Using theories on ritual, symbolism, metaphor and weaving these with theoretical discourses around politics, religion, identity, gender, power, art and consumption (to name a few) provide the ethnographic field with a holistic foundation to aid in the epistemological exploration of knowledge and understanding. If done right, we can take these analytical theories and apply them to the world of business, politics, design, branding, education and health so to create opportunities of clients.

The Big Data party has led to ethnographers staunchly defending their approach by showing what ethnography can offer and what Big Data cannot offer and how importance must be given to ethnography and Big Data working in 'partnership'. This is a point made in a recent blog by Tricia Wang where she states that ethnographers "must engage with Big Data. Otherwise our work can be all too easily shoved into another department, minimized as a small line item on a budget, and relegated to the small data corner" (2013).

One of the central distinctions that have been identified between the two is the fact that ethnography provides deep understanding in to the 'hows' and the 'whys' of human behavior. Sam Ladner explains that Big Data fails to provide adequate insight into why users use a product because this data lacks holistic understanding. She goes on to state that Big Data "provides a culturally illiterate portrait" (2012:33). Fundamentally, the point that Ladner is making is that Big Data needs ethnography to uncover the 'hows' and 'whys' of human behaviour.

This argument has also been central to ethnographic blog discussion points. For example, Tricia Wang distinguishes between what Big Data offers and what ethnography needs to offer. She proposes the concept of 'Thick Data', which she describes as the:

> best method for mapping unknown territory. When organizations want to know what they do not already know, they need Thick Data because it gives something that Big Data explicitly does not—inspiration. The act of collecting and analyzing stories produces insights (2013).

The problem however with these arguments is that other areas of qualitative research are also now making similar claims as ethnography is to understanding the why as a means of producing creative and inspiring insights so to distinguish themselves from Big Data.

Returning to Jane Frost, Chief Executive of the Market Research Society in the UK who makes the point that "Big data may tell you how many customers you have won or lost but not necessarily why. This (the why) is the intelligence that can really make a difference" (Market Research Magazine, May 30th 2013). The quote assumes that qualitative approaches are positioned within an elite of creating game change insights while Big Data is less capable of doing this. The irony is that many of the distinctions we make as ethnographers in relation to Big Data are also the same arguments we have used in the past to distinguish ourselves from more traditional qualitative research methods, namely the 'dreaded' use of focus groups. In other words, focus groups are based on asking questions while ethnography understands the thick description – the why.

I am not refuting that ethnography is excellent at generating deep insights. However, I question the over use of this term – the why. We are in serious danger of over using it as a default term as means of distinguishing ourselves within a highly competitive market. It is therefore at risk of becoming meaningless or even worst, attempting to assume that what the why represents is 'fact' or 'truth'. Understanding the why is extremely complex, both in relation to methodological approach but also professional ability. It is highly psychoanalytical which itself is embedded heavily within culture, while also being shaped by culture.

We need to start by rethinking how we frame the why by stepping back and asking ourselves two interlinked questions. 1) What would the insight world look like if Big Data also claimed to position itself within the why space? And 2) What would stories look like and feel like if generated through Big Data? The previous examples of Tesco understanding why new fathers need discounted beer, or the future of amazon being able to write literature to fit in to the psychological and emotional needs of the reader hints at the point that Big Data will, in the future, be able to understand the why and tell stories…. literately. If this is the case, then the cultural space where ethnographers sit will also change. Therefore it is crucial that ethnography challenges itself rather than using the default button and attempt to explain what it offers and what Big Data cannot offer. By doing this will enable ethnography to build its identity and offers.

MOVING TOWARDS 'BIG ETHNOGRAPHIC DATA'

I think there are two steps we need to start the process of ethnographic change. The first is based on taking a brief look back in time where we see that this tension between data and anthropology has been played out for a while. The second is to understand Big Data anthropologically. By doing this, we can then begin to reframe what the ethnographic offer could look like.

The social anthropologist Adam Kuper describes the mood of British Anthropology in the first few decades of the 20th century as one that "would have to stress the overriding concern with the accumulation of data" (Kuper, 5:1983). Anthropological data previously relied on missionaries providing travel logs to 'arm chair' anthropologists that sat in comfortable libraries or universities to make sense of the data. Such was this new data on new and 'exotic' worlds it symbolized the 'Big Data' of its time and helped shape grand and universal models of culture and evolution. Enter Bronislaw Malinowski and his desire to develop anthropology through a new professional form of data collection, ethnography.

Malinowski rejected the 'arm chair' methodology of creating meaning through second hand data and advocated that models of culture and evolution needed to be built on data collected first hand so to be tested in detail and scientifically.

In the early 20th Century Malinowski, as the only professionally trained anthropologist to carry out such field research, drew up three kinds of data that had to be collected.

1. "Statistical documentation through concrete evidence"
2. Observing and recording social actions in an ethnographic diary
3. Collecting ethnographic statements (Kuper, 15:1983)

If we look at these three data points, they all dovetail together as a means of not creating 'small data' but creating big and deep data of the society being studied. Importantly, Malinowski was not attempting to create just ethnographic stories but his main aim was to develop robust scientific models of societies by collecting many different levels of data so to feed in to his functionalist model of society and culture.

So, if we interpret Malinowski's approach to ethnography we can see that much of his focus was on developing accounts of human life based on in-depth and broad data collected over a long period of time. This was not a rejection of Western science but rather an attempt to create even better and more robust data on human and social life both big and deep.

There are two really important talks given by anthropologists who have started to position Big Data as more than a methodology. Genevieve Bell at Intel has suggested that we see Big Data as a person, meaning that it needs things like relationships and to not look bad. Furthermore, it needs to be situated within a location or country.

The second talk is by Mary Gray at Microsoft Research entitled 'Anthropology as Big Data' (October 2011). An anthropologist and senior researcher at Microsoft Research Gray makes the important point that we need to not see anthropology and Big Data as not being in opposition to each other, but should be seen as both focusing on data from interpretative stand points. Big Data being more based on 'snap shot' approaches, while anthropology being more akin to 'time-lapsed photography' where over time data is understood, like what Malinowski proposed. Both forms of data, Gray explains, produce significant data that tell us something about life. This coming together needs to form 'collaborative epistemologies'.

I feel that both these anthropological interpretations are similar to Malinowski because they begin a process of creating a new paradigm shift in what ethnography can offer because they both have begun to reframe what Big Data is from an anthropological perspective.

We need to start seeing Big Data as more than coders, algorithms and something that ethnography is not. We need to see Big Data as fundamentally another process of offering cultural interpretation. Key outputs from Big Data are framed around culture while also informing and shaping culture. As are the stories and observations we choose to document as ethnographers. Like ethnography, Big Data is more than just a methodology but a format to understand human behaviour and shaping our responses to it–from how we live to how we behave to how we consume cultural codes.

Positioning 'Big Data' as a new form of ethnography I believe will help it focus on what it can set out to do – principally, understand human and cultural behaviour. If we take the

view as ethnographers that the aim of Big Data is not the epistemological search for fact but rather the epistemological search for meaning (more interpretative) then this moves into an ethnographic space. There are also other synergies between the two, such as:

- Both are interested in the everyday culture
- Both explore patterns, movement and networks
- Both are interested in the physical – how the body interacts with products and space
- Both can attempt to understand taste in relation to consumption and life choices
- Both can offer holistic and synchronic approaches to analysis

Situating Big Data as interpretative is key for the development of ethnography because it provides an 'analytical hook' that joins Big Data with Ethnography in a cultural space – a space where meaning is generated. This is fundamentally the basis for the idea of 'Big Ethnographic Data'. I am aware that coders, mathematicians, data analysts and marketing & policy managers might find this an abstract concept. But I will argue that this way of seeing will generate ideas, stories and insights on human behaviour and importantly on the whys to our behaviour that are organic and ever changing, rather than static and assumed. The key challenge for us is to design and communicate how 'Big Ethnographic Data' can test hypothesis around large data pools and create interpretations and directions based on the data. A good starting point is that within this space the coder sits together with the anthropologist in a relationship and not a partnership so to identify the 'cultural field' to investigation.

Let me explain this through an example. A number of years ago I was approached by the World-renowned Institute of Psychiatry in London to offer anthropological consultancy on how psychiatrists worked. I would give keynote speeches on the merits of incorporating culture and anthropological thinking in to how these very data driven and bio medically framed experts understood mental illness and research. I would start by simply saying. "Like it or not, you are anthropologists, but you just don't know it….or you don't want to admit to it". This would cause uncomfortable laughter. What I would go on to explain was that their professional role was unique because psychiatry created a bridge between the world of data and Western rationality with the world of culture, the patients' rationality. Both worlds were interpretative and lived in the same space and both were crucial when making extremely important decisions based on medication and care. Reverting to one over the other would create an incomplete outcome that would have a direct negative impact on the patient and their family. Combining both positivistic rationality and cultural rationality usually resulted in more productive conclusions for all. Importantly, this meant that the anthropologist and psychiatrist formed a relationship…with the patient to design their care plan. However, getting the psychiatrists to have a paradigm shift in thinking was always a challenge.

CONCLUSION

My theory of 'Big Ethnographic Data' it is not about a division it is about shared interests and focuses that produce cultural interpretations. As stated earlier in this paper it is at a primary stage of development and needs input from the ethnographic community.

The key point is that we do not need to feel under threat by Big Data, or try to validate ethnography's worth by creating fixed boundaries of difference. Instead, our aim is to bring the Big Data world in to the ethnographic space so to generate interpretive models, stories and accounts of human life that range from large communities to first time parents. It is within this space that innovation strategies need to be born out of, strategies that will be unique and rich in holistic understanding and rationality. For this to be a success, the anthropologist and the coder need to sit at the same epistemological table.

REFERENCES CITED

Alter, Alex
2012 "Your E-Book is Reading You." *The Wall Street Journal*, 19 July 2012. http://online.wsj.com/article/SB10001424052702304870304577490950051438304.html.

Althusser, Louis
1970 "Ideology and Ideological State Apparatuses." In *La Pensée*.

Asay, Matt
2013 "Why 'Big' is Blinding us to the Real Value of Big Data." *Wired*, 28 August 2013. http://www.wired.com/insights/2013/08/why-big-is-blinding-us-to-the-real-value-of-big-data/.

Bourdieu, P.
1977 *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.

Clifford, James
1986 "Introductions: Partial Truths in Clifford and Marcus." In *Writing Culture: The Poetics and Politics of Ethnography*. University of California Press.

Foucault, Michael
1977 *Discipline and Punishment*. Harmondsworth: Penguin.

Financial Times
2013a "Building a Big Data Strategy." *Financial Times*, 4 June 2013. http://www.ft.com/cms/s/0/ed3ea2d0-cd40-11e2-90e8-00144feab7de.html#axzz2Z1RbCEOb.

2013b "Big data in the Spotlight as Never Before." *Financial Times*, 26 June 2013. http://www.ft.com/cms/s/0/4ffdc998-d299-11e2-88ed-00144feab7de.html#axzz2Z1RbCEOb.

Frost, Jane
2013 "How do we assure that big data becomes powerful data?" *Marketing Magazine*, 30th May 2012. http://www.marketingmagazine.co.uk/article/1184392/ensure-big-data-becomes-powerful-data.

Hammersley, Martin
1989 *The Dilemma of Qualitative Method: Herbert Blumer and the Chicago Tradition*. London: Routledge.

Kuper, Adam
1983 *Anthropology and Anthropologists*. London: Routledge; Kegan Paul.

Ladner, Sam
2012 "Ethnography Temporality: Using Time-Based Data in Product Renewal." In *Epic 2012 Renewal: Conference Proceedings*.

Malinowski, B.
1922 *Argonauts of the Western Pacific: An account of native enterprise and adventure in the Archipelagoes of Melanesian New Guinea*. London: Routledge; Kegan Paul.

Poole, Steven
2013 "Are you Ready for the Era of Big Data?" *New Statesman*, 29 May 2013. http://www.newstatesman.com/sci-tech/sci-tech/2013/05/digital-panopticon

The Economist
2012 "Crunching Numbers." *The Economist*, 19 May 2012. http://www.economist.com/node/21554743.

WEB RESOURCES

Bell, Genevieve
2012 "Big Data as a Person." YouTube video, posted 3 April 2012. http://www.youtube.com/watch?v=WVB6_QP_2s0.

Google.org
2013 "Flu Trends." Accessed July 2013. http://www.google.org/flutrends/.

Gray, Mary L.
2011 "Anthropology as Big Data. Microsoft Research," Microsoft Research video. Posted 30 October 2011. http://research.microsoft.com/apps/video/dl.aspx?id=155639.

Miller, Carl
2013 "Ethnography and Big Data: Future Roles?" *EPIC Conference 2013 Blog*, 13 May 2013. http://epiconference.com/2013/blog/ethnography-big-data-future-roles.

Wakefield, Jane
2013 "Tomorrow's cities: How Big Data is changing the world." *BBC News*, 27 August 2013. http://www.bbc.co.uk/news/technology-23253949.

Wang, Tricia
2013 "Big Data Needs Thick Data." *Ethnography Matters*, 13 May 2013. http://ethnographymatters.net/2013/05/13/big-data-needs-thick-data/.

What we talk about when we talk data: Valences and the social performance of multiple metrics in digital health

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Data as a discursive concept in and around data-intensive health and wellness communities evokes multiple social values and social lives for data. Drawing on two years of qualitative, ethnographic observations, participation, and interviews in these communities, our work explores the gap between discourses of data, the practices with and around data, and the contexts in which data "live." Across the communities of technology designers, "e-health" providers and advocates, and users of health and wellness data, we find that tensions emerge not around the meaning or legitimacy of particular data points, but rather around how data is expected to perform socially, organizationally and institutionally, what we term data valences. Our paper identifies data valences in health and wellness data, shows how these valences are mediated, and demonstrates that distinct data valences are more apparent in the interstitial interactions occurring in the spaces between institutions or among powerful stakeholder groups.

INTRODUCTION

Data as a discursive concept in and around data-intensive health and wellness communities evokes multiple social values and social lives for data. Drawing on two years of qualitative, ethnographic observations, participation, and interviews in these communities this paper examines the gap between *discourses* of data, the *practices* with and around data, and the *contexts* in which data "live." Our ethnography has found these gaps are particularly stark across the communities of technology designers, "e-health" providers and advocates, and so-called users of health and wellness data.

In discourses of health care technology designers and advocates, data comes to represent a notion of actionability, the potential of data to be used for social and material performances. In these discourses, possessing data serves as a catalyst for behavioural change: In the words of one advocate, "data leads to knowledge and knowledge leads to change." This data-behaviour model forms the logic of technology development in health and wellness applications. For technologists, this framework means they try to solve the seemingly inextricable problems of healthcare within the United States with what they see as well-designed, personalized, and beautifully visualized interfaces for this data. However, these data-behaviour models do not account for the conversations with, about, and through data that occur in online and face-to-face communities of health and wellness data practice. The models frame data as a stable material object, rather than as discursively enacted in multiple emergent ways that resist such stability.

DATA AS DISCOURSE AND MEDIATION

We map the symbolic and material performances of data through a lens of mediation, defined as the *"on-going, articulated, and mutually determining relationship"* among artefacts, practices and social arrangements of communication technology infrastructure and the processes of reconfiguration, remediation, and reformation (Lievrouw, Forthcoming). Mediation allows us to think about data as emerging from communication media, and therefore always contextually shaped and embedded into practices and materiality. Data as mediated draws on the contested or socially constructed nature of data, highlighting the performative agencies of metrics along with measurement technologies (e.g., Berg & Bowker, 1997; Gitelman & Jackson, 2013; Mol & Law, 2004; Schubert, 2012), and the emergence of data through communication processes, in which methods of quantification can be seen as "strategies of communication" (Porter, 1995) and the multifaceted complexity of technology is "communication made durable" (Gillespie, Boczowski, and Foot, Forthcoming). The infrastructure of data intensive communication in this process is not simply "a web of objects" that supports particular meanings (Star and Ruhleder 1996), but also the *mediation work* that makes such data possible.

Data multiplicities

The concept of boundary object has been helpful in explaining the coordination of work and interests across multiple communities (Star and Griesemer 1989). The boundary object approach, although fruitful for many studies of technology, fails to capture the complexity of the interactions around data across sites of digital health and wellness. First, as Nicolini et al. (2012) argue, the boundary object approach foregrounds the objects that translate across boundaries, but tends to bracket the wider context in which the translational work is carried out and the forces that motivate collaboration (p. 625). These contexts inform how people can use data and what expectations they may have of that data. Second, boundary objects, in the literature, rely on their interpretive flexibility across the boundaries of multiple groups. This means that boundary objects can be read in different ways by different people. But it may be that the interpretation, validity or social construction of data is not in question (although these are all valid exercises routinely done in science and technology studies (STS)). Rather, people may expect data to do multiple things in part because data are mediated through communicative infrastructures, requiring translation work that is not simply about meaning or interpretation but also about function and performance in different settings.

Defining data valences

Across stakeholders and contexts of digital health and wellness, these differences are not explained through different perspectives on the meaning of data points, rather they reflect the multi-dimensional expectations for and values around data operating within different data ecologies, what we term *data valences*. *Valence* has the same Latin root as value, *valere,* which means to be strong or to be worth. As a word adopted by multiple fields,

it is used to refer to the combining power of an element (chemistry) or the relative capacity to unite, react, or interact (immunology) or the degree of attractiveness an individual, activity, or thing possesses as a behavioural goal (psychology). These definitions have very specific meanings within their respective disciplines, yet they all reference a particular expectation for or relative value associated emerging within and mediating something's performance in a larger ecology or system. Thus, we define data valence as an expectation or social value that mediates the social performance of data, or what data can do and will do within a particular social system.

As a concept, data valence allows us to examine how data are rhetorically evoked, and how the conversations, discourses, practices and contexts of data diverge and multiply. Data valences are neither neutral nor stable, and are instead polyvalent across multiple contexts, stakeholders and interactions. When multiple, potentially contentious data valences emerge in interaction, the differences among them help us to understand the tensions among stakeholders and institutions. Particular data valences are not necessarily consistently evoked by an individual, rather in different interactions, conversations, and contexts. Further, how people talk about data may not be consistent with what they do with data, which still might be different from what the data themselves do. Our view places the communicative mediation work around data at the center of inquiry. Taken together, we suggest, data valences can map a multi-dimensional view of the social and material life of data.

APPLYING DATA VALENCES IN HEALTH & WELLNESS COMMUNITIES OF PRACTICE

We interviewed 43 clinicians, technology designers, and users to ascertain various stakeholder positions emerging around data technologies in health and wellness.[1] These interviews allowed us to map different values for data evoked in different discourses of and contexts for data. Our fieldwork included participation and observation within multiple sites of the emerging health and wellness data ecology, both within formal healthcare institutions and within consumer health and wellness communities. In addition to interviewing nurses and physicians working within formal healthcare institutions about their perspectives on and practices around patient-generated data, we observed a Medicare demonstration of a tele-health project in rural Washington State that was using information gathered in the home in an attempt to improve clinical outcomes of chronically ill patients. In the realm of consumer health and wellness, we participated for two years in the communities of practice around health and wellness technology design (e.g. business accelerator programs, meetups of start-up companies); "e-health" clinical providers, innovators and advocates (e.g. conferences such as Health 2.0, TedMed, and Medicine X); and so-called "users" of health and wellness data including a Quantified Self (QS) national conference and many local meetings in several cities. As Nafus (Forthcoming) notes of QS, the boundaries of these communities are fuzzy

[1] We use the term "health and wellness" to capture the line in the United States between regulated health care technologies used in the home (e.g., glucometers and blood pressure cuffs) and unregulated consumer wellness devices such as the Fitbit and Nike FuelBand, among other devices.

and members often overlap. Still, these communities lent us a conceptual frame for tracking how the contexts, discourses, and practices of data varied across them and bounded who and what we observed in this data-intensive field.

DEFINING DATA VALENCES AMONG USERS, CLINICIANS & TECHNOLOGY DESIGNERS

Within formal health institutions, the goal of the interpretation of data by clinicians is to manage symptoms, to diagnose, to decide intervention or therapy or to encourage patient compliance. Health care providers work within proscribed contexts for data and with a set of values around patient data shaped by legal, ethical, and medical concerns. Currently, though, innovation in data technologies is talked about in terms of "disruption" of healthcare—that is, of the power of data to transform existing institutional arrangements in healthcare. Such rhetoric exposes an acute gap between the challenges for data across the formal, organized, and regulated approaches to health data and those approaches that privilege the potentially unregulated consumer health and wellness space. In the former, design considers patients; in the latter, consumers.

Among advocates for data-intensive innovation, data become the starting point for conversations concerning interventions, recommendations, and taking action. This discourse presents data as if they are expected to drive health, wellness, and behaviour change, collapsing these functions of mediation into a single, linear process. At the heart of attempts at data-driven health and wellness is a seductive, but perhaps flawed, model of the relationship of data to knowledge, sense-making and action. This model collapses multiple identities into a patient/consumer/user placed at the center of care integration and data management, responsible for negotiating the implications for data.

The QS movement provides another way of talking data. Quickly apparent at QS Meetups is the ubiquity of personal stories loosely wrapped around self-tracking data. This community of users literally uses talk about data to connect to one another and sense make around their experience through a set of narratives. Three questions structure QS show and tell presentations:

1. What did you do?
2. How did you do it?
3. What did you learn?

In essence, the first question structures how to communicate about what was tracked and measured; the second is the methodology, the tools, calibrations, and representations involved; and the third is the value of the information gathered for the presenter, or the knowledge or insights produced intentionally or accidentally. Providing a dramatic narrative of beginning, middle, and end, this structure casts self-tracking and the data generated as central actors. This data-intensive strategy for communication reveals a huge diversity of perspectives, and provided one key lens onto different data valences.

Data valences in institutional interstices

Distinct data valences are more apparent in what we think of as interstitial interactions that occur in the spaces between institutions or sites of power or among powerful stakeholder groups. While data valences are less open to contestation or negotiation within the central spaces of any one institution, they become more apparent as the arrangements around that data change and people interact across them. The norms and regulations of clinical practice support certain data performances more than others. Yet in the interactions at the interstices between clinic and home, there is more flexibility and permeability among data valences. For instance, mobile health applications tracking diet and fitness are situated at the interstices and blur categories of health and wellness, data and device, patient and consumer. Without clear institutional norms and regulations around this health and wellness data, multiple, overlapping, and many times contested data valences emerge as different expectations for how this data will perform clinically versus how it will perform for consumers outside the clinic must be negotiated.

FINDINGS: DATA VALENCES IN CONTEXT, DISCOURSE, AND PRACTICE

Below, we identify six data valences that emerged from our research and map their emergent symbolic and material performances across the discourses, practices, and contexts of health and wellness communities of practice. These valences are:

1. Self-evidence;
2. Actionability;
3. Communication/connection;
4. Transparency;
5. Truthiness; and
6. Discovery.

Self-evidence

The self-evidence valence holds that data are pre-made, requiring neither work nor interpretation. In its strong form, this valence neglects a key premise of STS that data rely on people to control, arrange, massage, and provide infrastructure to make data meaningful and sensible. However, it is a valence that is commonly evoked within technology design practices and discourses. An example of the self-evidence valence comes from Larry Smarr, a Computer Science professor and strong proponent of QS who *The Atlantic* called, "the measured man" (Bowden, 2012) because of his journey of discovery through a series of elaborate laboratory tests involving terrabytes of genetic data and stool samples. One test indicating his lactoferrin levels were higher than normal, led to further research that associated this measure with Inflammatory Bowel Disease. Even though he felt fine and could not report any symptoms to his doctor, his data told a different story. At the 2012 QS Conference he argued *"This idea that you can just feel what is going on inside of you, that is just*

so epistemologically false. You just can't do it." He talks about data as functioning very differently from clinical practice, in which patient-reported symptoms or experience lead to a physician's decision to order laboratory tests.

The self-evidence valence holds that data require little interpretation or expert diagnosis, so that data from new consumer-level devices renders some kinds of medical knowledge and work obsolete. One user and technology designer we spoke to was confident that the segment of healthcare that is doing assessment and diagnosis will become obsolete in the near future due to advances and availability of sensing instruments. For example, when he became aware that he was losing his hearing, he went in to see an audiologist who performed many tests taking up most of a day and costing thousands of dollars. Afterwards he found an app that could test his hearing and delivered exactly the same results as he received from the audiologist. He concluded, "So that audiologist is out of business very soon, because of these devices and these sensors." His perspective privileged the self-evidence of the data produced by the app and its algorithms, making medical diagnosis a kind of data redundancy.

Actionability

The valence of actionability emerges when data are called upon to drive or do something, when data are talked about or expected to be leveraged as the basis for action. For example, there are multiple data valences that emerge in the interstices of home, clinic, and lab around blood pressure monitoring data. This is not simply a matter of having better, richer data from multiple home readings as promised by health tech innovators. Doctors, prizing actionability for data, need clinical guidelines for what constitutes increased risk for the patient and what patterns they can act on and influence with their therapy or treatment. As one doctor explained, having two standard readings of blood pressure in the clinic is known to predict high risk for heart disease, for which there is a specific intervention to reduce risk, but *"if I have 1,000 readings, and some of them are high, I don't know what that means. I don't know what the risk of that is, and I don't know whether I can meaningfully influence whatever outcome that might bring."* Here, pervasive and ubiquitous tracking in the home by a user conceptualized as a consumer/patient poses a distinct challenge to the actionability valence within the clinic.

Many marketing taglines for health and wellness self-tracking tools promise to deliver actionability, *"you can't manage what you don't measure,*[2] *"own your health…take control today,"*[3] *and "know yourself, live better."*[4] As one technology designer explained, *"we don't just want to make it meaningful, we want to make it actionable."* However, for many users simply knowing that a behaviour is healthy or unhealthy is not enough to change it. For example, a user tracking his food consumption explained that *"It can recognize that there are carbs there…I still might eat it because that is what humans do."*

[2] http://www.insidetracker.com
[3] http:// www.wellnessfx.com/
[4] https://jawbone.com/up

Communication/Connection

The data valence of communication and connection is apparent in interactions around and through shared data. For the patients in the U.S. rural tele-health case, adjudicating or interpreting their data often meant using data to connect with their case managers. In other words, the data provided the structure and opportunity for conversation, which both sides counted on. Personal connections and relationships developed through dialogue around shared data, providing case managers insight into their patient's home lives and the trends in their mood, behaviour, and health. Conversations between patient and case manager were often full of patient stories, which while at first, appearing to fall outside the medical realm, provide important information for the case manager as they make sense of the patient's health data and engage with this patient in the future. While many of these stories are chock full of patient data, this is not the kind of data that is put in medical records. We observed the case managers making separate notes about these stories in less formalized documenting spaces, not in the electronic notes of the program associated with tracking device. These stories and connections were essential for doing case management work and helped in interpreting the data.

Transparency

The data valence of transparency is apparent when data are the site of "making visible", and function as an instrument of vision rendering an issue, relationship, or state transparent. The valence of transparency operates on many different scales, from individual to population level data, and relies on linked data to "unlock" this vision. Many self-tracking advocates, scientists, and technology designers expect self-tracking data to provide a transparent gaze into the body revealing the micro-level processes and patterns that would not otherwise be perceptible. In aggregate this data provides a view across macro-level processes and complex patterns. This data opens or "unlocks" the possibilities for understanding the science of the individual and for individualizing science; as Kevin Kelly, co-founder of QS, puts it "total personalization requires total transparency"[5]. For scientists and other researchers this data drives the development of the macroscope[6], an instrument for viewing with the human eye what is too large and too complex to perceive otherwise. In linking massive amounts of distributed data, the macroscope enables the viewing of larger patterns through advances in computing and bio data analytics. The valence of transparency follows the logic that to *see* patterns in data is to *know* patterns in life at whatever scale.

For some individuals, self-tracking data becomes associated with the value of making that data transparent and available to a larger collective with the expectation of developing better knowledge and tools. The community Patients Like Me, an online network of patients that share data about their healthcare experiences and outcomes, epitomizes this data

[5] Kelly, Kevin (2007) "The Next 5,000 Days of the Web" TED talk

[6] Described in Mundie, Craig (2007) The way forward. In T. Hey, S. Tansley & K. Toll (Eds.), *The Fourth Paradigm: Data-intensive scientific discovery* (pp. 223-226).

valence. The Patients Like Me website highlights their "Openness Philosophy"[7]: "When you and thousands like you share your data, you open up the healthcare system." The website then asks: "Will you add to our collective knowledge. and help change the course of healthcare?" Sharing health data within this community is framed as a way of seeing deeper into and across a range of health conditions and fundamentally transforming healthcare.

Truthiness

The data valence of "truthiness" is related to the notion of raw data as comprising a direct, objective representation of measurable reality. It holds that sensing technologies are technologies of representation. As one technology designer explained *"if we instrument you, we can sense you accurately."* A QS member explained how "tracking doesn't allow any self-delusions," helping him get closer to *"what's really happening and what's really going on."* This perspective taps into the truthiness valence and implies there is something more objective and "true" about the self-tracking data in understanding his health. *"Once I track, then I can change my behaviour to potentially alter whatever that outcome is…the tracking itself continues my behaviour and I can gain understanding about the condition. There is a feeling of power. I realized I was able to take my health in my own hands, I was able to enhance my health."*

These health and wellness data are particularly important in the interstitial interactions where there is contestation or inconclusiveness around issues that formal institutions are not yet able to handle effectively. Here, data get marshalled for their ability to lend truth and validity to a particular explanation. One woman struggling with her own undiagnosed condition, that she later attributed to metals toxicity, commented that if you can't produce accessible and legible data *"in a pre-established or set methodology to the conventional medical profession, you are actually, to them, not sick; you're imagining your illness."* After having an alternative practitioner discover high levels of metals through specialized tests of the blood and urine, she was hopeful that this data—proof of her illness—would demand validation from a medical doctor. Instead the doctor responded, *"I don't even know what that is, I don't know what that means, therefore this test is not real to me, this is not real data!"* The challenge was in "trying to establish valid data and establish the data's validity with the people who they want to be paying attention to their illness". Two years later she found a different alternative practitioner, who she saw as more data-driven and scientifically minded, to make sense of the data with her, helping to establish a "truth" from the data that made sense to her. As she explained, *"It was not a real thing until he saw the level of oxidative stress and all of the different indicators that are way, way off in my blood. So now I could theoretically, like now I'm real to him, my story is real, it's real through data.*"

In this case we see that the truthiness said to emerge by the technology designers through the quantification of an individual through instrumentation is in tension with the truthiness that does not automatically emerge through quantification of metals toxicity, but rather emerges through a validating interpretation of the data as truth.

[7] http://www.patientslikeme.com/about/openness

Discovery

The valence of discovery is apparent when data become a site for hypothesis generating and theory testing. Engaging data in this way represents a method for discovering intentionally or accidentally knowledge one did not have before. A common story among the QS community is that self-tracking helps discover previously unseen patterns or truths, sometimes before theory or clinical data can support their conclusions. For instance, one member of QS wanted to discover the relationship between his caffeine consumption and his blood pressure. He designed an experiment in which he took his blood pressure upon waking up and then again after each cappuccino over 10 different days and found that his blood pressure got up into an unhealthy range after three cappuccinos. In contrast, another self-tracker managing a chronic illness admitted that sometimes *"I just want to live; I don't always want to know"*.

A doctor who was also part of the QS community commented *that "the gimmicky aspect of quantified self on some level is that tracking for the sake of tracking doesn't necessarily actually give you useful information."* He notes that while there are many QS presentations that are very thought out, *"there are other presentations where it's almost a curiosity project to kind of derive meaning out of things you're tracking that honestly may not have any biologic or medical significance."* In these cases in which there are biomedical consequences, *"one has to be very careful what conclusion one can make from those things"* because *"without having an underlying kind of relationship, whether it's scientific or what have you, but something that really can be understood - I don't know how useful that is."* Still, the valence of discovery motivated many of the QS presentation narratives, even if the data discovered were not actionable or connected to medical validation. The Table below outlines a summary of data valences:

TABLE 1. ***Summary of data valences***

Data Valences	Discourses	Practices	Challenges
Self-evidence	Be your own doctor; medical diagnosis cheapened	Data-driven, self-diagnosis	Risk of misinterpretation, drawing causal links without consulting expertise
Actionability	Data→Knowledge→ Action	Established clinical decision making	"I don't care that this is bad for me"
Communication/ Connection	Data as site for conversation	Narrative medicine	Requires labor and time
Transparency	Sharing data and the right to access and own data	Patient advocacy around open EMRs, Patients Like Me	Data collection outpaces sense making

Truthiness	Data make objective, "real" and representative	Finding validation of illness through data	Data is insufficient to bridge contexts
Discovery	Self-experimentation, pattern detection	Quantified Self	Findings not connected to medical validation

This is nowhere near an exhaustive list of possible data valences (see Table 1). These, however, emerged through our research in the field and help expand the concept of data valence. Identifying data valences in the interstices exposes the tensions that emerge among different data valences as well as along a single data valence that manifests differently across discourses, practices, and contexts.

TENSIONS AND CHALLENGES

The rhetoric of data-driven institutional change in healthcare envisions a tightly coupled relationship between total transparency and total personalization, in which a seamless flow of data connects the clinic and lab with patients/consumers. However, there are many contexts that present barriers to sharing health information and communities that don't want data to be transparent for a variety of reasons. For example, while a recent Accenture survey[8] showed that 82% of U.S. doctors want patients to actively participate in their own healthcare by updating their electronic health records, only 31% believe patients should have access to their full health record. Further as one doctor noted, *"I don't need more data; I need more resources."* Data here are not the valuable resources that advocates for big data in health claim them to be. From the point of view of this doctor, data require, and do not save, extra interpretive, clerical and managerial labour. Yet the value of data from a patients-rights activist perspective advocating for access to their data, is that *data* is infused with individual meaning and is valuable because of that meaning. In addition, the more data collected may not make patterns and underlying mechanisms more transparent. As the development of tools for sensing is outpacing the development of approaches for sense making, then more data is not always better, and has the potential to obscure, and even mislead. Discourses of "transparency" and "openness" make it possible to dodge the conversation about "open to whom" and "for what purpose".

Sense making conversations around patient-generated data between patient and clinician provided an interstice in which tensions among data valences became apparent. We were told repeatedly that doctors like to solve problems, and managing conditions is intellectually less interesting work and not feasible given time constraints and reimbursement policies for doctors. For a diabetic patient we spoke with the insulin pump provides a major benefit in that *"it really is an on-going, every day, every hour, sort of issue and the doctor isn't there all the time. You*

[8] See Patient Access to Electronic Health Records: What does the doctor order? (2013) http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture-Patient-Access-to-Electronic-Health-Records-What-Does-the-Doctor-Order.pdf , accessed 3 April 2013

see him every three months and so it is about management." Being a motivated and educated diabetic patient, this respondent wanted *"to have alarms that tell you when things are going wrong and to have such a tight feedback loop, you can make adjustments and changes much faster and that has an impact on your overall health which I've seen in my own results."* But the doctor doesn't "think in terms of data points", rather *"it's about higher level concepts."* Thus the patient-generated data did not carry the same expectation of actionability in the clinical realm.

For clinicians, using such data in the clinical realm present many challenges. One clinician explains that his patients *"may not understand what some of the limitations of measurement"* are, especially when they bring in data that is inaccurate or even misleading. It is common that when patients bring in their data to the clinic they *"want to interpret it, and they don't want to just describe, they want to tell you what they have."* Patients can slip without pause from data to diagnosis, from description to (their own) interpretation, rather than presenting the data as one description of their health status. This valence of self-evidence can disguise data as diagnosis, making it difficult for clinicians and patients to jointly interpret data. Noting this common slippage between data collection and interpretation, the clinician continued "sometimes people are right but a lot of times they are trying to diagnose things themselves and it can just cause problems."

Clinicians are concerned about data potentially decoupled from clinical actionability. They need to know what constitutes increased risk for the patient and what patterns they can act on and influence with their therapy or treatment. The work of management for the patient requires attention to a different granularity and different valences of data around which very different kinds of conversations are structured and materialize. Another concern is liability for whatever the clinician *does* or *doesn't do* in response to having access to patient data. One physician explained that he would accept patient-generated data from some wellness behaviour interventions such as pedometers because there was very low risk involved in having a patient walk more or start taking the stairs, but he perceived a greater risk in accepting data on blood pressure or glucose readings, which could potentially demand more clinical action. Thus the risk for patient-generated data integration in clinics is not about the data *per se*, but what interventions data require, and which responsibilities are associated with that data. The data in the clinical realm evoke a valence of actionability that may refer to the interventions demanded by the data and the *expectations* for actionability associated with the data. Both mediate the performance of this data in this realm.

There is also great pressure on designers to create devices and interfaces that encode meaning and actionability in the mediation of consumer generated data. Designers of consumer-facing mobile-based apps face a challenge in trying to develop an interface for interaction in the interstices because they are designing for consumers and everyday users, but they may also want these data to count elsewhere, either in healthcare institutions or scientific research. Technology reflecting this approach to behaviour change encodes actionability into the product as lightweight actions, small behaviour interventions that most people would not associate with a clinical interaction or anything in the medical realm.

The product offers *"them stuff they can do that's kind of low-touch, frequent interactions rather than like a very high-touch, heavy clinical interaction."* The recommendations and action items are completely separate from the medical arena, not only legally, with disclaimers that specifically note that information for use is "not medical advice", but also practically, as the company

tries to engage people in behaviour change in a personal, fun, gamified, everyday living space, outside of the clinic, beyond the reach of the medical community. This "user" and "usage" is prescribed in a non-medical, but health and wellness oriented space. This approach does not attend to multiple expectations for the performance of data at the interstices and within the formal healthcare system.

The rural tele-health case demonstrated how communication and data could be structured and designed in order to account for the multiple data valences at the interstices between home and clinic. The tele-health device enabled data to flow from home to clinic, but this data on its own fell short of generating value across stakeholders and contexts. This required very particular kinds of work in interpreting and communicating patient data for doctors that would actually create value to them by presenting data that was actionable instead of creating more work with vague kinds of patient data that require they follow up. One doctor working with the program explained that the worst for him as a physician would be the 1-800-dial-a-nurse scenario, in which he would get a call from a nurse saying, *"We just wanted to let you know that Mrs. Johnson isn't feeling well today.' What the hell am I supposed to do with that? All you've done now is, thank you, you've increased my work."* The work of interpretation, translation, and articulation of the data was integrated into the design of the program. Case managers figured out how to communicate data to doctors in a way that dovetailed with the doctors' existing data practices, rather than adding a time draining step or increasing clinics' workloads. Integrating the data from the patient tracking device and their conversations with the patient, case managers structured their communication with doctors so the data came to doctors already integrated with a health interpretation in a trusted information network.

The aim of the tele-health project was to reduce costs for Medicare and improve health outcomes for high risk and high cost patients. The program, despite its successes with patient outcomes and despite other research that treatments based on such monitoring lead to a 75% improvement in congestive heart failure (CHF) patients, Medicare stopped the program. As it turned out, the case management program made institutional sense-making of the data collected by patients in their homes possible as health/medical data and effective in the institutions of health care. Yet, Medicare deemed the team of trained case managers needed for the program as too expensive. These case managers provided the tight coupling of communication and connection with chronic disease data management, while simultaneously translating data generated outside the clinic into actionable data for physicians. The financial compensation routines of formalized medicine doomed the project, even though the data were enormously beneficial to patients and to physicians.

CONCLUSION

We contribute to an emerging scholarly conversation about the nature of data. We extend these conversations by pointing to the ways that data valences may be contested at the boundaries of institutions. The polyvalence of health and wellness data becomes apparent in the interstices of institutions through the way different people talk about what they want from data and how they expect data to perform socially, organizationally and institutionally. These conversations point to tensions between institutions and stakeholders and complicate our understanding of the production and consumption of data-intensive

technologies by bringing back into the picture the practices, communities, and networks of data that are generated—sometimes as by products—in the socio-technical assemblages we study.

Data valences, we argue, have incredible importance in the design and use of data-intensive technologies and in the visions behind creating and managing the resulting data streams. As a concept, data valence allows us to identify the *mediation work* that is not simply about meaning or interpretation but also about the function and performance of data in different settings and for different communities.

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REFERENCES CITED

Berg, Marc, and Geoffrey Bowker
1997 "The Multiple Bodies of the Medical Record: Towards a Sociology of an Artifact." *Sociological Quarterly* 38 (3).

Bowden, Marc
2012 "The Measured Man." *The Atlantic,* 13 June.Accessed 14 July 2013. http://www.theatlantic.com/magazine/archive/2012/07/the-measured-man/309018/

Gillespie, Tarleton, Boczkowski, Pablo, and Kirsten Foot
Forthcoming. Introduction. In *Media technologies: Essays on Communication, Materiality, and Society*. T.Gillespie, P. Boczkowski and K. A. Foot, eds. Cambridge, Mass.: MIT Press.

Gitelman, Lisa and Virginia Jackson
2013 Introduction. *"Raw Data" is an Oxymoron*. L. Gitelman, ed.Cambridge, Mass: MIT Press.

Lievrouw, Leah
Forthcoming "Materiality and Media in Communication and Technology Studies: An Unfinished Project." In *Media technologies: Essays on Communication, Materiality, and Society*. T. Gillespie, P. Boczkowski and K. A. Foot, eds. Cambridge, Mass.: MIT Press.

Mol, Annmarie and John Law
2004 "Embodied Action, Enacted Bodies: the Example of Hypoglycaemia." *Body & Society,* 10 (2-3): 2-3.

Nafus, Dawn
Forthcoming "This One Does Not Go Up To Eleven: The Quantified Self Movement as an Alternative Big Data Practice." *International Journal of Communication.*

Nicolini Davide, Mengis Jeanne and Swan Jacky
2012 "Understanding the Role of Objects in Cross-Disciplinary Collaboration." *Organization Science* 23: 612-629.

Porter, Theodore
1995 *Trust in numbers : the pursuit of objectivity in science and public life.* Princeton, N.J.: Princeton University Press.

Schubert, Cornelius
2012 "The agency of means in medical work." In *Agency without Actors*. J.H. Passoth, B. Peuker and M. Schillmeier, eds.

Star, Susan Leigh and James Griesemer
1989 "Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology 1907-39." *Social Studies of Science* 19: 387–420.

Star, Susan Leigh and Karen Ruhleder
1996 "Steps toward an ecology of infrastructure: Design and access for large information spaces." *Information Systems Research* 7 (1): 111–134.

WEB RESOURCES

Kelly, Kevin.
2007 "The Next 5,000 Days of the Web." TED video. Posted Jul 2008. http://www.ted.com/talks/kevin_kelly_on_the_next_5_000_days_of_the_web.html

InsideTracker.
Accessed 14 July 2013. http://www.insidetracker.com.

Jawbone.
Accessed 14 July 2013. https://jawbone.com/up.

PatientsLikeMe.
Accessed 14 July 2013. http://www.patientslikeme.com/about/openness.

WellnessFX.
Accessed 14 July 2013. http:// www.wellnessfx.com/.

From street to satellite: Mixing methods to understand mobile money users

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How do users incorporate mobile money into their existing practices and adapt it to their needs? The answers can be surprising. Simultaneously a commodity, a store of value, and a social good, mobile money combines a large array of applications within the one platform. This is why mobile money has been touted for its potential for socioeconomic development, as a profitable commercial enterprise, and even as a tool for strengthening governance. The fact that customers rarely use it for just one purpose can also make it difficult to untangle customers' motives and behaviors. In this paper we compare our own research with other studies to demonstrate how deploying a full suite of ethnographic methods (qualitative and quantitative) can provide significant insights into users. We present three key insights relating to time, trust, and traces / trajectories, and make suggestions for the future of mobile money research.

INTRODUCTION

A forty-something-year-old male, dressed in a snappy suit, glances at his watch as he enters his office building. Settling behind his desk, he gazes at a photograph and smiles. He picks up his mobile phone and selects "M-PESA" and "Send money" from the Safaricom menu. Banknotes begin to stream out of the phone and travel through the air and into a rural Kenyan field. An elderly woman, dressed in a pink blouse and a purple headscarf, pulls out her phone and smiles, showing it to a man standing next to her. We, the television audience, imagine that these are the peasant parents of the city worker. The camera zooms in on the phone's screen so that we can see that the woman has just received 1,000 Kenyan shillings (US$12). She jovially heads into an M-PESA outlet and withdraws the cash as a voice-over tells us that M-PESA is a safe and reliable way to send money. Throughout the advertisement, a catchy jingle sings the service's praises.

Approximately twelve thousand kilometers away in Haiti, another elderly woman, wearing a white house dress and a red headscarf, checks her cash savings kept in different parts of her home. She extracts Haitian gourdes from a jar on top of the cupboard. She puts some in a cloth under her sofa, and stores others in the toes of a pair of yellow shoes. A voice-over tells us that this woman's problem is that the money she keeps around the house for emergencies has been going missing. Unsatisfied with her new domestic hiding places, she has decided to keep her cash in a safer place: her TchoTcho Mobile account. She visits

an outlet and deposits her money, and we are told that her savings will stay safe–and out of reach of her pilfering grandson–even if her phone is lost or stolen.

Mobile money is now available in 75 countries around the world (GSMA Mobile Money Tracker). It is viewed as one of the most novel innovations of mobile media platforms, as it allows people to store and send small amounts of money at low cost from their own mobile phones using SMS (Maurer 2012; Ratan 2008), without the need for a bank account, Internet connection, or a smart phone. Since it was first developed, mobile money has been touted as a fast and convenient alternative to expensive remittance services (see Donovan 2012; CGAP 2009), as a way to "bank the unbanked," and as a "product for the poor" (Kendall et al 2012; Maurer 2011; Mas and Morawczynski 2009) for the three-quarters of the world's population who lack access to a formal bank account (World Bank 2012).

However, in the hands of users,[1] mobile money is far more than a tool for socioeconomic development. As Digicel's advertisement indicates, customers use mobile money for a range of purposes that are specific to their circumstances. Simultaneously a commodity and a social good, mobile money is attractive to a broad range of users and applications. "Me2Me" transactions (Taylor, Baptiste and Horst 2011), conditional cash payments, merchant payments, payment of public servants' wages, financial accounting, and playing online games are among common uses of mobile money. How can we understand the adoption and adaptation of mobile money when there seem to be as many applications as there are users?

Given that mobile money can be put to many uses simultaneously, it may be better viewed as a *platform* that enables all kinds of economic and social practices (Kendall et al 2012). In this paper we draw upon our research in Haiti and other research from around the globe to suggest some of the many ways in which mobile money can be approached and investigated. We share three key insights from our research–time, trust, and traces / trajectories–that have grown out of the collation of different kinds of data. We demonstrate how mobile money lends itself particularly well to taking on the full suite of possibilities of ethnography, including both qualitative and quantitative methods.

GLOBAL MOBILE MONEY

The term "mobile money" refers to any mobile phone-based system that provides users with basic banking capabilities, namely storing value, converting cash to and from stored value, and transferring stored value between accounts (Donner and Tellez 2008). Some of the earliest mobile money services were basic m-payment systems. Celpay, for example, was launched in Zambia in 2002 to reduce the need for people to carry cash. Initially only allowing airtime top-up, Celpay is among numerous providers that have expanded their services to include cash-out and transfer capability. In the Philippines, SMART Money (launched in 2001) originally provided discounted phone credit top-ups from virtual

[1] We take a broad definition of "users," including individuals and businesses, in recognition of the fact that in informal economies it is often difficult, and analytically misleading, to separate customers from merchants.

accounts, and extended the service to incorporate the full range of mobile money features. Arguably the most successful mobile money system to date is Safaricom's M-PESA, which offered value storage, cash-in and cash-out, and transfers from the start. M-PESA was launched in Kenya in March 2007. It is now offered in Tanzania, Afghanistan, South Africa, and India (where it operates under the name M-Paisa). Today, there are 192 mobile money deployments in 75 countries (GSMA Mobile Money Tracker).[2]

The majority of research on mobile money has been carried out in Africa, which is unsurprising given that it hosts more than half of all mobile money deployments. However, studies in other areas, such as Asia and South/Central America, are becoming more common. Most studies have been small and carried out in one single country, using observation, interviews, and/or surveys with a few dozen to a few hundred people. Large, single-country surveys (>1000 respondents) have included InterMedia in Haiti (2011) and Uganda (2012); Jack *et al* in Kenya (2013), Okoegwale in Nigeria (2011), and CGAP in the Philippines (2009). Cross-country comparative studies have been less common. Teams that have conducted comparative research in more than one country include Medhi, Ratan and Toyama (2009), who examined uptake and illiteracy among 90 interviewees in India, Kenya, the Philippines and South Africa. A collaboration between Gallup and the Bill & Melinda Gates Foundation (Godoy et al 2012) drew upon Gallup World Poll data that included a subset of thirty questions to analyze mobile money usage for payments in sub-Saharan Africa. Additionally, there is a significant body of literature that conducts cross-country analysis by drawing upon existing data and literature (see Diniz et al 2011; Flores-Roux and Mariscal 2010).

MOBILE MONEY IN HAITI

Mobile money services fill a significant gap in the provision of financial tools to the majority of Haiti's population. According to GSMA's Mobile Money Deployment Tracker, formal banks have just 15 percent penetration in Haiti, and most bank branches are concentrated in the capital city. Furthermore, people can spend hours lining up outside a bank to make a simple transaction (Baptiste, Horst and Taylor 2010). When Haiti experienced a 7.0 magnitude earthquake on January 12, 2010, banking solutions became all the more pressing. Widespread damage to financial, communications, and transport infrastructure crippled Haiti's underdeveloped financial system. Given that mobile phone infrastructure recovered quickly after the earthquake, mobile money provided an alternative means for NGOs and others to pay staff and deliver aid, such as through conditional cash payments.

On June 10, 2010, six months after the earthquake, the Bill and Melinda Gates Foundation and the USAID-funded Haiti Integrated Finance for Value Chains and Enterprises (HIFIVE) announced the launch of the Haiti Mobile Money Initiative (HMMI)

[2] Mobile money services are located in Africa (36 countries), the Middle East (5 countries), Eurasia (2 countries) Asia (13 countries), the Pacific (3 countries) South America (9 countries), Central America (4 countries), North America (1 country), and the Caribbean (2 countries).

to stimulate the development of mobile banking services in Haiti (HIFIVE 2010). The HMMI offered $10 million in prizes and $5 million in technical assistance for companies to develop and expand mobile banking services across the country.

As 2010 drew to a close, there were two publicly available mobile money services in Haiti: Digicel's TchoTcho Mobile and Voilá's T-Cash. The two services were very similar in what they offered and in their pricing structures. Since Voilá's acquisition by Digicel in April 2012,[3] only one mobile money service operates in Haiti, Digicel's TchoTcho Mobil. It permits customers (both Haitians and foreigners) to deposit, withdraw, and transfer money using SMS-based menus. It offers a mini-wallet, which holds up to 4000 gourdes (USD$92.27) (raised from an initial size of 2500 gourdes). To register, all customers need to do is access the TchoTcho Mobile menu by dialing *202# and choose the registration option. To open an account with a full wallet, which holds up to 10,000 gourdes (USD$250), customers need to present identification at an official mobile money agent (called *Agent Authorisé*).

A mobile money agent can be any registered business, such as a grocery store, beauty salon, cybercafé, restaurant, or even a mechanic. They undergo training and receive a phone with a special SIM card that they use to conduct cash-in and cash-out transactions. Larger businesses that have computers and a reliable Internet connection can use software instead. Mobile money agents are normally small- to medium-sized enterprises (SMEs), with Digicel stores and the microcredit institution Fonkoze also operating as both agents.

On January 10, 2011, Digicel's TchoTcho Mobile was awarded a $2.5 million "First to Market" award for having achieved 10,000 cash in/cash out transactions at 100 new outlets in the six months after the award was announced. On October 11, 2010, Voilá's T-Cash received 89 percent of the first scaling award, a total of $889,000. By the end of 2011, over 800,000 Haitians had signed up for mobile money services; of these, between 6000-9000 were in development programs at any given time.[4]

Research methods

We conducted our research in three phases from 2010-2012. During Phase I (June 2010 - July 2010), before mobile money was launched, our team carried out qualitative research in Port-au-Prince (Ouest), Cap Haïtien (Nord), and Jacmel / Anse-a-Pitres (Sud-Est). In Phase II (December 2010 - May 2011), we returned to watch Haiti's new mobile money services in the first phase of the roll-out. During Phase III (February 2012 - May

[3] In April 2012, Digicel purchased Voila and by October 2012 effectively shut down Voila's service, leaving Digicel as the sole mobile money provider in Haiti. Digicel now holds an 80% share of the mobile phone market in Haiti (up from 63% in June 2012, with another company, Natcom, holding 20% (Telegeography 2012, *Digicel Haiti Completes Voila Integration*, http://www.telegeography.com/products/commsupdate/articles/2012/09/18/digicel-haiti-completes-voila-integration/, accessed August 24, 2013).

[4] Personal communication from Greta Greathouse, Chief of Party of HIFIVE, 15 February 2012.

2012), we conducted a case study on the use of phones, money, and mobile money among Haitians living on the border of Haiti and the Dominican Republic.

Observations – A significant part of our research involved observing different kinds of social situations: mobile phone use, mobile money transactions, bank lines, transport of people and goods, the spending of conditional cash grants received via mobile money, marketing activities, and so on. Just as important was the participant observation we carried out, especially in regards to mobile money use. We recorded these observations in field notes, photographs, diagrams, and audio.

Mapping – We used maps in multiple ways. We created maps of common remittance routes to record and visualize informal flows of cash. When mobile money was launched, we used maps of mobile money agent locations to test whether agents were operative. For our border case study, we sketched a map of a Haitian town as official maps poorly reflected residence patterns.

Interviews – Over the course of the three phases we conducted dozens of semi-structured interviews and hundreds of less formal ones. Given sensitivities about privacy, some of the semi-structured interviews were recorded via note-taking rather than with audio. The less formal interviews were primarily recorded in field notes.

Survey – We implemented a survey of 179 people living on the border of Haiti and the Dominican Republic. Approximately half were Haitian residents of Anse-a-Pitres in Haiti (greater town pop. 21,846), and the other half were Dominicans living across the national border in Pedernales in the Dominican Republic (greater town pop. 27,955). Survey questions concerned mobility, livelihood, use of communications technology, and use of mobile money.

Portable kit study – We conducted a subset of object-based interviews with twelve interviewees in which we asked our participants to display all of the possessions they normally carry with them, how they use these objects, and why they are more or less important. We recorded these with a combination of audio, video, photographs, and interview notes. This allowed us to better understand how mobile phone and mobile money use fits with a broad range of material practices.

THREE KEY INSIGHTS

How can different research methods be leveraged to provide insights into mobile money practices? What happens when the results of different kinds of data conflict? The following examples demonstrate some important issues that we faced during planning, research, and analysis.

Time

The maturation of mobile money markets takes time. A mobile money market in the first few months of deployment is unlikely to resemble the same market one, two, or even five years down the track. There are two fundamental reasons for this. The first regards *users* (both consumers and agents): how they use mobile money is likely to change as they learn how to use m-money services, invent new ways of deploying the platform, and respond to a growing user base (the "network effect"; see Mas and Radcliffe 2010).

The second reason concerns the *structure of the market*, especially the provision of a variety of m-money services, investment in advertising, and market incentivization. The latter provides perhaps the most striking example of how the fundamental characteristics of a market can change. Virtually all mobile money deployments around the globe have, in their early days, been supported by not-for-profits such as the Bill & Melinda Gates Foundation, USAID, and a range of NGOs who use mobile money to deliver aid such as conditional cash grants. These injections of short-term cash affect both how MNOs deliver mobile money services, and how users integrate mobile money into their lives. Hence looking at mobile money markets before and after they achieve scale will give a vastly different picture.

Temporal considerations therefore have significant implications for methodology. Any research that sets out to collect "snapshots" of mobile money at a particular point in time should use methods that are appropriate to the stage of the deployment. In the early stages in particular, meta-data may not give an accurate picture of how mobile money is being used. Furthermore, it suggests that snapshots from a single point in time are not sufficient for understanding the larger picture of mobile money. Rather, this requires longitudinal and repeat studies.

Our research demonstrated just how crucial issues of timing can be in the research process. In January 2011, Baptiste and Taylor took to the streets of Port-au-Prince to find out how Haitians were adopting, and adapting to, their brand new mobile money services. Armed with GPS data about agent locations throughout Port-au-Prince, we set off to find official mobile money agents and test whether they were working or not. At that early stage of deployment, mobile money agents only existed in Port-au-Prince, although during the four months of our research they began appearing in major towns throughout the country.[5] We systematically visited dozens of TchoTcho Mobile and T-Cash agents in the city, but found few that were functioning with any regularity–or indeed at all. We phoned Digicel and Voilá to ask for up-to-date lists of functioning agents. Still, we could not find many of the stores we searched for. The vast majority of stores we visited displayed official mobile money signage, but in most cases we were not able to successfully test their systems. Some stores told us that they were not yet set up for mobile money: they had attended training but were waiting for approval and to receive their special agent SIM card. Over the course of our research, we found a handful of agents that operated reliably, and tested out mobile money at each of them.

[5] According to Digicel's website, there are now 18,760 TchoTcho Mobile agents in Haiti (http://digicelhaiti.com/tchotcho/en/find-an-agent.html, accessed 29 August 2013).

While this scenario was at least partially a teething problem particular to the early stages of deployment, it alerted us to a far more serious set of issues regarding agent operations. To delve deeper, we interviewed various agents to assess their modus operandi and identify potential problems.[6] In some SMEs that did have a functioning mobile money service, the business owner kept the phone in his/her possession and was the only person to do transactions. In other SMEs, one or more members of staff were trained to do mobile money transactions. In yet another model, agents were placed in stores by another company. All of these scenarios contributed to a significant level of unreliability for customers. The point of mobile money is that it should lower the transaction costs and actual costs of banking. In Haiti, it is not uncommon for a single bank transaction to take hours to complete, and sending remittances informally can take hours or even days where money travels from hand to hand. If aspiring mobile money users cannot find an operating agent, then uptake will be slow.

A related problem we discovered is that agents do not necessarily go through official procedures before they start operating. By law, all mobile money agents must be registered businesses. However, we discovered cases of registered businesses that were signing up to be mobile money agents, but allowing people with unregistered businesses to trade in their name. A similar problem exists with users: while ideally every individual should sign up for mobile money with their own SIM card, we discovered people who were using mobile money on a regular basis, but the SIM card was registered in someone else's name.

These issues are not trivial. Security has been a major concern for regulators, banks, MNOs, and others who have planned, permitted, and implemented mobile money systems. A major attraction of mobile money over existing informal systems is that the movement of cash can be better tracked. Practices of sharing SIMs, phones, and even business licenses may ultimately prove to be fairly harmless relative to the benefits that mobile money provides, but the risks associated with these practices need to be taken into account.

When we returned to Port-au-Prince in 2012, the agent landscape had altered significantly. Most of the mobile money agents we had tested one year earlier were no longer there. Instead, a new swathe of businesses had signed up for mobile money, and far more Digicel agents were offering mobile money services. This reinforced our view of the importance of time to the development of mobile money: the early adopters may not necessarily be the long-term users, whether as agents or customers. A snapshot can be immensely useful in identifying potential, serious problems, but repeat study is needed to know whether these kinds of problems are endemic or particular to the early stages of mobile money markets.

Trust

Trust is a major factor in the successful scaling of mobile money (Mas and Radcliffe 2010). To sign up for mobile money and make transactions in an agent or on their phone,

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[6] Espelencia Baptiste, a PI on our team, originally wrote about this topic in an article entited "Not all agents are created equal", IMTFI website, 14 March 2011, http://blog.imtfi.uci.edu/2011/03/not-all-agents-are-created-equal.html.

users need to be confident that the system will work as claimed, and that they will not be exploited. This is as true for individual customers as it is for mobile money agents or businesses with merchant accounts. Social proof can go a long way in engendering trust and facilitating uptake: as Mas and Radcliffe suggest, customers sign up when they see their friends and family using mobile money, and stores will apply to be agents when they see others making a profit. However, the question of trust is more complex than of simple emulation. Our research suggests that there are different layers of trust that impact mobile money use in different ways.

The first port of call is the providers – in the case of Haiti, the MNOs who administer mobile money accounts, and their partner banks who hold the cash. A report issued by InterMedia in 2011 presented one finding in particular that fascinated us. Their survey of 1,008 Haitians showed that MNOs command significantly more trust than other Haitian institutions. While 65 percent of Haitians trust mobile phone operators "much/very much," only 43 percent trust banks to the same extent, 42 percent trust the Central Bank of Haiti, 37 percent trust international NGOs, 14 percent trust electronic payment services, and just 8 percent trust the Haitian government.

This parallels our research finding that the level of trust for MNOs is very high. Haitians we interviewed in a post-earthquake camp in Pétionville were strikingly positive in their sentiments towards Digicel–so much so that they may even sign up for any new product that Digicel offers, regardless of whether they understand what they are or need them. One man told us, "I don't know what mobile money is, but if it is Digicel, then I will sign up for it."[7] Just as in the early days of Digicel in Jamaica (Horst and Miller 2006), Digicel appears to have the potential to attract customers by brand loyalty alone, regardless of the product offered, and garner an extraordinary level of trust, the unanimity of which would be difficult for any political leader to achieve. When we were conducting research in the Iron Market in downtown Port-au-Prince, numerous vendors mistakenly thought we were Digicel employees and felt the urge to thank us for helping to construct their market.[8] "Long live Digicel!," exclaimed one elderly woman while grasping my hand. Another equally elderly woman proclaimed that God sent Digicel to save Haiti, and that Digicel should be President of the country. These are not just isolated comments: as the anthropologist Timothy Schwartz notes, "If Digicel could run for President of Haiti [….] it would win" (in Reitman 2011).

Crucially, our data suggest that distrust of banks is unlikely to significantly impact mobile money adoption, because people associate mobile money with MNOs. However,

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[7] This was also suggested by our research in Phase I (2010), in which our interviewees generally expressed enthusiasm at the possibility that mobile money would soon be provided. They particularly valued the heightened temporal efficiency and reduced costs they anticipated it would bring (Baptiste, Horst and Taylor 2010).

[8] In January 2011, the historic Marche en Fer (Iron Market) was re-opened after being refurbished with funding from Digicel. See http://www.nytimes.com/2011/01/11/world/americas/11haiti.html?pagewanted=all&_r=0.

InterMedia's report indicates that while most Haitians have heard about mobile money[9] (especially through the radio or television advertisements), this familiarity does not necessarily translate into an understanding of what mobile money actually is (InterMedia 2011, 31). Hundreds of thousands of Haitians were registered for mobile money at the time we conducted our research, yet our mapping, testing, and observations suggested that just a small fraction of Haitians were using mobile money with any regularity. While we certainly found that people using mobile money were generally using agents they were already familiar with, there is no way to generalize about the motivations of registered non-users. A broader longitudinal study is needed to determine to what extent trust of agents, technology, or other factors influence usage, and the effects of social proof in overcoming these blockages.

Interestingly, we also found that a *lack* of trust can facilitate mobile money adoption. As Digicel's advertisement showing a woman hiding her money indicates, Haitians may sign up for mobile money when they do *not* trust their fellow human beings. We observed a prevalence of what we termed "Me2Me" payments in which users would deposit money in their m-money account to avoid having to store it in their homes or carry it around town (see Taylor, Baptiste and Horst 2011). We also found people who used mobile money because they did not trust themselves. Josué, an artist, explained to us, "If I have money in my pocket, I will use it on beer, cigarettes and women, but if it is not there I cannot spend it as fast. After all, money is the devil, it makes you do crazy things."[10] Indeed, it is worth noting that Josué views money itself with suspicion. Constraining money by dematerializing it–putting it in an electronic account–is a way of controlling money's autonomous power and harnessing it for one's own benefit.

While a high level of trust for MNOs may be an initial factor in compelling Haitians to register for mobile money, other levels of trust may have significantly different effects. This is a clear case in which macro data and micro data create a far clearer picture when analyzed together.

Traces / Trajectories

The beauty of M-Pesa's Kenyan advertisement showing money flying through the air is that we know it is a fiction. Money does not move by itself. It moves *via* the actions of people, it moves *through* the mediation of technologies, and it moves *with* people and other goods. Furthermore, money, people, and objects often travel together along similar trajectories. Tracing how they accompany one another along well-trodden or novel pathways is crucial to understanding what makes mobile money attractive to users as a means of circulation.

In 2010 and 2012, Taylor and Horst conducted a case study on the border of the Dominican Republic and Haiti. We wanted to know what happens to the circulation of money, people, and objects when they encounter the obstacle of the national border.

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[9] InterMedia state that 80% of their respondents had heard of mobile money, and 70% could correctly identify which MNOs offer mobile money services (2011, 23).

[10] Originally published by Espelencia Baptiste on the IMTFI blog, http://blog.imtfi.uci.edu/2011/10/02022011-resisting-devil-using-mobile.html.

Borders are more porous for some mobile objects than others. We carried out our fieldwork in Anse-a-Pitres (Haiti) and Pedernales (Dominican Republic), whose town centers are just two kilometers apart. At this particular border crossing, people did not have to show any identification to cross if they were not intending to travel beyond the border region. Mobile phone towers broadcast signals for up to forty kilometers inside their neighboring countries, so Haitians visiting the Dominican side could still use their Haitian SIM cards to make calls in Haiti. The Haitian currency, the gourde, was not accepted in Pedernales, but the Dominican peso circulated freely in Anse-a-Pitres. Furthermore, TchoTcho Mobile, which is solely Haitian, facilitated the flow of money across the national border.

To understand the circulation of people, objects, and money across the national border, we undertook a survey, mapped the towns, mapped formal and informal remittance routes, recorded interviews, and studied the ownership and movement of objects in a portable kit study. These allowed us to understand people's trajectories–the movement of themselves, their possessions, and their money through physical space and across the national border. Traces of these movements were visible in the objects people carried, including national identity cards and money, and also in their mobile phones (call histories, address books and records of mobile money transactions in text messages).

We conducted our survey of 179 people in May 2012, approximately three months after TchoTcho Mobile was launched. We found that approximately 92 percent of residents owned mobile phones, and there was little difference between the Haitian and Dominican towns. What *did* differ, however, is that there were 16 percent more SIM cards among the Haitians population than among the Dominicans, and these extra SIM cards were all held with Dominican MNOs (Claro and Orange). This is because Haitians spend far more time working, trading, and socializing in the Dominican Republic than Dominicans do in Haiti–a reflection on the Dominican Republic's greater wealth. Where possible, Haitians maintain SIM cards for both Haitian mobile networks and Dominican mobile networks so that they can pay local, rather than international, call costs.

Our data show that 75 percent of the SIM cards owned by Haitians were with the Haitian MNO Digicel, which meant that they potentially had mobile money capability. But just 4 percent of our respondents said that they had used the service. In our pre-mobile money study in 2010, our respondents had been enthusiastic about the possibility of using mobile money (Baptiste, Horst and Taylor 2010). Our interviewees told us that they would welcome a service that allowed them to avoid long bank lines, the high fees of money transfer offices, and the security risks incurred in sending money informally (albeit at no cost) via open fishing boat. In February 2012, Digicel's TchoTcho Mobile arrived to Anse-a-Pitres, with the microcredit institution Fonkoze acting as the sole TchoTcho Mobile agent. Why, when we did our survey three months later, were there not more people using mobile money, if the need was so great?

To answer this question, we turned to the data we had collected using qualitative methods. First, we went looking for the mobile money agent by asking people on the streets of Anse-a-Pitres to direct us. Approximately a dozen people erroneously sent us to Western Union and a range of *PapPadap* (Digicel phone top-up) agents before we found someone who knew that Fonkoze was the TchoTcho Mobile agent. Fonkoze did not display any TchoTcho Mobile signage at all. Waiting time to be served was approximately half an hour,

but our transaction went smoothly. These forays made us aware of some of the barriers to adoption, especially a complete lack of advertising material and signage.

Once we had located users, we implemented interviews, including an object-based interview method called a "portable kit study" (see also Ito, Okabe and Anderson 2009). These involve asking interviewees to take out every object they are carrying in their pockets, bags, and wallets, and display them on a table. Interviewers ask about each object, how and when they use each object, and its purpose in the interviewee's life. The mobile phone was a particularly productive object for data collection, often taking up fifty percent or more of the total interview time. It enabled us to see traces of phone calls and movements of people. We asked interviewees to go into their phone's history and tell us the last three people they had called, and the last three people who had called them. The people named were often relatives or friends who had been mentioned in relation to other possessions, such as photographs, documents, or gifts.

One interviewee in particular, Emmanuel, gave us a clear sense of how the mobile phone and mobile money help Haitians leverage the benefits of living on border, but also gave us an insight into how people could fail to adopt a service of significant utility. Emmanuel was a Haitian but resided on the Dominican side of the border. He used his motorcycle to make a living, ferrying Haitian passengers around town and running errands. He almost always carried with him a backpack from the Haitian MNO Voilá, multiple forms of currency, and his wallet with a fake Dominican ID card inside it. He also had a notebook in which he recorded phone numbers as a backup in case he lost his phone (a common practice). He owned just one Digicel phone, but he had two Digicel SIM cards.

Emmanuel reported that one of his cousins regularly sent him money for her Sky cable television bill, which had to be paid in Pedernales (Dominican Republic). However, she lived eighty kilometers away in Jacmel (Haiti), so she sent the cash informally, via boat. She told Emmanuel about mobile money and asked him to sign up so that she could send him the money electronically, as TchoTcho Mobil was available in Jacmel. Emmanuel did not know how the system worked, so he asked a friend to help him. His friend registered a SIM card with TchoTcho Mobile at Fonkoze and gave the SIM to Emmanuel. Hence Emmanuel owned one SIM in his own name, which he used to make calls and send texts, and one SIM in another person's name, which he only used for mobile money transactions. Emmanuel and many other people we spoke with also shared mobile phones, indicating that mobile phone usage is not necessarily ego-centric. These sharing practices are important to keep in mind when analyzing "big data."

We feel that the key to unlocking the mobile money puzzle is the intersection of trajectories and traces. When mobile money arrived to Anse-a-Pitres, the town already possessed many ways of moving money, goods, and people by both formal and informal methods. The trajectories they follow are well-established travel and trade routes that are decades, possibly centuries, old. They are also highly visible to the people who use them, although outsiders may not easily be able to read the traces that are left in the wake of mobile people, objects, and cash.

Given near-universal phone ownership and the existence of a need to send money, mobile money should have complemented these existing trajectories. The problem was that as yet it had left very few traces in the local landscape. With just a handful of users and no

advertising, mobile money remained invisible to the town's population. Television advertisements, such as TchoTcho Mobile's depiction of an elderly woman hiding her money, barely reached this corner of the country where few people have electricity. This suggests that, as important as social proof is in driving mobile money adoption and literacy, branding will also be of crucial import to mobile money adoption in Haiti.[11]

FUTURE DIRECTIONS

The power of ethnographic methods lies in their ability to demonstrate the differences between what people *say* they do, and what people *actually* do. In the case of mobile money, where we are trying to gain insights into the micro-world of users as well as understand the aggregate picture, deploying a full suite of ethnographic methods can help us tell the difference between how people are *assumed* to use a system, and how they *actually* use it.

We would like to see more multidisciplinary work that plans an integration of methods from the outset–how will how different methods complement each other, compensate for blind spots, and so on? What are the barriers in terms of accessing insider information for different methods? What kind of partnerships and collaborations may need to take place to gain a richer understanding of mobile money in practice? To what extent do "in the moment" snapshots need to be integrated with longitudinal (or longitudinally-motivated) studies of mobile money use over time? What kind of value do other perspectives–understandings of historical trade routes, practices such as patronage, and everyday financial behaviour (such by as market vendors)–bring to mapping and surveys?

Finally, we suggest that in order to choose the right methods and approaches to mobile money *use*, we need to take a broad view of what mobile money *is*. Simultaneously a commodity and a social good, mobile money is attractive to a broad range of users and applications. It incorporates the qualities of money, and therefore lends itself readily to both quantitative and qualitative analysis. Furthermore, a view of mobile money as a socioeconomic development tool could benefit from viewing mobile money as part of material culture, given that possessions have a high level of import in the lives of the poor (Taylor 2013). Understanding its broad nature will help us ask the right questions and choose the right combination of methodologies.

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[11] A view that was also communicated to us by Michael Joseph, ex-CEO of Safaricom who oversaw the development of M-PESA, during his visit to Haiti in 2011.

REFERENCES CITED

Baptiste, Espelencia, Heather A. Horst and Erin B. Taylor
2010 *Haitian Monetary Ecologies and Repertoires: A Qualitative Snapshot of Money Transfer and Savings*. Irvine, CA: Institute for Money, Technology and Financial Inclusion (IMTFI).

CGAP (Consultative Group to Assist the Poor).
2009 *Window on the Unbanked: Mobile Money in the Philippines*. CGAP.

Diniz, Eduardo Henrique, João Porto de Albuquerque and Adrian Kemmer Cernev
2011 "Mobile Money and Payment: A Literature Review Based on Academic and Practitioner-Oriented Publications (2001-2011)." In *Proceedings of SIG GlobDev Fourth Annual Workshop*. Shanghai, China.

Donner, Jonathan and Camillo Tellez
2008 "Mobile Banking and Economic Development: Linking Adoption, Impact, and Use." *Asian Journal of Communication* 18 (4): 318–322.

Donovan, Kevin
2012 "Mobile Money for Financial Inclusion." *Information and Communication for Development: Maximizing Mobile* 61–74. The World Bank.

Flores-Roux, Ernesto M. and Judith Mariscal
2010 "The Enigma of Mobile Money Systems." *Communications & Strategies* 79 (3): 41–62.

Godoy, Johanna, Bob Tortora, Jan Sonnenschein and Jake Kendall
2012 *Payments and Money Transfer Behavior of Sub-Saharan Africans*. Bill & Melinda Gates Foundation; The Gallup Organization.

HIFIVE
2010 "Gates Foundation and USAID Announce Innovative Fund to Incentivize Mobile Money Services in Haiti" [press release]. 8 June.

Horst, Heather A. and Daniel Miller
2006 *The Cell Phone: An Anthropology of Communication*. Oxford: Berg.

InterMedia
2012 *Mobile Money in Uganda: Use, Barriers and Opportunities*. Washington, D.C.: InterMedia.

InterMedia
2011 *Mobile Money in Haiti: A Baseline Analysis of Access, Use and Barriers to Adoption*. Washington, D.C.: InterMedia.

Jack, William, Adam Ray and Tavneet Suri
2013 "Transaction Networks: Evidence from Mobile Money in Kenya." *American Economic Review: Papers and Proceedings* 103 (3): 356–361.

Medhi, Indrani, Aishwarya Ratan and Kentaro Toyama
n.d. "Mobile-Banking Adoption and Usage by Low-Literate, Low-Income Users in the Developing World." Unpublished paper.

Mizuko, Daisuke Okabe and ken anderson
2009 "Portable Objects in Three Global Cities: The Personalization of Urban Space." In *The Reconstruction of Space and Time: Mobile Communication Practice*s. Rich Ling and Scott W. Campbell, eds. Pp 67-87. New Brunswick, NJ: Transaction Publishers.

Kendall, Jake, Bill Maurer, Phillip Machoka and Clara Veniard
2012 "An Emerging Platform: From Money Transfer System to Mobile Money Ecosystem." *Innovations* 6 (4): 49–64.

Mas, Ignacio and Olga Morawczynski
2009 "Designing Mobile Money Services: Lessons from M-PESA." *Innovations: Technology, Governance, Globalization* 4 (2): 77–91.

Mas, Ignacio and Daniel Radcliffe
2010 *Scaling Mobile Money*. Bill & Melinda Gates Foundation.

Maurer, Bill
2012 "Mobile Money: Communication, Consumption and Change in the Payments Space." *Journal of Development Studies* 48 (5): 589–604.

Maurer, Bill
2011 "Mobile Money, Money Magic, Purse Limits and Pins: Tracing Monetary Pragmatics." *Journal of Cultural Economy* 4 (3): 349–359.

Okoegwale, Emmanuel
2011 "Nigerian Mobile Money Knowledge and Preferences: Highlights of Findings from a Recent Mobile Money Survey in Nigeria." *Institute for Money, Technology and Financial Inclusion Working Paper 2011-1*. Irvine, CA.

Ratan, Aishwarya
2008 "Using Technology to Deliver Financial Services to Low-Income Households: A Preliminary Study of Equity Bank and M-PESA Customers in Kenya." *Microsoft Research Technical Report*, June.

Reitman, Janet
2011 "Beyond Relief: How the World Failed Haiti." *Rolling Stone*, 4 August.

Taylor, Erin.B. and Heather A. Horst
Forthcoming "The Aesthetics of Mobile Money Platforms in Haiti." In *Routledge Companion to Mobile Media*. Gerard Goggin and Larissa Hjorth, eds.

Taylor, Erin B.
2013 *Materializing Poverty: How the Poor Transform Their Lives*. Lanham, MD: AltaMira.

Taylor, Erin.B., Espelencia Baptiste and Heather A. Horst
2011 *Mobile Money in Haiti: Potentials and Challenges*. Irvine, CA: Institute for Money, Technology and Financial Inclusion.

World Bank
2012 "Three-Quarters of the World's Poor are Unbanked." Accessed 19 April. http://econ.worldbank.org/.

Session 2: Facing complexity

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The second session addresses highly complex issues, from transforming energy consumers into producers of electricity, to modifying the nature of pharmaceutical trials. Ethnographers not only face change in social organisations, but in how to do research.

All the papers in this session report studies address highly complex issues, from transforming energy consumers into producers of electricity, to modifying the nature of pharmaceutical trials. The complexity that ethnographers face is not just in the elaborate social organisations they have to immerse themselves, which has always been a characteristic of ethnography, it is in the task that the research is to accomplish. All the projects aim towards a massive transformation of practices which have in common a significant increase in users' participation and responsibility: in the relation to utilities and sustainable living, in the role patients and doctors play in health care. It is as though organisations at all levels have now assimilated the participatory philosophy of the WWW and are designing services that distribute part of their work and power onto their users. In this context the ethnographic practitioner stops being an investigator of hidden needs and expectations, but is asked to reveal the agents of change, the triggers of transformation. Yet another challenge for the profession

Move me: On stories, rituals, and building brand communities

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This paper takes on the challenge of understanding behaviour change through the lens of anthropology. In the field of market research, the goal is to find the leverage points of emotional connection that will inspire a desired behaviour. But traditional approaches to research have relied on methods that neither capture these triggers of change, nor inspire connection. Alternatively, an approach to research based on rituals induces transformational experiences that by their very definition are grounded in emotional connection. This paper details a framework for ritual-based research, and provides case studies of how and when rituals might be used for gathering market insights. We conclude with recommendations for extending the approach into engagement opportunities and creative executions.

INTRODUCTION

Why do you decide to buy a new laundry detergent? Or to purchase your favourite yogurt a few more times each week? Or to spend $350 on a pair of shoes? Or $350,000 on a new house? Of all the many details that define these opportunities, which will prove most salient for you? Which will persuade you to do it?

These are the kinds of questions that face market researchers every day. To answer them, they must uncover the leverage points that inspire people to do something different. If we are to create a new path forward for a brand, our role is to discover ways that bring people along on that journey. In an ideal scenario, the results inspire compelling, effective creative work.

Ironically, the world of traditional market research relies heavily on the past: on retrospective narratives collected through focus groups, interviews, and surveys. Frequently, reports detail why a person *chose* a brand, or what they *felt* when they *shopped* a certain store, or how often they *bought* something in the *past year*. But as Herman (2004) demonstrated, the cognitive models that shape our understanding of a story change with new events and new experiences, so that our assessment of past choices will alter based on the subsequent outcome of those decisions. Essentially, our explanations of our motive change as we see the consequences of those choices unfold in time. Thus these retrospective accounts are invariably of limited use in helping market researchers capture the proactive triggers of emotional connection or new behaviours.

When traditional research methods attempt to get prospective data, the questions are often hypothetical, if not fanciful. Methods include having people view video footage of others engaging in the desired behaviour, and then reflecting on their own willingness to do so. Alternatively, researchers posit inquiries such as, *"If your yogurt went to a party, who would it*

be? What would it be wearing?" Or, *"Pretend your brand is no longer available. Write an obituary for it. What would you miss?"* While certainly creative, this methodology fails to capture reality. They are, by default, fictional accounts of what I might do under speculative circumstances or in alternate worlds. Again, they fail to capture moments of change and the emotional drivers thereof.

If we are to understand the impetus for behavioural patterns and change within a cultural context, there is value to looking at how cultures themselves cue such moments. With this in mind, we turned to the ethnographic literature for inspiration on the ways in which real communities inspire and guide different choices among their members. This led us to the terrain of narrative and ritual.

THE ELEMENTS OF A GOOD STORY

Narratives are the lifeblood of marketing and communications, much as they are the driving force of cultures as well. In both instances, stories serve to connect people around a shared model on the world: on expected patterns of events, on the accepted roles for different people, and on a moral interpretation of those events and persons. While they take multiple forms, ranging from fantastical fairy tales to rich historical narratives, stories link us to each other by crafting an interpretative thread across time, place and persons. Through their telling, they draw people together toward a shared cognitive and experiential framework.

It is this ability to pull people to a particular understanding that underlies the appeal of narrative within marketing. Marketers rely on stories to transform people. Sometimes poignant, often funny, occasionally scary, marketing campaigns leverage stories to inspire, to prod, and to influence. The most powerful communications interweave narrative with sounds and images to lead you to a new place – one where you use that detergent, eat those yogurts, wear those shoes, and buy that house.

Stories accomplish this through two important tactics. First, through structuring a plot. Jerome Bruner (1990) argued that stories become compelling by creating a culturally meaningful connective thread between two events. Narratives are a kind of linguistic bridge that allows us to make sense of how the characters get from Point A to Point B. Granted, these threads will vary according to how cultures define "meaning-filled" events. In this respect, stories connect events and motivations in a way that makes our arrival at Point B feel both inevitable and proper within our cultural context.

The second way in which stories move us is through the specific use of language for character development. As Ellen Basso (2010) has demonstrated, the use of personal pronouns – I, We, You – brings the audience into the discourse, and allows them to envision themselves as the protagonists. In fashioning ourselves as the agents of the story, we live their adventures and empathize with their emotions.

Bakhtin (1981) integrated both points in his discussion of the dialogic nature of novels: our engagement with a story hinges on the experiences and ideas we bring to its reading (Bruner's culturally-meaningful threads) and our ability to imagine ourselves in the position of the characters (Basso's personalization). We are in conversation with narratives, which

implies that the narrative must "make sense" and be in a language that is accessible and sensible to us, the readers.

Pivotal to the power of stories to achieve this transformative potential is content. There must be a plot and there must be characters who face choices, live in tangible (at least describable) worlds, and who engage with others to move the story from Point A to Point B. In the absence of content, there is no story. A truly great narrative, then, weaves together rich content into a compelling plot with characters who we embrace (even if we do not like them), and who lead us on a journey.

Within market research, then, the challenge becomes soliciting strong content: stories that detail these emotional connections and triggers for desired behaviors – the transition from Point A to Point B – in a compelling and understandable way. Returning to traditional market research, what we find is at a base level, research gets data. It provides basic information, but in an uninspired and uninspiring way. For example, understanding that you purchased laundry detergent seven times in the past year is "data." Valuable research yields information, such as a story about how my laundry smells when I use my favourite detergent. This provides richer material for the narratives that become marketing campaigns, but still fails in capturing opportunities for change or connection.

Truly differentiated research, however, yields useful information. By this, we mean stories that detail leverage points for emotional connection. These are real-time narratives that walk through the complex terrain of a series of actions (e.g., trying something new, engaging with something more frequently), detailing the challenges, the unexpected opportunities, and the shifting sense of self as the actor moves through the experience. Returning to the laundry detergent example, useful information would include a narrative about purchasing a different brand, using it for a week, a daily discussion around how your clothes both felt and smelled, and how that affected you as a person.

ON RITUALS

In the course of traditional ethnographic fieldwork, anthropologists capture this useful information through participant-observation. We watch these encounters and conversations unfold in daily life over the course of the months and years that make up our research. We are present as informants negotiate new experiences, struggle with choices, or go about their daily routines. We detail these moments, and probe in real time about motivations, triggers and consequences.

In market research, we do not have the luxury of such time. We cannot wait to watch events unfold in the natural course of life. Nor do we have the latitude or ability to plop ourselves into someone's life the way we often do during fieldwork. We must find ways to shortcut the learning process. And so the challenge becomes: how do we find those moments of intense emotion? How do we identify transformational events?

Cultures have a genre of transformational events which anthropologists and other researchers describe as rituals. As Turner (1970) argued, rituals are *culturally salient experiences designed to transform a person, and thus their relationships to others and to material goods*. Rituals accomplish this through two key features. First, they are often highly sensory in nature, employing sound, images, touch, smell and taste to instantiate the lessons through an

embodied experience. Building a sensory world around the meaningful messages establishes future triggers for the teaching, as well as permanent reminders of the event (c.f., Basso 1992). Second, rituals create a shared experience within a culture. By undergoing the same (or similar) pedagogical process, it provides a common template for engagement and a more consistent frame for understanding future events (c.f., Shore 1998).

Returning to the challenge of a good story, rituals provide an experiential thread that transports you from Point A to Point B using language that creates a shared identity between you and others, and building upon a sensory-rich moment in time. This is why they so often generate *communitas*: an intense feeling of solidarity, togetherness and belonging created through shared experience (Turner 1995 [1966]).

Rituals are often one way in which cultures structure or instigate behavioural, emotional and cognitive changes within their members. Rather than teach all lessons through modelling and subtle interpretation, rituals force people into sensory-rich, emotionally complicated moment of change, and guide them on the interpretative journey to a new way of engaging with and understanding the world around them. In essence, they are highly condensed moments of teaching and learning and transformation.

Rituals thus offer a way out of the dual challenge of time and quality faced within market research. Given the restricted schedules which govern most projects, rituals allows you to instigate changes for a group of people in a time-limited situation. Moreover, because they are sensory-rich, transformative experiences, they generate what we termed "useful information" about real-time behaviors and emotions. Thus thinking through the challenge of marketing "stuff," as Daniel Miller refers to it, rituals can be deployed as a research framework to understand the challenges and opportunities of different projects.

To date, we have identified three broad categories of rituals that we use as research tools: rituals of initiation, deprivation, and remembrance. Each addresses a particular challenge in marketing: new product launches, highly familiar products, and products that defy description. We conclude the paper with a discussion of lessons learned, and potential ways to expand the system.

Initiation

One of the frequent challenges in marketing is an introduction. Occasionally companies are launching a new product, one that will transform the way we think about an entire category of things. More often, companies want to introduce their product to a new audience, one that may be unfamiliar with their brand, its heritage, and how it is different from other competitors.

The real challenge, however, is not about the product. The real challenge is to help people see themselves differently, as owners and users and ambassadors of these things. As Bourdieu (1977) noted, the material goods we use every day quite literally make us, thus the introduction of a new thing is often met with hesitation because it requires us to re-imagine ourselves. Who would I be if I owned those shoes, or ate that yogurt, or used that dish detergent, or lived in that house? What if I do something wrong? What if I don't know what is required? What if it means other things need to change too?

Cultures use rituals of initiation to guide members through the process of embracing a new social role. Elders – those familiar with the new status and its expectations – usher you through this process, teaching you the rules, sacrifices and joys that await on the other side. As with other rituals, they guide this transition through an emphasis on language, physical comportment, and challenges. Weddings and marriage are a classic example. From the engagement through the ceremony, the betrothed pair are ushered along through the process by a host of "elders," including parents, religious officials, married friends, and culturally-sanctioned experts. They are informed of the guidelines and expectations around timing, costs, attire, and attendance at the wedding. They are taught the expectations around behaviour and emotional comportment within the marriage that reflect communal values on the meaning of union within the culture.

The task within market research then is to help people find an approachable way to become familiar with the new role as owners of different stuff. They need to "try on" an identity, and to experience the transformation. Following a model of initiation rituals, we have paired "brand novices" with "brand elders" who introduce them to the product, usher them through the experience and help them see themselves as potential owners of a thing.

Case study: Luxury sports cars – Luxury sports cars attract a niche following. But for some younger Americans, this poses several challenges. First, the exclusivity runs counter to a broader ethos around sharing and accessibility. Second, this younger community does not have an emotional connection to these cars that defined previous generations. Finally, their understanding of particular brands tends to be negative: several of our informants called them *"a mid-life crisis car for rich men,"* echoing the way these autos often appear in American films, television shows, and music.

We were asked to introduce a specific brand of these cars to a younger American community. Their preliminary description of the cars – having never driven them – followed that standard cultural script. They described the cars in generic terms: expensive, showy, and loud. As one reported, *"It's about speed. Speed, speed, speed, and speed."*

To push past this standard narrative, we explored the value of approaching the opportunity as an initiation ritual. Certain features of the category translated well to the model: it presents a highly sensory experience; it requires specialized knowledge to fully understand the experience; and there is a clear "in group / out group" dynamic grounded on cognitive and emotional barriers.

We could not create an authentic initiatory experience, but strove to replicate elements of it as we approached the challenge. We recruited 20 younger people (ages 25-40 years old), paired them with aficionados of this particular brand, and sent them on a drive. They took photos, and they spent about an hour or so in the cars out in public. Their "elders" began with an introduction of why these cars are unique from an engineering and design perspective, and how they came to love the cars. As they drove the cars, the "initiates" learned more about the responsibilities and joys of owning this particular brand.

The post-drive narratives were significantly different from the pre-drive expectation. We heard phrases like:

> "The horsepower is second to none. You feel like you're in control."

> "It feels like it's pushing you. It puts adrenaline in you. It's designed for speed. It was fast. You can't go slow. … It's such an aggressive car."
>
> "The torque is amazing!"
>
> "The displays were unbelievable. It drove like a sports car. It handled like a sports car. It was simply unbelievable."
>
> "I'm trying to be as good as the car. You're never going to be as good of a driver as the car. It's so much better than you at what it does. But I'm learning every time."
>
> "It's untamed, like a wild horse"

As we hoped, by approaching the challenge from an initiatory perspective, we uncovered much richer, passionate, intense narratives. Moving beyond speed and cost, the post-drive stories offered a window into the experience that helped us to understand how and why these cars might appeal to a new community. This was not a group particularly interested in the details of engineering, which was the focus of the current campaign language. They loved handling, performance, and responsiveness. They wanted a challenge, and found it in these cars.

The other lesson from the initiatory structure was the development of communal ties. By pairing novices with elders – non-owners with current owners – the process enabled potential owners to see themselves as owners. No longer confined to the caricatures of the drivers they saw in popular media, the "initiates" bonded with a "person like me," which helped create a connective thread from Point A (non-owner) to Point B (nice person, just like me, owner). The potential ruptures to Self-instigated through the acquisition of new things were avoided by seeing themselves in the current owners.

DEPRIVATION

At other times, the challenge is quite the opposite from an introduction: something is so familiar or basic to our everyday lives that we no longer think about it. This is part of what Miller (2009) implied by stating that things "whisper." We take them for granted precisely because that is what we want them to be: background to other things that matters to us. The intention is not to be dismissive or entitled, but to function in the midst of busy lives by narrowing the field of choices we must make every day.

Just as the introduction of new "stuff" forces an evaluation of our core Self, so too does the removal of those things that are central to the way we navigate in the world. Their absence requires us to assess the motivation underlying their meaning in our lives, and to explore alternatives to our typical routines. Katherine Newman (1999) detailed this tendency among the downwardly mobile American middle class: they held on to their "stuff" as long as possible because these items (houses, cars, clothing) signaled "middle class." Losing them

meant relinquishing that treasured and culturally valued status. Deprivation and loss create a rethinking of Self as much as the acquisition of new stuff.

This "backgrounding" mentality is precisely what cultures and religions seek to overcome through rituals of deprivation. In rituals such as Lent, Ramadan, or Navratri, the devotee actively gives up something that is valuable for a specified period of time. In each case, the goal is to develop a renewed appreciation for the absent thing/behaviour, and to create an appreciation for other facets of life.

When products or categories fill this essential "background" role, the challenge becomes helping people to appreciate why that item matters in their lives. From a research perspective, the broader goal is to help them see who they are and how their lives function in the absence of the item. In this respect, crafting a ritual of deprivation creates moments in which participants can reassess the role of these things in their lives.

Case study: Food storage and disposal products – Many household goods are quintessential commodities: mass-produced, interchangeable, generic things. Companies often struggle for some way to break through and create a connection with people. But understanding that point of connection within a commodity space is much more challenging. The obvious links may not be the most emotionally salient.

To understand what could bond people to their kitchen products (e.g., trash bags, storage bags, food wrap, containers, etc.), we approached the challenge through the lens of deprivation. Our initial foray into the conversation about preference and choice elicited standard responses: "it's strong," "it works," "it's just what I buy," or "it's what my mother always bought." We hypothesized that through removing these items from homes, we might elicit a deeper emotional narrative about the role of these products beyond the obvious link to food or function.

We recruited twenty-five households and deprived them of all the kitchen products made by the client: no foil, no plastic containers, no wax paper, no parchment paper, no trash bags, no freezer bags. They were allowed to come up with alternatives, but they could not use any items from these categories – not our brands or any competitor brands. Each day, they did a video diary about how the day went in their homes, and more broadly, in their lives. They had several prompt questions, and were encouraged to talk beyond those.

Day One videos, before we took the products away, were brief and direct – usually about 2 minutes long. People talked about their favourite recipes, their families, and how the day went. As noted, their reasons for buying these brands and products were quite vague: based on family tradition, price ("It's cheaper, so we got it."), and convenience ("It's just what my husband got last time."). There was no emotional connection, and from our perspective, nothing usable for a moving, compelling story.

Once we took away the products, the participants were vocal. By the end of the project, each video was to 6-8 minutes of emotion-laden, "I can't wait for this to end" narratives about why the day went all versions sideways:

> "This was really, really difficult. I use plastic storage every day, all the time, it's such a convenience to my life, it was killing me. It was so hard that it made me not want to cook."

> "I really took for granted the easy access and easy way of doing things when you have these products with you."
>
> "I did not like the restrictions [of the project]. I felt as though items that have been in my kitchen for years were not available when I needed them. It created a feeling of disappointment and let down, not to mention the extra work / clean-up it created for me."
>
> "Today I decided not to take the kids to the park. Normally I would pack a picnic and we would go play in the morning. But it was too much work to think about the picnic with all these containers. And you never know when they'll get hungry. So we just stayed inside this morning, and went to the park after naptime."

What we learned is that these products are only vaguely associated with food. What they really enabled was connection time. In the hectic lives of today's households, the ability to simplify food prep and streamline clean-up, and to make things portable, and to know that your products will work every time, means that people can get on with thinking about each other and spending time with each other rather than focusing on the work of being at home.

Moreover, the products themselves facilitated community. The simplicity and reliability of the goods enabled participants to share household chores with other members of the home. They allowed participants to host large events by making food preparation and storage a worry-free experience. They let people be spontaneous and have impromptu get-togethers because food could be stored and transported to alternate locations for shared consumption. In short, they facilitated moments of togetherness.

REMEMBRANCE

When truly transformative events happen in life, communities mark them with symbolic memorabilia: physical objects that serve as powerful reminders of the events. They are not ordinary things, but rather, a category of meaning-filled objects that define who we are and how we became this person. While these can be anything, some typical examples include items such as wedding rings, heirlooms, children's attachment objects (e.g., teddy bear, doll, blanket), trophies, awards, and so on. These things take on a life of their own, vested with stories, reminders of powerful people, places and moments in our lives. They are a physical record of who we have become.

Cultures and religions institute rituals of remembrance as a way to reinforce lessons and create a group habitus through repeated re-visitation to and reflection upon the event. Consider the ritual of communion in the Catholic Church. The ritual, performed explicitly "in remembrance of me [Jesus]," transforms a simple wafer into the "body of Christ," and leads the congregation through his final hours of loyalty, betrayal, loss and redemption. The bread becomes a reminder to people of why they are asked to make choices and sacrifices and to uphold a code of conduct that may differ from the wider society. On a more personal scale, events such as birthday parties and anniversary celebrations serve this same role of helping us to remember and reflect upon the journey.

Certain physical objects lend themselves to rituals of remembrance because the behaviors that surround them are often explicitly ritualized. For example, jewellery is often vested with meaning beyond physical beauty. The necklace that married Hindu women receive at their wedding becomes a reminder of their marriage promises when they put it on each day. Similarly, a mug can become vested with symbolic associations when it is the sole vessel for one's morning coffee or tea: its weight, shape, and handle being tactile cues that are part of the daily ritual of transition from slumber to engagement.

The presence of these symbolically charged items in people's lives renders them particularly useful mnemonic devices for prompting rich conversation around these experiences. This is particularly true when the rituals are enacted privately versus in a communal setting. In such cases, it can be challenging for the participants to understand the collective implications of their actions.

Case study: Running shoes – In the world of competitive sports, athletes are very particular about their equipment. Yet this specificity is often a barrier to an articulate discussion about the role of sporting gear in their lives. Their use of the equipment is both highly ritualized and highly personal: each player or competitor engaging with the objects in a unique fashion, but always in the same way. For example, hockey players tape their sticks differently from each other, but they always tape their personal sticks in precisely the same manner so the equipment will feel and function in a way that is familiar and comfortable.

In the case of team sports, it is easy to observe the patterns and differences in how players engage with gear. The challenge is more complicated in solo sports, such as running. Talking to runners about the experience of running or about their running shoes quickly leads to dead-end conversations that are highly individualistic. Their shoe preference is strictly based on what feels right and what seems to help them run better. They report: *"Shoes are very personal. You can't really understand your relationship to the shoe until you can put in many miles on it."* They are loathe to recommend shoes to other runners because "it's personal." They run because it is a *personal* compulsion, and they are clear about it. They all have idiosyncratic race-day rituals that range from magical shoelaces and safety pins to the restorative powers of chocolate milk and protein bars. Finding a connective strand in the narratives of elite runners poses a challenge.

With this in mind, we turned to rituals of remembrance. Observations revealed that all runners save something from races they have run. As we reviewed the "running collections" of our participants, we noticed a tendency to save race-day bibs (the numbers you pin on your shirt to identify yourself within the race). These became our mnemonic device and the symbolic item to trigger a kind of ritual of remembrance. We asked the runners to hold the bibs and tell us about each race. As they talked, the connective thread emerged. Running, for this community, was not about winning. Running was about each step in every practice and in every race:

> "I conquer myself with each step."
>
> "Just one more step, I tell myself. Just one more step."
>
> "Out the door. That's the goal each day."

"Don't give up. Push through."

"I am a better me because I run."

It was the discipline of putting one foot in front of the other when every fibre of their being wanted to do something else that made them runners. They do it because it is transformative: the act of running makes them a different person. Through running, they become runners.

By holding the bibs and focusing on each race, the runners could recapture the mental and emotional space of those specific runs and of their daily runs in a way that moved us beyond the highly personal nature of the sport into a terrain where they connected through a shared challenge: facing each step. By using the bibs much as one might a wedding ring or a communion wafer, these symbols became mnemonic devices that prompted the rich emotional depth of competitive long-distance running.

From a community standpoint, they provided a bridge in a space where people often feel isolated. The intensely personal nature of running, and the reluctance to acknowledge the continuing challenge of each step at elite and competitive levels, makes it easy to assume you are the only individual who struggles with wanting to give up. By creating a ritual moment where this feeling is paramount – holding the bib, the symbol of *participation*, not *winning* – we found the connective thread that rendered an individual experience into a communal act of defiance and transformation.

CONCLUSION

What began as a creative challenge became a doorway into rethinking why and how we approached the fundamentals of the research process. But it was a necessary shift that inspired us back into our roots.

Anthropology as a discipline is founded on engagement. When we look to Malinowski's foundational tome on fieldwork, anthropology was and always should be a *participatory* science. He implored us: "put aside camera, note book and pencil, and to join in himself in what is going on. He can take part in the natives' games, he can follow them on their visits and walks, sit down and listen and share in their conversations" (1922:21). He rallied against "armchair ethnography," pushing anthropologists to get out, join in, and learn through experience.

Malinowski and subsequent generations of ethnographers understood that participation fundamentally transforms our understanding of a process or situation. When we do something, we learn it and know it through a different lens: when we try to live another's life, we gain perspective, empathy, frustration, compassion, and wisdom. It forever changes how you understand yourself in this world, and how you engage others.

Our goal in creating a research practice centered on ritual was to take the participatory lessons of anthropology to the field of market research. We have found that the changes evoked through a ritual-like structure provide a richer understanding of how "stuff" functions in our lives. Moreover, they reveal the emotional and practical triggers for our

habits and choices, thus providing insight into how to alter these. Finally, rituals enabled moments of connection with others, small examples of communitas if we are so bold, in which participants found solidarity and a shared identity with strangers.

On a practical level, one of the key benefits of our approach is efficiency. Time is always a limiting factor in business, and rituals streamline the process of traditional participant-observation. Beyond this, the methodology provides some insight into efficacy. Rituals provide preliminary data about what will work before launching the strategic and creative process. While some campaigns are wonderful and endearing and generate "buzz" around the execution, they may not compel people to do something different. By pushing people to do things they would not have done otherwise, rituals yield stronger information on the meaningful connective threads that will draw people to Point B.

These methods may be familiar to ethnographers who work in the field of market research. What proved helpful for our purposes was framing them into a coherent system based on categories of challenges. We fully expect that there are additional rituals to incorporate into the system as well, and we position this paper as the start of a broader conversation around expanding and enhancing the approach.

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REFERENCES CITED

Bakhtin, Mikhail
1981 "Discourse in the Novel." In *The Dialogic Imagination*. M. Holquist, ed. Austin: University of Texas Press.

Basso, Keith
1992 *Western Apache Language and Culture: Essays in Linguistic Anthropology*. Tucson: University of Arizona Press.

Bohannon, Laura
1966 "Shakespeare in the Bush." In *Natural History*, Aug-Sept 1966.

Bourdieu, Pierre
1977 *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.

Bruner, Jerome
1990 *Acts of Meaning: Four Lectures on Mind and Culture*. Cambridge: Harvard University Press.

Herman, David
2004 *Story Logic: Problems and Possibilities of Narrative*. Lincoln: University of Nebraska Press.

Miller, Daniel
2009 *Stuff*. Cambridge: Polity Press.

Newman, Katherine
1999 *Falling from Grace: Downward Mobility in the Age of Affluence*. Berkeley: University of California Press.

Shore, Bradd
1998 *Culture in Mind: Cognition, Culture and the Problem of Meaning*. Oxford: Oxford University Press.

Turner, Victor
1970 *Forest of Symbols: Aspects of Ndembu Ritual*. Ithaca: Cornell University Press.

1995 [1966] *The Ritual Process: Structure and Anti-Structure*. Transaction Publishers.

Designing anthropological reflection within an energy company

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The move towards a more liberalized energy market and the emergent smart grid technology has forced a Scandinavian energy company to begin rethinking the relation between themselves and private energy end users. Originally a unidirectional relationship, the present and future have potential for a more bidirectional relationship between the company and their customers. During this process the company has realized that they lack knowledge about private energy end users. The company has run a demonstration project simulating the face of the electricity smart grid in private households and has used ethnographic methods to investigate the system effect of private households' participation. Our paper questions why this kind of approach is reproducing the unidirectional relationship instead of creating a bidirectional relationship. We propose an extension of the ethnographic approach whereby anthropological reflection is generated in the company through a flexible tangible scenario model of the bidirectional connection between the energy company and the users.

THE PRIVATE ENERGY USER CHALLENGE

Governments and energy companies are currently developing alternative electricity smart grid solutions to address energy independencies, reliability and issues of sustainability (Massoud and Wollenberg 2005, Gellings 2009, Lin, Yang and Shyua 2013). These developments will lead to a disruption of the continuous evolution of energy use practices both in private households and in energy production companies (Farhangi 2010, Lin, Yang and Shyua 2013). The Danish government has determined that by 2050 Denmark will be independent of fossil fuels and the way to achieve this goal is to base the energy system on electricity from mainly wind turbines. This means that a smart grid system in this context will not only optimize the distribution of energy between the energy company and the user, but also the smart grid must integrate the unstable character of electricity produced by wind turbines. Energy users will have to cooperate with the system and use electricity when it is available - when the wind blows. A future electricity smart grid is based on an intelligent bidirectional communication between a range of different energy producing units and energy demand units – including our Danish energy company and the private energy end users

(Farhangi 2010, Verbong, Beemsterboer and Sengers 2013, Geelen, Reinders and Keyyson 2013, Lin, Yang and Shyua 2013). The energy company's role in the proposed infrastructure is dependent upon the private energy end users' willingness to cooperate with the system in a completely new way in order to make the intelligent energy system function effectively. This relationship towards the private energy users presents a challenge for the energy company and the company tradition, because so far the energy distribution company has only delivered energy in a unidirectional system. Therefore the company organizational structure has until now been dominated by an almost non-consideration of the private energy end users, simply because the private energy users have not been relevant to the company identity. The development of a sustainable electricity smart grid challenges the way the Danish energy company categorizes end users.

USERS AS LOADS WITH FLEXIBILITY POTENTIAL

Company knowledge about the private end users is still being collected through long-term multi-sited fieldwork (Marcus 1995, 2011) conducted by Løgstrup during her employment as an industrial PhD student inside the energy company (2010- ongoing). The company describes private energy users as a load or peak loads, which refers to the energy users as a load in the energy system. For example from 5 p.m. - 8 p.m. energy users are referred to as peak load because, in this period, energy users are using the highest amount of energy during the day. A project leader in the distribution department explains the different phrases that are being used to talk about the private energy users:

> "There are many names for clients in a household.
> Some call them clients, others call them users, and network people call them loads - there are not many other industries that call users a load."

The company also talks about the energy users as having a certain amount of flexibility. In terms of the companies understanding of flexibility, energy users could easily move their energy consumption from one period to another for example doing their laundry at night time during the off peak period instead of the day time, where demand for energy is high. People in the energy company use the formulation that the energy company wants "to borrow the energy users' flexibility". The users are in this way seen as either a flexibility problem or having flexibility potential in ensuring the technical setup of the electricity smart grid will work.

A COMPANY PROJECT OF MAKING USERS FLEXIBLE

When Løgstrup was employed in the company a number of people from the central innovation, sales and distribution departments presented her with the company's need "to change the energy users behaviour" in order to make the energy users contribute to the structural setup of the emergent electricity smart grid. Specifically, they wanted her to find out how they could make the private electricity end users willingly participate in the

electricity smart grid and by participation they meant, how they could get the private energy end users permission to shut down their electrical devices during specific periods of the day.

A scenario could be for example that the users allowed the energy company to close down their heat pump during peak hour (typically the time from 5p.m-8 p.m. when the private end user demand for energy is the highest). The private end user's willingness to shut down electricity use during peak times of the day became the focus of a collaborative demonstration project in the innovation department and in the distribution department of the company. The demonstration project was concerned with getting private energy end users to collaborate with the energy company in a way whereby the energy company could use the energy users "flexibility" to balance the energy production with the energy demand side of the system and thereby turn the energy users into a flexible element instead of a load in the system. The project was a demonstration project of the electricity smart grid and the aim of the distribution department was to use the electricity smart grid to save money on distribution cable investments. The innovation department focusing on energy production, distribution and sales on the other hand was interested in the project because it could demonstrate if private energy users were willing to cooperate in the setup of an electricity smart grid. The distribution department described the way to reach their goal as obtaining "energy behaviour change in private households in the demand side of the system". Løgstrup entered the demonstration project with just this aim in the distribution part of the company. However she insisted on changing the word behaviour to a concept of practice.

Behaviour of private end users electricity use was presented by project managers as a linear task where A would lead to B as in a behavioural psychology stimuli/response setup, which is dominant in the energy sector (Mundaca and Neij 2010: 11, Shove 2010: 1277, Strengers 2012: 227). Instead she proposed a concept of practice (Bourdieu 1977 [1972], 1990 [1980], Shove 2010: 471, Strengers 2012: 228) arguing that families have many practices and where their energy use practices are defined as different habits, people in the household are most likely not aware of and may not be interested in changing. As an anthropologist focusing on the relational character of entities and the social while being engaged in an industrial PhD project focusing on the development of the electricity smart grid as a design process, she thought that the demonstration project design had several weaknesses. Løgstrup argued that participants should not be considered as a representative end user but instead be understood as families with roles as husbands, wives, fathers, mothers and children. This suggestion was made based on the argument that energy use is never an individual practice but practices that are produced within social structures such as a family (Strengers 2012: 228).

Her suggestion was not followed. Instead, project participants were selected based upon their interest in the demonstration project. The method used in the project to accomplish behavioural change was to ask participants to commit to different flexibility profiles, which would lead to a controllable demand side of the electricity smart grid. Project participants were not families but one person in the household who had found an interest in the project and volunteered. This person in the household was asked to choose how "flexible" s/he wanted to be, meaning how much control over the households electrical devices s/he wanted to hand over to the energy company to administer in order to avoid an overload of the system and distribution cables.

The project was a success in the sense that the energy company concluded that private energy end users were willing to let the company control their electrical devices to an extent where the company could move the end user's patterns of energy use thus saving money on the energy distribution cables. The energy company also concluded that the private energy users were willing to cooperate with the energy company in designing an electricity smart grid. In this way, it might seem as if the energy company has solved "the private energy user challenge" and changed the users' role in the energy system from being a load to becoming a flexible resource.

THE ENERGY USER CHALLENGE: COMPLEX USER PRACTICES INSTEAD OF FLEXIBILITY PROFILING

During the demonstration project Løgstrup visited five different families where she spent approximately three to five hours with each family learning about how the families related to energy, how they related to the interfaces of the electricity smart grid they had installed; what they thought about the electricity smart grid and how they related to each other according to their energy use. During this period of time she found out that although the families were participating in the project it was unlikely that these families would be interested in using the system in their everyday home environments on a long-term basis. Importantly, she discovered that reliable flexibility profiling would present a challenge for the design of the electricity smart grid and the energy company. This was mainly due to the lack of long-term sustainability of the smart grid design and the limited chances of success outside a project frame. Løgstrup's field visits highlighted that husbands and fathers in the families were the most likely family members to volunteer to be a part of the project and they were also the ones who were the most positive about the 'face' of the electricity smart grid. By the 'face' of the electricity smart grid we are referring to the part of the electricity smart grid that is visible to the users in the demonstration project in opposition to the whole electricity smart grid, which is partly invisible to end users. Also, the fathers were the most likely to be willing to change their everyday practices according to the system. The challenges to the smart grid system surviving in the household context originated mainly from the women/wives/mothers and the children in the families. In the next section we will describe some of these challenges as Løgstrup in the field experienced them.

BALANCING THE ENERGY SYSTEM WHILE UNBALANCING THE FAMILY

While the energy company considers the demonstration project a success according to balancing the energy system what is not taken into consideration by the energy company is the 'unbalance' in the participating families that the demonstration project has created. In the participating families there was one recurring issue between the fathers and the children and occasionally wives about using less electricity. Fathers involved in the project were struggling in daily life to persuade their families to cut down electricity use and act responsibly without wasting energy (not necessarily due to environmental concerns, rather to act responsibly without wasting too much energy). Irresponsible use was a daily annoyance to the fathers

especially if they were not able to influence the other family members with their electricity practices and attitudes about electricity use. In this way the new system was described by other family members as an extension of the fathers' voice reminding them to turn off the light, turn off the television and their computers. One of the wives described how she, on the first night, after the face of the electricity smart grid was installed she had to get up during the night because their baby was crying. When she got to the room she was not able to turn on the light. It turned out that her husband had turned off most of the electricity in the house at the mains before he went to bed, and had forgotten to mention this to his wife. His wife described this as being extremely annoying. Also she became increasingly uncomfortable with the fact that he was able to monitor her use of electricity devices when he was not at home. She said that she liked to have all the lights in the house turned on in the house because it gave a sense of life to the house that she valued. Her husband thought this was a waste of energy both according to the household economy and wider environmental concerns. The demonstration project did more than just absorb time from the family – it also influenced how family members planned and prioritised their activities. In this way, the face of the electricity smart grid was actually instigating family conflicts, which led to the wives vetoing the system.

Some of the wives and children of the participating family units felt surveyed by their husband. As one of the children mentioned his father could now see when he was playing with his computer during the night, when he, according to his father, was supposed to sleeping. The child thought his fathers continued surveillance of his daily activities was an infringement on his personal freedom.

These examples of willingness (or lack of) of household flexibility shows that it is not everybody in the family who wants to be flexible. Moreover it shows that it might be easier to act flexible if you are the one in control of the face of the electricity smart grid. Also you could argue that the wives and children have become accustomed to being 'uncontrolled loads' in the energy system that they see this as their right, which they are not willing to give up unless it is made meaningful to them.

A CASE OF KNOWLEDGE REPRODUCTION

As mentioned previously because of the unidirectional tradition of thinking about the private end users in the energy company, the company has not traditionally been concerned with the role of the energy users according to the company's aim of producing, selling and distributing energy. Now that the relation is changing towards bi-directionality, you could say that the company is blinded by the unidirectional tradition of relating to users. This results in the users not being seen as the core concern of the business. Instead users are seen as playing a small part in the energy distribution value chain and set up of the electricity smart grid system whereby the system informs and dictates user practices instead of the other way around. This became evident in the demonstration project when it became clear that the focus of making "flexibility profiles" was based upon the energy company's aim to maintain control of the energy. The energy company was not interested in getting to know their customers and relate to them in a bidirectional way. Instead they were interested in controlling the energy users' electricity use in order to maintain the control over the

electricity smart grid. It turned out that the change of private end user behaviour, which, Løgstrup had argued against in the demonstration project was an indicator of what the energy company hoped would happen in the future. The distribution department wanted precise numbers to be able to answer to what degree people would be able to or would want to shift existing behaviours of energy use (be flexible) in order to make exact measurements on how this would impact the system. This seems pretty logical from a unidirectional system perspective where the company already decides the structure and character of the electricity smart grid. After all, the distribution company is interested in developing an electricity smart grid that is operational and therefore they have to stabilize the unstable character of private electricity demand and make it more predictable and controllable. This is still the case despite the necessity for a bidirectional relationship to be established between the company and end user in the future design of the electricity smart grid and the distribution department's acknowledgement of the crucial issue of obtaining private end users participation according to the system's operations. The distribution company has become accustomed to thinking in the form of a unidirectional relation where the energy users are loads to the system that a bidirectional way of thinking calls for a knowledge tradition change (Barth 2002). It is therefore not accidental that behaviour is the term that wins influence in the in between paradigms that the energy company is currently facing. Behaviour is the term that is used to account for human actions when you consider this as something that can be controlled or that you aim to control and this is exactly what gives meaning in the unidirectional paradigm - controlling energy users use of electricity. This unidirectional paradigm is present in many energy companies. Traditionally energy companies see energy users as a demand number in a model (Mundaca and Neij 2010: 2, Strengers 2012: 227). Mundaca and Neij (2010) have argued how the energy sector is based on an engineering and economic modeling approach that is lacking important information about private energy use because it focuses primarily upon the quantitative and economic factors related to energy use (Ibid 2010: 5, see also Gunn and Clausen 2013). Instead, they argue that the energy companies' understanding of private energy use should include both qualitative and quantitative approaches (Ibid 2010:12).

The ethnographic contribution in the demonstration project has been limited by the conditions of the unidirectional paradigm with no real concern about understanding private end user practices. This means that ethnographic methods have been used to find out about user requirements for the electricity smart grid and interactions with the face of it in homes. In so doing the company has been hoping to create user willingness to participate in the project. Anthropological reports and subsequent discussions that were produced throughout the project by Løgstrup and external consultants (2010-present), and which introduced a different form of relation between the company and their customers were deliberately overlooked by the company. Their argument being, "that this kind of information is not interesting, and this was not what we asked for when we wanted to involve ethnographic methods in the project". The non-uptake of anthropological knowledge demonstrated that dominant paradigms of unidirectional thinking could not just take in just any kind of knowledge. Instead they could only uptake the kind of knowledge that matched their unidirectional thinking of the users. As such they were reproducing existing ways of conceptualizing innovation and practice in an attempt to do innovation in the company (see

Gunn and Clausen 2013). In this way participation of the users in the demonstration project is limited to end user requirements and technical development needs of the system and the company and is thereby only innovative along existing paths of development (Ibid).

Ethnographic methods are in this way perceived by the company as a tool to persuade and create willingness in private end user behaviour. Demonstration projects thus are more concerned with gaining insights about how to control the users' behaviour than understandings of electricity users everyday use practices. The ethnographic and anthropological contribution in the demonstration project is therefore limited and based on the premises of a predetermined design rather than the premises of the users, ethnographic methods and anthropological methodology (Donovan and Gunn: 2012: 8).

ENTERING INTO THE ANTHROPOLOGICAL DESIGN STUDIO

In parallel with conducting research for the energy company on private end user use of electricity Løgstrup became interested in the way the energy company took up or did not take up end user knowledge and how the demonstration project in the company located end user knowledge in a predetermined system based upon a unidirectional paradigm. Løgstrup entered into another field site (Marcus 1995, 2011) to explore the energy company responses to the private energy user challenge. This parallel collaboration was with researchers from SPIRE - a research centre in participatory innovation at the University of Southern Denmark. The collaboration consisted of: Nelson-Burk, Mosleh and Gunn and a group of twelve interaction design students engaged in a first year course in ethnography within a faculty of engineering. On this background our focus and aim evolved around creating awareness among multiple stakeholders in the energy company that the customers (the private energy end users) are not detached from the company. Rather, they are customers in a specific way based on the character of the relation that the company has to them.

Based on collaborative design activities within the context of The Ting (SPIRE's collaborative designing place) and the first year interactive design student studio, we began to identify ways of addressing the private energy user challenge that consisted of an aim to engage the company in an anthropological reflection toward reframing the relation between the company and the private end user.

THE DESIGN STUDIO PROCESS OF REFRAMING THE COMPANY'S RELATION TO THE USERS

Marilyn Strathern (1995) describes how the relation has been a key concern in anthropology since the mid-20th century. Strathern (1995) explains how the concept of the relation in anthropology historically has developed to include both the person and an abstract idea of a connection (21). It is often with the focus on the relational character of entities that people with an anthropological training enter sites of fieldwork, which is also the case in our example. So when Løgstrup was employed as an anthropologist in the Scandinavian energy company the anthropological concept of the relation influenced her understanding of the worlds of energy production, distribution and sales. In reframing the relation between the company and the private end user, we also build on Gunn and Clausen

(2013), Kjærsgaard and Otto (2012), Kjærsgaard (2013) and Leach and Davis (2012) research. The quality of the concept of reframing is that it pinpoints one of the basic qualities in design anthropology: an ability to make explicit existing frames and definitions of categories in a specific context. In this way the concept of reframing is bound to a learning objective where the goal is to enable the company to learn about their own organization and how wider conditions influence their business models and conceptualizations of innovation.

Reframing is not new in anthropological theory (Bateson 1972: 188, Goffman 1986 [1974]) or in the EPIC community (Venkataramani and Avery 2012). However in our approach to reframing the relation between the company and the private electricity end user we propose differs itself in the way that it is based on a long-term fieldwork in combination with a design aim in a collaborative setup with the company. Here the design studio was an extension of the field site. Our methods include different ways of mapping and generating ethnographic materials. To be more precise, we build and make tangible the intangible potential of reframing the relation through mock-ups of the electricity smart grid and the bi-directional character of the smart grid including how the private energy end users were connected to the grid; and we experiment with different ideas of how private energy end users could become participants in the designing of the electricity smart grid; we map all the differing perspectives about users which are present in the company and have tried to engage this with the everyday experiences of the energy users. In parallel, we explored different ideas of what constitutes employee learning in the company concerning building customer relationships. Design experiments have been used to find different ways of how to make the bi-directional relationship character of the company's relation visible to the company in order to engage them in a reflection that would be meaningful and have effect within the company. At the same time, we discuss how different theoretical and methodological concepts from design and anthropology can inform the discussion and recast our own assumptions about the company's relation to the private energy end user.

DESIGNING FLEXIBLE CATEGORIES INSTEAD OF FLEXIBLE USERS

The energy company uses the word flexibility to describe how they wish private energy users to act in order to obtain the company goal of designing an operational electricity smart grid. When the company talks about borrowing the energy users flexibility they use a formulation as if the company wanted to borrow a cup of sugar, which would be something that the users could easily consider if they wanted to lend their flexibility to the company. At the same time energy users would also be aware of the consequences of lending sugar to the company.

This is not the case however while lending out your own and your family's flexibility (meaning allowing the company to take charge of electricity devices and electricity use in the home at specific times during the day). The borrowing concept implies that you will be given the flexibility back, when the company is no longer using it. But in fact, the company is not just borrowing the families ability to use electricity, they are changing the families' everyday life practices and relations to each other, which is the case when the mother discussed earlier is not able to turn on the light in her baby's room. What the energy company is calling

flexibility you could therefore also call a reformulation of the energy users' free will and choice. Why should the energy users compromise their freedom, change their everyday practices and create conflicts in the family? The amount of money the family would save is so small that it is not a motivation factor. Should the families then be motivated by the company's aim to save money on distribution cables? Although the company is predominantly owned by the Danish state and as such had a public responsibility, this was not something the users valued to the extent where they wanted to make a change in their electricity behaviour. Our argument would be that private energy users could only be motivated if the purpose for participating in the smart grid was meaningful to them in a way where they are considered as partners instead of 'loads' that need to be dealt with on the premises of the system and the company.

Changing habits is not as easy a task as our company seems to imagine. What we suggest therefore is bending the relation instead of bending the users in an anthropological co-analytical process of creating a flexible company scenario instead of creating flexible users. By creating a flexible company scenario we mean making the categorization of the users inside the company as a load tangible. These scenarios have to be recognisable for the company employees who they are intended for, while at the same time they should also contain a condensed meaning that is present in the company and bring to the fore the relational character of the company connection to energy users. From this background we have experimented with different ways of making company scenarios tangible in order to be more accessible to the company employees. We imagined the company scenario to be a part of a company-learning program. 'Balancing the Electricity Smart Grid without Unbalancing the Family', which has provided a theme for a range of company workshops.

In this scenario there is an element of provocation (Sitorus and Buur 2007, Boer 2012) because we as researchers are aware that the company and private end user perspectives are not easily matched, which has become apparent through co-analysis of materials generated through Løgstrup's fieldwork. We have also concluded that some form of provocation is required for the company to reflect critically upon their relation to the energy users because the unidirectional paradigm dominates and underpins the company's organisational structure.

We will, however, add an element of flexibility to the scenario to support the activity as a co-creation activity between researchers and company employees where our intent is not to showcase our analytic result but instead to encourage the employees to do the match or non-match between the user categorisations of the company, the user practices and the bidirectional future themselves.

The idea behind making the energy company scenario is to integrate Marcus's (2008) concept of incompleteness into the design of the reflective tool in order for the company to revise their own user categorisations and move towards ownership of their anthropological insight during the scenario process. Through this exercise our goal is to design an anthropological reflection based upon ethnographic imagining with the various stakeholders about their relation to the users. In this way we have designed a scenario for the company to interact with as part of their own reframing process (Bateson, G. 1972: 191-192). We do not question the overall idea of the sustainable electricity smart grid in itself because there is potential in designing more sustainable energy production and energy use. However, in this

process of designing there exists an innovative potential for a wider range of public agency, and a business potential for alternative energy solutions.

MATERIALS FOR ENGAGEMENT, REFLECTION AND REFRAMING

In the paper we have argued that design has occurred before ethnography during Løgstrup's long-term fieldwork in the energy company and in our collaborative research inquiry. However within design activities in the company and through our collaborative designing activities (including co-analysis) in the design studio anthropological theoretical concepts have played a central role in designing materials for engagement, reflection and reframing. For example Gatt and Ingold's (2013) concept of correspondence and their idea of dialogic products combined with Marcus's (2008) concept of incompleteness has enabled us, as researchers, to design materials for generating anthropological reflection within the company towards reframing the relation (after Strathern 1995) between the company and the private end user.

REFERENCES CITED

Barth, Fredrik.
2002 "An Anthropology of Knowledge." Current Anthropology 43 (1): 1-18.

Bateson, Gregory.
2000 [1972] "A Theory of Play and Fantasy." In *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution and Epistemology*. Pp. 177-193. Chicago: University of Chicago Press.

Boer, Laurens
2012 "How provotypes challenge stakeholder conceptions in innovation projects." PhD Diss., Mads Clausen Institute, University of Southern Denmark.

Bourdieu, Pierre
1977 [1972]. *Outline of a Theory of Practice*. Richard Nice, trans. Cambridge: Cambridge University Press.
1990 [1980] *The Logic of Practice*. Richard Nice, trans. Cambridge: Cambridge University Press.

Buur, Jacob and Larisa Sitorus
2007 "Ethnography as design provocation." In *Ethnographic Praxis in Industry Conference 2007 Proceedings*. Pp. 140-150. Keystone, CO, USA, October 2-6, 2007.

Donovan, Jared and Gunn, Wendy
2012 "Moving from objects to possibilities." In *Design and Anthropology*. W. Gunn and J. Donovan, eds. Pp. 121-134. Farnham: Ashgate.

Farhangi, Hassan
2010 "The path of the smart grid." *Power and Energy Magazine* 8 (1): 18-28.

Geelen, Daphne, Angele Reinders, and David Keyson
Forthcoming "Empowering the end-user in smart rids: Recommendations for the design of products and services." *Energy Policy* 61.

Gellings, Clark.W.
2009 *The Smart Grid: Enabling Energy Efficiency and Demand Response*. Lilburn, GA: Fairmont Press.

Gatt, Caroline and Tim Ingold
Forthcoming "From description to correspondence: Anthropology in real time." In *Design Anthropology: Theory and Practice*. W.Gunn, T. Otto and R.C. Smith, eds. Pp 139-158. London: Bloomsbury.

Goffman, Erving
1986 [1974] *Frame Analysis: An Essay on the Organization of Experience*. London: Harper and Row.

Gunn, Wendy and Christian Clausen
Forthcoming "Conceptions of Innovation and Practice: Designing Indoor Climate." In *Design Anthropology: Theory and Practice*. W.Gunn, T. Otto and R.C. Smith, eds. Pp 159-179. London: Bloomsbury.

2012 "Reframing what innovation could be: Observation, juxtaposition and challenging taken for granted assumptions," Abstract. In *Proceedings of International People Environment Studies Conference*. IAPS 2012, Glasgow, 24-29 June, University of Strathclyde, Scotland.

2012 "What does this mean to industry?" In *Making Indoor Climate: Enabling People's Comfort Practices*. J. Buur, ed. Pp 31-35. Mads Clausen Institute, University of Southern Denmark: Denmark.

Gunn, Wendy and Jared Donovan
2012 "Design anthropology: An introduction." In *Design and Anthropology*. W. Gunn and J. Donovan, eds. Pp 1-16. Farnham: Ashgate.

Kjærsgaard, Mette and Ton Otto
2012 "Anthropological Fieldwork and Designing Potentials" In *Design and Anthropology*. W. Gunn and J. Donovan, eds. Pp 177-191. Farnham, Surrey: Ashgate.

Kjærsgaard, Mette
Forthcoming "Transforming knowledge and design concepts in the design workshop." In *Design Anthropology: Theory and Practice* W. Gunn, T. Otto and R. C. Smith, eds. Pp51-67. London: Bloomsbury.

Leach, James and Richard Davis
2012 "Recognising and translating knowledge: Navigating the political, epistemological, legal and ontological." *Anthropological Forum* 22 (3): 209-223.

Lin, Chen-Chun, Chia-Han Yang, and Joseph Z Shyua
2013 "A comparison of innovation policy in the smart grid industry across the pacific: China and the USA." *Energy Policy* 57: 119-132.

Marcus, George
1995 "Ethnography in/off the world system. The emergence of multi-sited ethnography." In *Annual Review of Anthropology* 24: 95-117.

2008 "How short can fieldwork be?" *Social Anthropology* 15 (3): 353-357.

2011 "Multi-sited ethnography: Five or six things I know about it now." In *Multi-Sited Ethnography: Problems and Possibilities in the Translocation of Research Methods*. S. Coleman and P. von Hellerman, eds. Pp 16-34. London: Routledge.

Massoud, A.S. and B.F.Wollenberg
2005 "Toward a smart grid: power delivery for the 21th century." *Power and Energy Magazine* 3 (5): 34-41.

Mundaca, Luis and Lena Neij
2010 "A meta-analysis of bottom-up ex-ante energy efficiency policy evaluation studies." In *From the Selected Works of Luis Mundaca*. Accessed July 12, 2013. http://works.bepress.com/cgi/viewcontent.cgi?article=1021&context=luis_mundaca.

Shove, Elizabeth
2010 "Beyond the ABC: climate change policy and theories of social change." *Environment and Planning* 42: 1273-1285.

Strathern, Marilyn
1995 *The Relation: Issues in Complexity and Scale*. Cambridge: Prickly Pear Press.

Strengers, Yolande
2012 "Peak electricity demand and social practice theories: reframing the role of change agents in the energy sector." *Energy Policy* 44: 226-234.

Venkataramani, Arvind and Christopher Avery
2012 "Framed by Experience: From user experience to strategic incitement." In *Ethnographic Praxis in Industry Conference 2012 Proceedings*. Pp 278–295. October 14-17, 2012, Savannah College of Art and Design.

Verbong, Geert P.J., Sjouke Beemsterboerand Frans Sengers
2013 "Smart grids or smart users? Involving users in developing a low carbon electricity economy." *Energy Policy* 52: 117-125.

Mobility is more than a device: Understanding complexity in Health Care with ethnography

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This case study on mobility in health care demonstrates how ethnography and design research helped Intel meet the business challenge of redressing market share. Ethnography enabled the team to assess the interplay between mobile devices and other hospital technologies, understand how they fit within or subverted existing practices, and document positive and negative features of the technology. Our deliverables not only answered the direct business question, but also expanded the scope of possible solutions.

INTRODUCTION

Current state of health care transitions and the impact on the relevance of ethnographic methods

Throughout the world, health care is in a state of flux. New technologies have enabled lives to be saved and bodies to be mended in ways that were unimaginable only a few decades ago. Simultaneously, the influx of new technologies has created inefficiencies that frustrate clinicians and obstruct patient care. Research by Intel and others in health care has shown that when computing devices are not at the point-of-care (i.e. the patient's bedside), clinicians either resort to writing notes on paper and later entering the data in formal systems, or keeping this information in their heads until they are able to access a computer for data entry. Because of lack of point-of-care computing, clinicians walk up to five miles per day just to enter information into centralized computers (Shepley and Davies 2003) and spend up to a third of their day documenting patient information (Weigl et al. 2009; Hendrich et al. 2008).

In the complex and rapidly changing health care ecosystem, ethnographic methods are uniquely able to illuminate not just how individuals act, what motivates them, why and how they feel, but also how actors' interactions are shaped by the context. These interactions

offer additional insight into the complexities of health care environments when visualized and processed with user experience design tools that represent information symbolically, and take a holistic overview on the studied phenomena. This helps to build an understanding which can inspire software solutions to some of the most common pitfalls regarding information communication and storage.

New health care phenomena: The motivations for the project

The rapid adoption of mobile devices, in particular, consumer-oriented tablets and smartphones, by health care practitioners in clinical settings was a driving force behind the research we describe in this paper. In their personal lives, health professionals were having positive experiences with computing devices, such as access to information when and where needed, apps to help with specific tasks and simple usages like capturing images and voice for professional usage. It seems natural that they would start to import their experiences from the personal to the professional setting.

Industry reports and other studies conducted by Intel[1] in health care settings showed that the easy mobility people were experiencing as private consumers was not being matched in most clinical settings, especially hospitals, where stationary workstations were the norm. "Mobility" was still being defined as a computer atop a cumbersome, heavy, purpose-built cart, appropriately called a COW (computer on wheels). Even ultra-mobile clinicians, such as home health providers, were relying on laptops that were heavy, slow, and short on battery life.

The size of popular consumer tablets is well-suited to health care environments. They approximate the size of a paper patient chart, have a well-developed ecosystem of applications, a handy user interface (particularly the iPad), and industry-leading battery life. A significant portion of tablet uptake was being driven by doctors who were bringing their own devices into hospitals. Intel clients began reporting that the Bring Your Own Device (BYOD) phenomenon was taxing hospital IT management resources and creating concerns about information security.

To understand the roles that these consumer devices were playing in the clinical environment in the midst of their rapid uptake, Intel sought to build a strategy to refresh an understanding of clinician values balanced against infrastructure needs of hospitals, and to design solutions that would work for health care professionals and their environments. Key issues included how new devices were addressing (or not) known issues around security, manageability, infection control, and interaction with legacy systems.

OBJECTIVES AND PREPARATIONS

The project impetus came from Intel's Health Strategy and Solutions (HSS) group, an internal organization focused on clinical applications of technology. The plan included three strategic components: go-to-market, user experience, and incubation of new ideas to reinvigorate Intel's role in the health care market. The study objectives were to investigate

[1] Proprietary to Intel.

current behaviors and contexts around mobility in the health care system, and to understand how to best implement the new but unproven Windows 8 operating system on tablets in the predominantly Windows health care sector. To supplement this research, the Intel team compiled existing internal research on clinician workflows and technology needs.

The Intel project team was headed by TH, an expert cultural anthropologist, experienced in leading large-scale, international ethnographic and design studies. NV, a medical anthropologist on the HSS team, provided contextual expertise. Because of the large scope and tight timeframe of the project, it was evident from the start that Intel would need to engage consultants in order to conduct the research within the required timeframe. The consultancy selected was Experientia - a globally operating user experience design consultancy, with experience in the health care field.

During the kick off meeting between Intel and Experientia, the team members presented their expertise and priorities in an upfront and transparent manner. Possible scenarios and alternative plans were outlined in case certain methodologies did not fit within the research framework. Finally, the meeting allowed for all team members to clarify their expectations regarding the project goals. The benefit of this carefully curated kick-off meeting was a feeling of team cohesiveness and mutual respect that set the tone for the entire project. This kind of chemistry also involves luck, of course, but can be fostered by building time into projects to create understanding and shared perspectives. For this project, it allowed a strong consensus on methodology, which became one of the key strengths of the project, and later developed into a continued environment of open sharing between the research teams and the design and engineering teams.

UNDERSTANDING THE EMOTIONAL CONTEXTS OF HEALTH CARE: METHODOLOGY

From the start, Experientia and Intel agreed that it was important that the methodology explore the emotional aspects of health care professionals' work. The team was aware that hospitals are necessarily bureaucratic, and that the nuances of "caring for ill people" can frequently be overlooked in exploring something as seemingly procedural as how technology facilitates workflows.

The research objective was therefore deliberately described in a broad way ("How are the technologies being used at hospitals?"), so that the health care environment could be explored far beyond the digital reality. In addition, a flexible approach to the fieldwork structure and the broad scope of final deliverables made it possible for both research and design paths to freely develop and coexist.

The Balancing act of Anthropology in the hospital environment

The methods traditionally applied by anthropologists in the medical context have been challenged by many social scientists. As Long states "particularly with regard to pain and suffering, we [anthropologists] should be cautious and critical towards our achievements," (Long et al. 2008:75).

Anthropologists need to be aware of the limitations of their practice inside hospitals, how the presence of "researchers" influences this environment and how it impacts the idea of participatory observation taking place in the field. Considering these limitations, the team ensured a highly flexible and open research framework, adapting activities to accommodate such things as participant schedules and requirements. This created a fertile research ground, which was able to avoid roadblocks that might have otherwise impacted the quality of the research. To again quote Long, "The power of ethnography lies in its modesty and awareness of the incompleteness," (Long et al. 2008:75).

In an influential book "Technology and Medical Practice" (Heath et al. 2003), Christian Heath emphasized that anthropological research in health care should concentrate on (a) the influence of 'local culture' surrounding the usage of technology, (b) practical circumstances of the environment and (c) the prominence of objects and artifacts in conducting and influencing medical interactions. It must do this despite methodological challenges posed by an unpredictable environment, with fluctuating timeframes and tasks, and while remaining sensitive to the nature of patient care and privacy.

Exploring which elements impact the environment — The research covered a broad spectrum of what creates the context itself. It focused on the aspects described by Heath - local health care culture(s), specific hospital environments and person-device-person interactions. Motivated by Intel's specific desire to understand the niche for future devices or services, it also explored the usability of the technology itself. While the look and feel of a specific device influences the doctor-patient interaction, its technical functions and physical portability are important in storing and conveying doctors' expertise. In other words, the technology becomes an extension of the doctoring profession and a representation of doctors' knowledge. Trust towards technology is crucial for doctors to efficiently delegate some of their daily tasks to an external device (Future of Health care, O'Reilly webinar, 2013). The higher the reliability of the tool, the smoother the transmission of knowledge and the lower the user's learning curve. The reliability of tools when doctors are mobile inside the hospital, the circulation of information, people, objects, and devices in the system, and solutions to support these, constituted important aspects of the research environment.

The research aimed at exploring transnational phenomena, exploring the hospital environments in four countries - China, US, UK and Germany - through extensive observation sessions in the hospital, including morning rounds; practitioner interviews, simple observation in public spaces; and highly immersive participatory design sessions in each of the locations. The research was kept significantly flexible. Nevertheless, hospital regulations vary among countries, which can result in less structurally coherent research across contexts. Considering ethnographic fieldwork as an "open-ended emergent learning process" which is highly creative and flexible (Whitehead 2005) and which aims to discover a "non-constant" culture, such complexities are a natural outcome and are an important insight into the broader culture of the studied environment.

In this respect, collaboration with the health care professionals was an important part of navigating the numerous encounters and interactions of the complex hospital environment. Bardram describes collaboration as an important aspect of the hospital per se, because it influences doctors' workflow, mobility and efficiency (Bardram and Bossen 2005). In fact,

the complexities encountered in designing and conducting the research reflected the complexities of the hospital environment itself, creating a commonality between the doctors' and the ethnographers' experiences: "Collaborative work is enacted in space as well as in time, which becomes significant on close analysis of what takes place," (Bardram and Bossen 2005:158). This reflection became a prevalent aspect of both the fieldwork and analysis phases.

Immersion within the environment, to the extent allowed by the institutions and in a way following and inspiring participant engagement, helped to gather findings that touch upon the broader cultural context, specific hospital environments, the role the existing hospital technology plays in the hospital interactions and its usability. However, the complexities of the hospital environment involve an additional aspect, which transcends the functional completion of daily tasks: this is the element at the heart of the experience –the patient.

Exploring which elements impact patient care — The nature of hospital life, with particular regards to ethnographic research, has been described as representing "a condensation and intensification of life in general," (Long et al. 2008:73). Health care environments require additional sensitivity from researchers, as the focus of medical environments – providing care – also needs to become an undisputable priority for the research teams. "It is a delicate relationship [between anthropology and health care] requiring much sensitive nurturing," (Long et al. 2008:71). Some academics believe that, due to medicine's strong ethical and power significance, providing care becomes part of an immaterial environment - similar, for example, to religion - that should be kept outside of the "simple", mundane world (Foucault 1971; Miller 2005). These two realities - regular and immaterial - do not theoretically intermingle and collide, making it difficult for researchers without a medical background to enter hospitals, or, if they do, to make sense of it. Getting adequately ready for the field research and being equipped with tools that can trigger abstract/creative thinking among the participants can help both the UX professionals and those responsible for implementing technologies in hospitals build an accurate understanding of how the material reality can support the "immaterial" layer of the hospital and vice versa.

Building this kind of intricate understanding is difficult in a context that requires a lot of time for sense-making for outsiders. This is particularly true in the commercial world, where short timelines do not provide corporate UX researchers with an opportunity to immerse themselves in the context the way that academics would. To overcome this barrier, the team conducted extensive desk research preceding the fieldwork, equipping them with necessary knowledge of the environment. The researchers, with this preliminary knowledge of the situations they were immersed in, had the opportunity to become valuable conversation partners for the doctors, IT professionals and the medical body as a whole. They were able to "reflect in action" (Schön 1983) - consciously modifying the fieldwork priorities on the spot and not missing any important threads for the person at the focus of the research. This recognized that providing care is not just about the systems and tools in use. It is also – or even mainly - about discovering the emotional states of health care professionals in their

work contexts, and their opportunity to feel that their opinions are respected and their views are heard with empathy and understanding.

This combination of exploring environmental factors while acknowledging people factors created a well-rounded research approach. The two pillars of collaboration with professionals and the immaterial layer of the hospital formed a solid basis for understanding how devices could support health care professionals in their work tasks, both functionally and emotionally. Nevertheless, it was only with the support of participatory design tools that the ethnographers could discover what was invisible to an observing research eye.

Triggering Creativity: Tools used during the research and design

Selecting effective tools for research — The decision to use participatory design tools stemmed from the shared belief that professionals practicing in such complex and dynamic environments possessed tacit knowledge not easily acquired solely through ethnography. Prompted by ethnographic inquiry, medical professionals could speak about their daily tasks and responsibilities, and contextual observations would yield researchers' own takes on what these responsibilities implied. However, the personal tacit knowledge, a dense invisible layer swirling through the medical environments, could not be easily transmitted to researchers through speech or text. It was hypothesized that this knowledge could be discovered – and somehow recorded – by engaging medical professionals in doing and in playing (Greenbaum and Kyng 1991). The combination of methods ensured that the team accessed the subjective realities of doctors through participatory design, and anchored it with the objectivity of the other ethnographic methods.

Admittedly, the combination of in-depth desk research, contextual inquiry and environmental observations, and cooperative sense-making activities is a common professional practice. Yet it is the cross-pollination and effective joint application of these methodologies that gets to the heart of designing for the future and not for the now. In tight timeframes, it is tempting to sacrifice a research component to save time, but in this case the team was in firm agreement that each component was critical to the success of the project, and that the ethnography and participatory recipe emphasized "the content, not the chrome" (Bassett and Partners 2012). The team agreed that people's future interactions with technology do not merely lie in competitive device-wars, but in providing user-centered services which are self-sustaining and adaptable. Understanding real-world practice to design an effective work-oriented tool (Ehn 1990) that doctors can actually trust is vital to not only compete but lead.

Through Intel's previous research, researchers and designers were aware of the alternative solutions that physicians resort to as a result of computing devices away from points of care (e.g. transcribing information on paper to later transfer to patients' EMRs). But the emotions connected to these workarounds were still unknown. Comprehending the emotional effects of technological interactions would help the team determine which emotions to foster and which ones to avoid within future mobile point of care devices.

Unlike designing user flows for other environments, health care – which involves multiple inputs and outputs – requires thinking "more about patterns of desired outcomes and behaviors [...] rather than just moving the user through one flow or one experience"

(Basset and Partners [video] 2012). Experientia therefore considered medical professionals' journeys as similar to user-centered customer journeys, in which the user touchpoints are health care interaction points, procedures and operating parameters.

The participatory workshop activities were designed to try and grasp the beyond-the-obvious interaction points, and particularly how physicians would like to interact with them during their day. Additionally, the aim was to obtain artifacts that captured the emotional perspective and were also comparable cross-country and cross-institution. It was further believed that engaging participants in visualization exercises of their daily experience, with definitive markers (or touchpoints), would be a guiding force in designing a solution to fit inside existing habits and workflows – not replace them. The participatory design protocol placed great emphasis on visual engagement, carefully flowing from more direct and rational activities to more abstract and emotionally engaging ones.

The finalization of workshop activities was greatly nurtured by referencing servicedesigntools.org, an expertise sharing platform. There, researchers found a gamified customer journey mapping activity originally designed for a transportation project (Kahn and Tallec 2011). A common roadblock within the participatory design field, and within the emerging field of service design, is the difficulty of finding useful information on employed methodologies. Practitioners have been focused on 'doing' rather than transcribing (Slocum 2003) their process and are sometimes also bound from sharing their knowledge and expertise by organizational and business policies. However, accessing such resources provides great value both from an expertise point of view as well as a financial one: to find the right approach might have taken researchers additional time, which translates to billable hours. In the design of mobile interactions, tightening the collaborative weave between diverse fields and even organizations can be beneficial to both the development of responsive services and the evolution of participatory and service design fields.

Although the original context of the activity differed, the customer journey roadmap was adapted to the health care context. Its inherently strong visual components created a common language between researchers, designers and health care professionals that transcended individual unsystematic and unquantifiable experiences *and* rendered the walled intricacies of the health care environment clear to the foreign spectator. The hospital journey activity also created a common language in which to synthesize information amongst the four countries, as words were replaced by icons.

Initially, participants were subtly encouraged to individually express feelings towards their varied hospital experiences and interactions by linking touchpoints to the emotions they generated. In later phases of the activity, they were encouraged to share these experiences with the group, revealing a plethora of previously unmentioned (or possibly unknown) mental states. The activity focused on the user as the primary, and most important, actor, and helped researchers and designers dissect the health care paradigm into smaller, more manageable human-scaled, empathy-building experiences. Activity results not only verified Intel's previous research but also expanded upon them as participants were not limited to speaking solely about technology– rather technology and the devices used during their day (not only at work) were represented as facets of people's multi-dimensional experiences. Notably, shifting attention to daily intra- and inter-personal interactions and the mapping of people, technologies and emotions in this context provided valuable input with

regards to the larger hospital network, creating clarity into how disparate hospital spokes intersected to create a connected and pulsating hub.

Another workshop activity was based on Buxton's "Wizard of Oz" principles (Buxton 2007). Participants were asked to role-play a typical health care interaction, such as between a doctor and patient, and describe how an ideal mobile point of care device could transform this experience. The device was also part of the role-play, personified by one of the participants themselves. The role-play adhered to Buxton's principles: 1. It is fidelity of the experience, not the fidelity of the [...] technology that is important from the perspective of ideation and early design, and 2. We can use anything that we want to conjure up such experiences (Buxton 2007:239).

Activity results explicitly demonstrated physicians' needs, as there were no qualms involved when they were delegating requests or asking for information from a device. Researchers discovered that physicians, above all else, longed to trust a digital tool, but were reluctant to, because of previous experiences with device and service discontinuity. This shows how vital trusted interaction with a tool is to specialists who must delegate their expertise to a non-human device. A key take-away for designers was to design flows that built trust and confidence, beyond merely fulfilling orders.

Transferring Insights from Researchers to Designers and Engineers — The principles used to design the final digital deliverable were based around 5 emergent research themes, encapsulating the four countries' insights. These were presented by the research and analysis team to Intel's extended research, engineering and design team. However, designing a responsive and quickly adaptive interaction flow required the designers to have a clear understanding of all of the possible physician interactions, which goes beyond a mere outlining of research themes and findings.

To fully visualize all the players in the system, and the relevant back-end (software and programming) and front-end (interaction and user interface) challenges, a system blueprint was created, to translate across disciplinary language boundaries and create transparency between all involved teams. This common visual tool led to transdisciplinarity – the point where field-specific boundaries are surpassed so that sharing, teaching and learning happen freely (van Zyl 2007). Iterative workshops involving Intel's engineers presented researchers and designers with empathy building and knowledge sharing opportunities regarding each group's vested interests. In cases where designers needed a medical consultant, physicians from Experientia's and Intel's extended professional networks, as well as researchers who had participated in fieldwork, became important points of reference. In this way, the interaction flows that began to emerge from the design phase were reactive and "alive", and even offered additional offline touchpoints to complement the service system.

Bardram and Bossen (2005) describes four factors that influence the need for doctor mobility: necessity of using shared resources, being in specific places, accessing knowledge, and being in contact with specific people. By integrating this kind of information, we conducted an additional analysis of doctors' daily lives, with all the people, objects, places, devices, tasks, roles, activities and emotions present in their daily routine combined. In the "day in the life" analysis we saw how far away from regular routine the doctors' days are and how little time is given to their "immaterial" task in an uninterrupted way - providing care.

The ultimate translation of the data into design solutions followed a close collaboration between researchers and designers. The team delivered a "thick" video prototype of a possible service proposition that responded to doctors' multiple roles, tasks and environments and coexisted with the devices already present in the institution. The concept acknowledged all the present constraints in the American health care system (as the context most immediately relevant to Intel) and represented a solution that is close to "here and now", rather than situated in a distant future.

The final deliverable was also informed by the stakeholder and business challenges encountered by ethnographers in the field. Being present during actual medical procedures and observing situations involving drug administering protocols and the reverberations felt by physicians and billing/pharmacy departments, helped to create a realistic model for the digital tool. The final design incorporated interactive flows that were not merely dreamy best-case scenarios, but responded to the nitty-gritty inherent problems within the business of health care. This reinforced trust in the tool and exemplified how user-centered development could trigger the development of other supportive technologies.

RESEARCH DISCUSSION

In this section, we share several insights which we feel are fundamental to understanding the value of this project (without sharing Intel's proprietary outcomes from the research). We also draw conclusions about the fit between the methodology chosen and the research environment. While the research insights can only be applied to highly specific interactions, the methodology conclusions are applicable to any kind of research happening in health care institutions, and possibly extendable to other similar contexts in which privacy, professional secrecy and particular sensitivities create a strongly closed research environment.

Research insights

Long (Long et al. 2008) calls for the use of anthropological insight for a broad range of people involved in the environment, including nurses, health managers, allied clinicians, patients' families and support groups. Doctor and patient experience is impacted on, to various degrees, by all players. A holistic picture can only be created if these roles are also included in the research to some extent. Our team employed methodologies that revealed the context of use of all the agents involved - including systems, people, technologies and tools. What we discovered was a lack of common ground where all these intermediaries could interact and support the doctors in fulfilling their tasks and the patients in undergoing their treatments. Through confronting information coming from observation, interviews and participatory design activities, we could grasp these inconsistencies and the amount of double work they cause.

We discovered that inconsistencies, duplications and redundant steps in the workflow strongly impact the clinicians' performance at work and cause disruptions to the time they should be spending with their patients. The number of technologies implemented in health care causes "invisible work" (Nardi and Engeström 1999) and effort to users and - usually -

resistance towards further adoption. New technology solutions often do not give doctors proper access to the information they need, and implementation processes focus on establishing guidelines to address privacy and security concerns, which does not reflect doctors' needs when providing care. In addition, many electronic medical record systems were designed to facilitate tracking and billing of discrete services, and not to provide a holistic view of patient or population-based information.

This lack of effective access to patient information due to fragmented systems and ineffective mobile access is heightened by inefficient communication tools among the medical crew - making the information not only invisible but also untraceable. As a result, the doctors find the systems they must use unhelpful and sometimes unreliable, and often rely on their own tools and strategies to more effectively obtain the information they need.

Methodology Conclusions

UX research in hospitals is continuously increasing, as technologies used by doctors continue to proliferate. We found that medical practitioners were eager to talk about the more personal and emotional aspects of their work, but are rarely given the opportunity, as research conducted in hospitals often focuses on the technical and procedural elements of doctors' work. From the hospital administration perspective, this evolution of collaborative UX research and the medical domain is definitely beneficial, which still needs to be widely acknowledged. By providing access to their staff and systems, the institution can gain an external perspective on making health care services more efficient, and how and where to invest money in technological support.

In order to increase accessibility to the hospital environment and for collaboration between UX researchers and institutions to become more effective, ethical guidelines of what can and cannot be accessed during the research should be properly outlined, across cultures. Research that focuses on the efficiency of doctors' workflows and does not relate to medical diagnoses and treatment should be distinguished from other kinds of studies, and different accessibility rules could apply. During the described research, the researchers were confronted with a highly unsettled situation in one of the hospitals, which symbolized the insecurities of both the research participants and the institutions involved on what was expected from them. The idea of a "workshop" involving multiple members of staff at the same time was misinterpreted by the administrative body and led to a challenging situation for the researchers who had to tailor the activities to the new reality. Increased openness from all parties would surely help to alleviate and avoid these kinds of issues.

UX projects taking place in hospitals help to build a library of adequate research tools, learn more about the constraints of the environment, and discover ways of benefiting from its own limitations. A broad scope of methodologies applied by researchers in a constrained environment, including traditional ethnography and highly immersive participatory design sessions opens up possibilities for inspiration and encourages transdisciplinary solutions. Following Long, "As anthropologists increasingly gain access within hospitals, and as clinicians and health managers increasingly engage with ethnographers, we will continue to hone our tools for engaging in and applying ethnography in hospitals," (Long et al. 2008:76).

IMPLEMENTATION OF THE INSIGHTS INTO INTEL'S PROCESSES

Data from this study kick-started an mHealth incubation process aimed at creating and prototyping new solutions for health care. Incubation efforts (at Intel/HSS) standardly apply a model that combines expertise/information from Business, User and Technology perspectives (BUT model). Whereas the "B" or the "T" often predominates in the incubation process, in mHealth, the wealth of information available from the user perspective meant that the "U" led and remained a dominant force in the identification, the filtering, and the development of incubation projects. The user needs and contexts identified from the data are the yardstick for measuring the incubation concept as it moves through prototyping, validation and piloting.

Internally, Intel has used data from the study to influence the work of business units that are not usually involved in health care. In some cases, this has spurred incubation of new product concepts. In others, this information has given business units new users and usages for their devices, features and products. In still other cases, it has highlighted the complex requirements of clinicians, ensuring that they are included in feature roadmaps. Ultimately, the project has also become exemplary for how ethnographic insight can be used to generate use cases and technical requirements.

Business relationship managers and Business Development Managers (BDMs) have been able to use insights from the study to build "trusted advisor" status with health care customers while at the same time helping to document a willingness to participate in future studies. User stories help them demonstrate the company's awareness of the health care environment, as well as the back-end needs of enterprise-level IT environments. Go-to-market sales activities use these stories to demonstrate how existing products can meet individual and enterprise needs. The Intel team continues to mine the study data for new insights.

NEXT STEPS

While innovation in health care involves creation of devices that are both enterprise and user friendly, and which meet the specific needs and demands of clinical end users, innovation does not involve devices alone. Innovation involves holistic implementation of technologies and services so that clinicians can focus on the patient and on providing care. This must also support analytics that allow clinicians to rapidly make sense of multiple, single patient data inputs as well as massive population-based databases. Medical analytics are a clear opportunity space, but at present are hampered by conflicting technical and social standards.

Holistic implementation needs to acknowledge two main things. The first is that hospital environments cannot be boiled down to technical workflows - because they deal with something as emotional as people and patient care, research and resulting solutions must take that aspect into account. This can be achieved by carefully crafting research methodology, preparing the researchers for the challenges posed by the "immateriality" of the medical context and by close collaboration between the researchers and the designers.

Secondly, because workflows are incredibly complex, UX has to take a hospital-wide approach. "Tacking on" a device to an existing system has previously resulted in bloated and inconsistent frameworks. At the same time, if development focuses on creating a device to solve all problems, without taking into consideration existing technologies and existing workflows, the device is bound to fail. The challenge for UX design is to bridge existing fragmented solutions into something more coherent (so that billing and patient care are not in conflict, for example), without simply add new modules onto existing and inefficient systems. Extending the UX knowledge database through extensive desk research before departing for the field is crucial to facilitating the creation of a realistic final concept that fits into the existing ecosystem of the hospital.

In this project, combining ethnographic and design research enabled the team to create actionable outputs - personas, day in the life, opportunity maps - that make the results actionable for a broad audience of stakeholders across Intel. This is a key step in creating innovation that fully addresses research insights, and has complete buy-in not just from the hospital stakeholders, but also from all the people within the design process. This buy-in is a strength of the project, and in turn, strengthens the process, making user research, design and engineering into a truly integrated process, with fully aligned approaches.

REFERENCES CITED

Bardram, Jakob and Claus Bossen
2005 "Mobility Work: The Spatial Dimension of Collaboration at a Hospital." *Computer Supported Cooperative Work* 14 (2): 131–160.

Buxton, Bill
2007 *Sketching User Experience*. Burlington: Kaufmann.

Ciborra, Claudio
1996 "The platform organization: Recombining strategies, structures, and surprises." *Organization Science* 7 (2): 103-118.

Ehn, Pelle
1990 *Work-Oriented Design of Computer Artifacts*. Mahwah: Lawrence Erlbaum Associates.

Foucault, Michel
1971 *Discipline and Punish: The Birth of the Prison*. New York: Random House.

Goffman, Erving
1965 *Asylums*. New York: Anchor.

Greenbaum, Joan and Morten Kyng
1991 *Design at work: Cooperative design of computer systems*. Mahwah: Lawrence Erlbaum Associates.

Heath, Christian, Paul Luff, and Marcus Sanchez Svensson
2003 "Technology and Medical practice." *Sociology of Health and Illness* 25: 75-96.

Lenkeit, Roberta
2008 *Introducing Cultural Anthropology*. New York: McGraw-Hill.

Long, Debbie, Cynthia Hunter, and Sjaak Van der Geest
2008 "When the field is a ward or a clinic: Hospital ethnography." *Anthropology and Medicine* 15 (2): 71-78. London: Routledge.

Miller, Daniel
2005 *Materiality*. London: Routledge.

Nardi, Bonnie and Yrjö Engeström
1999 "A Web on the Wind: The Structure of Invisible Work." *Computer Supported Cooperative Work* 8 (1-2): 1-8.

Schön, Donald
1983 *The Reflective Practitioner, How Professionals Think In Action*. New York: Basic Books.

Weigl, Matthias, Andreas Mùller,, Andrea Zupanc, and Peter Angerer
2009 "Participant observation of time allocation, direct patient contact and simultaneous activities in hospital physicians." *BMC Health Services Research* 9. London: BioMed Central.

WEB RESOURCES

Bassett & Partners
2012 "Connecting." *Corporate Guerilla Video*. Accessed 30 July 2013. http://corporateguerrillavideo.com/?p=125.

Hendrich, Ann, Marilyn P. Chow, Boguslaw A. Skierczynski, and Lu Zhenqiang
2008 "36 hospital time and motion study: How do medical-surgical nurses spend their time?" *Permanente Journal* 12 (3): 25–34. Accessed 30 July 2013. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3037121/.

Kahn, Paul and Christophe Tallec
2011 "Customer Journey Mapping Game." *Service Design Tools*. Accessed 30 July 2013. http://servicedesigntools.org/tools/8.

Shepley, Mardelle McCuskey
2003 "Nursing Unit Configuration and Its Relationship to Noise and Nurse Walking Behavior: An AIDS/HIV Unit Case Study." *AIA Academic Journal* 6. Accessed 30 July 2013. www.aia.org/groups/aia/documents/pdf/aiab090850.pdf.

Slocum, Nikki
2003 *Participatory Methods Toolkit. A practitioner's manual.* Accessed 30 July 2013. http://archive.unu.edu/hq/library/Collection/PDF_files/CRIS/PMT.pdf.

Whitehead, Tony
2005 "Basic Classical Ethnographic Research Methods." In *Ethnographically Informed Community and Cultural Assessment Research Systems Working Paper Series.* University of Maryland. Accessed 30 July 2013. http://www.cusag.umd.edu/documents/WorkingPapers/ClassicalEthnoMethods.pdf.

WEB RESOURCES

Bassett & Partners
2012 "Connecting." *Corporate Guerilla Video.* Accessed 30 July 2013. http://corporateguerrillavideo.com/?p=125.

Ethnographic findings in the organizational theatre

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In the quest for engaging ethnographic insight in organizations on a more fundamental level than mere 'innovation drivers', theatre offers ways of triggering a change in conversations through emotional engagement. This paper discusses the impact of using theatre with professional actors to convey the outcome of ethnographic 'user studies' to industry and academia. In a project on indoor climate control with five company partners, the field studies brought about controversial findings, like 'Indoor comfort is what people make' – as opposed to something fully controlled by technology and 'provided' to inhabitants. We explore how theatre improvisation can convey such findings and thus support the provoking role that ethnography may play in organizations. Based on the study of two theatre sessions, we will articulate the importance of balance between playful and serious, of explorative discussion, and of supportive event planning and space layout to achieve audience engagement.

INTRODUCTION

Design ethnography has explored appropriate ways of conveying the outcomes of user studies (Anderson 1994; Jones 2006). User research is expected to deliver actionable outcomes and provide insights that organizations can feed into their innovation processes (Buur & Matthews 2008). The chosen format to convey those findings has often been seen as 'representations', containing an 'ethnographic message' that entails some measure of provocation to the expected audience. Far from just collecting 'user needs', ethnographic studies may uncover that users say and do things that a company may not like to hear, as these observations challenge perceptions of self and company identity (Buur & Sitorus 2007). Because this itself can trigger innovation, such ethnographic messages need thoughtful preparation, to make them readily understood and acted upon within their specific context. This discussion within design ethnography has explored numerous representation formats, such as *personas* and *scenarios* in both academia and industry (Cooper 2004; Boyarski & Buchanan 1994). Diggins and Tolmie (2003) articulate a series of 'organizational features' (e.g. form, use and embeddedness) that they elaborate as observations, warnings and strategies for practitioners to consider when creating representations of ethnographic outcomes. Jones (2006) argues that *experience models* – diagrams that convey a dilemma embedded in use practice – can optimize the communication of ethnographic results. However, such representations 'can also become reified stereotypes and constraints that inhibit design possibilities' (Blomberg & Burrell 2008: 982). Ylirisku and Buur (2007: 92) encourage the use of *video material* to bridge and even merge ethnographic fieldwork and design, claiming that 'video preserves action in a sensitive

and detailed fashion in relation to what originally happened'. This paper will investigate the use of *theatre* to convey results of ethnographic user studies to organizations. Rather than proposing yet another representation – one that purports to meet all challenges – we suggest that each project, with its own context and stakeholders, warrants specific ways of representing what was revealed during the fieldwork. This may be one of the representations mentioned above, a combination of some of them, or something completely different. Success depends upon how well the chosen representation fits the specific context, and how the design ethnographers manage to engage the project stakeholders with the material.

The context of this study is a project between five company partners within indoor climate control and two universities in Denmark. As the university partner, our role was to carry out ethnographic studies of how people perceive indoor climate comfort and how they seek comfort in their home environments. Over the course of three days, our researchers were participant-observers in the homes of five families and also following one parent along to work and one child to kindergarten. We uncovered that people think and act quite differently from what the company partners expected. We described two of the controversial findings with the headings '*Indoor comfort is what people make*' (as opposed to something fully controlled by technology) and '*Indoor comfort is about social relations*' (as opposed to an individual value scale to be determined by climate chamber experiments). These ethnographic studies were followed by the design of a series of *provotypes* (Boer & Donovan 2012; artefacts devised to challenge the informants' and the company partners' understandings of indoor climate systems), then by the development of products that support people in managing indoor climate themselves. The project findings were first shared with a wider audience of indoor climate researchers and practitioners at a 2011symposium on 'Zero Energy Buildings'. Having seen how difficult it was for the project partners to accept the ethnographic message, the project team decided to use theatre at this event to generate discussion among the expert participants about people's 'indoor climate practices'. With the actors, we prepared three scripted scenes to convey what the researchers had observed in homes, kindergartens and offices; these were acted out as discussion starters at the event. A detailed analysis of that session helped us identify ways to foster audience engagement, which helped us greatly when planning a later event at which the same three scenes would be enacted for a different audience.

THEATRE IN DESIGN

Since the early 1990s, there has been increasing interest in using performance to help design interactive systems. Role-play has been extensively explored in the early stages of both academic and industrial design projects. This technique typically aims at providing user perspective on new technical solutions through informal, improvised acting of use scenarios. Burns et al. (1994) suggest that performance can help designers by activating imagination; facilitating empathy with users; communicating within and outside their team; and encouraging less self-conscious contributions. They improvised team role-plays to trigger discussion and evaluation of early design ideas, in sessions that they call 'informance design'. Sato and Salvador incorporated professional actors in their method 'focus troupes' to engage an audience in a richer conversation about design concepts and with sketches based on

ethnographic studies. They also identified that the presence of designers can help to 'facilitate the session rather than fostering an unrelated conversation' (Sato & Salvador 1999: 37). They proposed a number of techniques that can be used for product development, and recognized that such sessions are not always organized to evaluate specific ideas but can also be exploratory, to provide insights before the actual design process starts. Svanæs and Seland (2004) propose a workshop setup in which users take the main role, observed by designers and developers.

Indeed, by offering the audience an opportunity to actively contribute throughout the session (Sato & Salvador 1999), performances can play a transcendent role in eliciting knowledge that would not otherwise emerge (Iacucci et al. 2002). In their review of past studies on performances within the user experience, participatory design and embodied interaction areas, Macaulay et al. (2006: 951) point at the improvement of 'quality and utility dialogue within design' and suggest that ethnography is capable of shifting discussion in that direction. Buur and Sitorus (2007) similarly point to the unique ability of ethnography to challenge conflicting conceptions within organizations, and argue for new representations of ethnographic material. We find this well aligned with the exploration of live performances within organizations that helped Buur and Larsen (2010) recognize how 'qualities of conversations' may steer innovation.

In summary, theatre within design has most commonly been used as an active way of harvesting user requirements and user-centred ideas in specific goal-oriented activities. Such performances tend to be 'happy stories' of how technology eases the lives of users and solves all eminent problems. They help projects progress in a given design direction, but may also gloss over fundamental conflicts between different perspectives of who 'users' are and what they do. In contrast, ethnography's capability of generating impact should not be underestimated. Performances that represent ethnographic findings offer the possibility of generating insightful discussion within organizations before focusing work efforts in particular design directions, allowing teams to open up fundamental issues that arise only through such conversations.

ORGANIZATIONAL THEATRE

The kind of theatre we employ here derives from another tradition – that of theatre in organizational change, in particular forum theatre (Boal [1979] 2000). Developed by Boal in 1970s Brazil to encourage people to escape oppression (indeed, it was known as the 'theatre of the oppressed'), forum theatre enacts a situation with built-in dilemmas to a point of impasse; the audience is involved in suggesting the next moves, either by telling the actors what to do or by trying out their own intentions on stage. For instance, the actors might play a conflict between manager and employees that deteriorates into chaos; the facilitator will then invite the audience to intervene in the next enactment, stressing that 'Unless you do something, the situation will end just as desperately'. While the actors repeat the play, anyone from the audience can stop it at any time to change the course of events by instructing an actor to act differently, or even by going onstage and taking over the role of manager or employee. Forum theatre has been taken up in several strands of organizational change (Jagiello 1998; Meisiek 2006; Nissley et al. 2004). There is, however, ongoing debate around

how theatre performance contributes to change. While some authors claim that theatre requires adequate change management activities to follow up on the experience (Schreyögg 2001), or that change depends on audience reflection after experiencing the theatre performance (Meisiek 2006), others maintain that the sense-making process does not result from theatre, but is itself part of theatre activities (Larsen 2006). In our use of theatre, the focus is less on oppression than on disagreements within the audience, the actors bring out the different perspectives present and play them out against each other.

Improvisation is a vital part of this form of theatre. Improvisation draws the audience into the action; it encourages spectators to see that they too can influence how a situation develops. Keith Johnstone (1981) suggests that new creative ideas emerge and develop in the relationships between players, rather than as a result of an individual genius. Improvising is relational; it is not about acting, but about re-acting. Larsen and Friis (2005) link Johnstone's work to Mead's understanding of communication as gesturing and responding (Mead 1934). According to Mead, the gesture of one person provokes a response in another, but the response simultaneously gives meaning to the gesture in a relational process; thus, improvised theatre can be seen as actors and audience in a mutual sense-making process that can lead to novelty. In our theatre events, the actors first act our scripted scenes to trigger discussion with the audience. They then improvise responses from the figures they enact, or even jump into new, improvised roles to explore the audience's suggestions for resolving the situation.

THREE INDOOR CLIMATE SCENES

For the first event, the researchers and actors together prepared three scenes based on fieldwork findings in homes, kindergartens and offices. The controversial findings are clearly embedded in the scripts, conveying how contradictory someone's behaviour can seem in different environments, and showing that technical low-energy systems may not align well with people's practices (Figure 1).

Home: Closing doors – A young couple, Marianne and Paul, rented a zero-energy house six months ago. Paul took that initiative, because he values being environmentally conscious. A wall display indicates how much energy they use, and tracks air humidity, temperature, etc. Paul likes to keep an eye on energy consumption, making a game of achieving the best possible figures. In this scene, we see Paul asking Marianne to keep the door closed to maintain a balanced indoor climate; but with the kids playing outside, she is not happy being told what to do. She has just hung clothes outside in the spring weather, and enjoys the fresh smell and the contact with the outside...

Kindergarten: Waving goodbye – One morning, Paul drops off his son at the kindergarten. The child usually waves goodbye to his father from the corridor between two front doors, the inner door intended to eliminate drafts. However, the children like to follow their parents to the outer front door and wave goodbye through the glass, so a bucket usually holds the inner door ajar. Noticing that the inner front door is closed, Paul tries to

squeeze the bucket in place; but the teacher Ellen stops him, explaining that the draft isn't healthy and increases energy consumption...

Office: When is Cold cold? – Marianne works in the open-plan office of an insurance company. Though it is 27ºC outside, both Marianne and Lis, her colleague at the next desk, feel cold inside as the ventilation is turned on. They want to call the janitor; but Søren, the head of the office, who arrives sweaty after a 15 km bike ride, feels warm and does not understand why the ventilation should be turned off, given that the temperature in the room is a perfect 20ºC...

FIGURE 1. ***Images from three scripted theatre scenes on comfort practices***

FIRST THEATRE EVENT

The three scenes were staged at the beginning of the event, with a few minutes in between for group discussion; after this, the floor was opened for general discussion across table groups, and the actors would improvise several new scenes based on the suggestions from the audience. The event took 90 minutes. The audience included 35 indoor climate experts from industry and academia, and the event was organized by three professional actors, a facilitator with over ten years' experience in organizational theatre, and three of the project researchers. Also among the audience were three industrialists from the project team, who were familiar with the ethnographic findings. The theatre group has worked intensively in organizational development in industrial and public settings, and have also performed with ethnographers at EPIC (Buur and Arnal 2008). The room was set up with six group tables (each seating five to seven participants), with an informal theatre stage at one end, and a screen for presenting fieldwork results at the other (Figure 2). The programme was documented with two synchronized video cameras, which captured both the scenes and the audience discussion.

A key theme to emerge from the discussion following the three scenes was to what extent people should adjust their behaviour in accordance with what an indoor climate system is designed to do. In particular, this was fuelled by one of the actors' lines:

> Actress 1 (as Marianne): 'I'm someone who likes to put on different clothes in the winter and in the summer. In this office you have the same clothes on all year because of the temperature. It is so boring.'

This led to a discussion of whether the system is designed 'right'. One audience participant – an indoor climate professor – suggested a new system design to remove the problem of individual preferences:

> Participant: 'I would propose the clever man [the head of the office] should go to a meeting with the designer and tell him that he wants a better system that could take care of this problem. […] And [the designer should] create individual controls, so you can come in your nice summer dress.'

At this point, the facilitator suggested that they enact a scene where the head of the office approaches a specialist designer:

> Facilitator: 'Can I ask you [professor] to be that guy [designer]?'
>
> Participant: 'Sure.'
>
> Actor (as office head): 'So, I just told you about the problem we're having. What can we do about it? I mean, I get really annoyed with these two ladies.'
>
> Participant (as designer): 'You have an old-fashioned type of cooling system, you are using air for cooling. You spend too much energy to do that. You have to have a new system where you cool the room by radiant cooling in the ceiling. And this we can divide so you can have a cool place, you can turn it on. And the lady over there will have her own individual controls so she can turn it off. So you will both have what you need to have.'
>
> Actor (as office head): 'That sounds very good, but we just put up this new ventilation system. That was quite expensive.'
>
> Participant (as designer): 'That was a bad consultant.' (*laughter*)
>
> Actor (as office head): 'So now I have a new consultant. So I mean there is this problem about – technology and these two girls is just, I mean, they can ruin everything.' […]
>
> Participant (as designer): 'I have a very nice, competent lady in my company. She'll go and take care of instructing them how to behave.' (*laughter*)

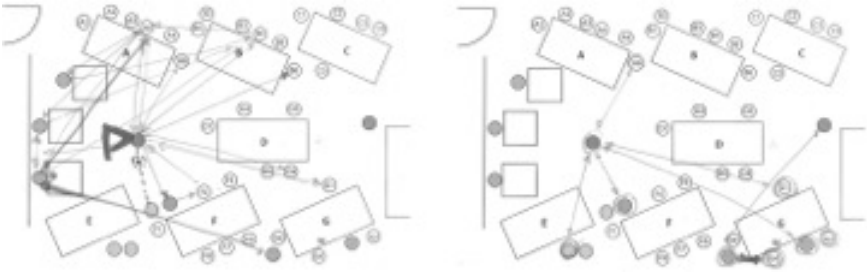

FIGURE 2. ***Mapping of audience interactions in the first theatre event. Lines indicate interactions between participants in stages 4 and 5 (L), 6 and 8 (R).***

This improvisation leads to a longer discussion about who is 'qualified' to adjust indoor climate systems and improvisations about what role people can play in deciding for themselves. Towards the end of the session, the audience reprises the discussion about user behaviour, with one participant concluding:

> Participant: 'I think it's very important that we don't count on changing their behaviour. We also have to make room for the mother, who leaves the door open all the time, even though it is April. […] We cannot expect her to change her behaviour. I think that would be wrong.'

The actors here seamlessly move in and out of fiction. They tend to stay in role, participating in the discussion from their characters' viewpoints. Also, the barrier for audience participants to act is very low: they simply take the role from where they are seated. At first, the facilitator urges participants to act; but eventually the merest suggestion from the actors triggers contributions from the audience. To analyse the dynamics of the session, we started with 'unmotivated looking' at the video recordings (Sacks 1995), using a timeline transcript in which facilitator, actor and audience activities are registered in parallel but separately. Because actors and facilitator often improvise in response to input from the audience, considering them separately helps interpret the flow (see excerpt, Figure 3).

The activities could be summarised as follows:

1. **Introductory slides***:* The research head introduces the project.
2. **Perspectives***:* The facilitator interviews a second researcher about her literature study of what 'comfort' means – actors voice a range of perspectives (engineer, psychologist, architect, sociologist etc).
3. **Theatre***:* The actors perform the three planned scenes (home, kindergarten, office), with a couple of minutes between scenes for small group discussions.

4. **Impro demo***:* The facilitator invites the audience to respond to the scenes – the actors incorporate short improvisations to demonstrate how the audience may 'use' them.
5. **Discussion and impro***:* The facilitator encourages the audience to elaborate their observations and engages some participants in deciding what the actors could do in those situations. The actors improvise new scenes to prompt further reflections.
6. **Slides***:* The research head returns to present data from the questionnaire study, leading to a longer discussion of the 'concrete' findings of the project.
7. **Provotypes***:* The third researcher presents the work with provotypes, demonstrating how they work.
8. **Closing discussion***:* In-depth conversations, mostly with or between the industrial project partners.

A surprising observation is that throughout the discussion the audience almost exclusively referred to the office scene (the last one performed). The home scene (the first) was brought up only once during the discussion, while the kindergarten scene (the middle one) was not mentioned at all. Perhaps the last scene was more easily recalled; or it may be just that most of the experts present were concerned with office conditions.

FIGURE 3. ***A portion of the transcript that tracks the actions of facilitator, actors and audience in the theatre event.***

To examine in more detail how audience, researchers and actors interacted with each other, we mapped the distribution of participants in the room and drew lines between conversation partners (Figure 2). The facilitator was constantly addressing the audience in general, so audience reactions were directed to him. The mapping allowed us to see that many participants were involved in the initial discussions immediately following the three

scenes. However, only a few were engaged towards the end, when conversations were longer and more closely related to the scope of the project. Here the three industrial partners in the project were the most active ones; the actors were less involved, as the specialist nature of the discussion made it difficult for them to contribute. Another observation is that there seemed to be an exaggerated contrast between the 'fun' theatre part and the 'ordinary' slide presentations of research results, which may have been emphasized by their taking place at opposite ends of the hall – rather like a game of 'ping pong' between theory and practice; so perhaps the anticipated integration was not fully realized.

FIGURE 4. ***The second theatre event - three stages in a triangular setup.***

SECOND THEATRE EVENT

We wondered whether participation might be distributed more evenly at the second event if we allowed more discussion time throughout. Also, to avoid discussion focusing on the last scene acted, we developed the idea of the 'spatial map' to allow each theatre scene (Home, Kindergarten, Office) its own location in the hall, so that participants could point at the relevant area. Finally, in the hope of integrating research findings more into the activities, we invited the researchers on stage, rather than including disjointed slide shows.

FIGURE 5. ***Room setup for the second theatre event: left, first scene***

Each of the three scenes was performed on its own informal stage (Figure 4); immediately after each scene, time was set aside for discussion, improvisation and active involvement of the researchers in the theatrical improvisation. The audience was seated in chair rows in the centre of a triangle of stages, changing orientation twice to face each stage in turn (Figure 5). This time the participants included entrepreneurs, researchers and graduate design students engaged in a 'Prototyping Week' event in a business incubator facility (the iFactory) in Denmark. Two facilitators moderated the session, both seasoned organizational change consultants; one was the same as before. As they often exchanged roles during the event, we will not differentiate between them when referring to the facilitator in this section. The session was again documented with two synchronized cameras

The sequence of activities during the second event was as follows:

1. **Intro***:* The facilitator runs a brief interview with the research head to introduce the indoor climate research project.
2. **Theatre – Home***:* The actors perform the home scene.
3. **Audience involvement and impro***:* The audience is invited to form small groups and make sense of what they see happening, then discuss.
4. **Researcher involvement and impro***:* One of the researchers is called on stage to demonstrate how he deployed a provotype with the family. The actors improvise their reactions after the researcher has left their home. The facilitators encourage the audience to discuss the role of provotypes.
5. **Theatre – Kindergarten***:* The actors perform the kindergarten scene.
6. **Audience involvement and impro***:* In small groups, the audience is asked to think of a provotype that would help address the situation, and to share their ideas afterwards. The actors improvise the characters' reactions given the audience's input.
7. **Theatre – Office***:* The actors perform the office scene.

8. **Audience involvement and impro***:* The audience is divided into three groups; each actor joins a group to discuss how the character should develop. The actors then return to the stage to incorporate the audience input into new improvised scenes.
9. **Researcher involvement and impro***:* A researcher is invited on stage to demonstrate provotype work with the industrial partners. The actors improvise partner reactions. The audience comments and discusses.
10. **Closing discussion***:* The facilitators invite the researchers to share their thoughts regarding the use of theatre to share the knowledge generated throughout research projects, and the audience joins the discussion.

This time, instead of formally sharing research findings in a slide show, the researchers were actively involved in the on-stage activities and could thus demonstrate their research roles in the project. This seemed to give room for the audience to grasp the research team's approach throughout the project, and to appreciate the connection between fieldwork, provotypes, and research findings (Figure 6).

Overall, the audience was more active than in the previous event. Actors' improvisations were evenly distributed throughout the session, and were based on audience input as well as knowledge shared by the researchers. This time, the high number of actively involved participants was consistent throughout the event. Compared with the first event, this session had less depth in the discussion of the key issues – probably because the audience wasn't composed of indoor climate experts. In this respect, there was less resistance to the findings brought forward, as the audience wasn't part of an innovation effort and was thus less committed to the indoor climate agenda. As each of the three scenes were played, it was clear that the theatre successively added new dimensions when the previous was exhausted. There were interesting aspects to think about and discuss in the first two scenes, which had been lost in the first event. The 'spatial map' of three scenes to point to had only limited success, but differentiating the stages for each of the scenes did ensure breaks in the format and the triangular setup reduced the barrier between the stage and the hall, strengthening the connection between audience and actors.

FIGURE 6. ***Actors improvise how industry partners react to a provotype presented by one of the researchers.***

IMPACT

To gauge the long-term impact of the theatre method, we conducted telephone interviews with the participants of the first event to see what they remembered from this session two years later. The initiative to do this sprang from conversations with the actors, who in Dacapo work as organizational change consultants. Where consultants will usually be expected to deliver a report to the client with findings and proposals, Dacapo does not: 'If people can't remember the discussions we started years after the event, we haven't done our job properly!' commented one of the consultants. The interviews were qualitative, conversational, and structured around the following questions:

- What do you remember from the theatre event, if anything?
- What were the dilemmas that came up in the discussions?
- Have you talked with others about this event later on (when, where)? Did it have an influence on how you think of 'indoor climate users' now?
- How effective do you see the theatre method in conveying findings?

Respondents were given no warning to prepare their responses, as we assumed that a spontaneous reaction would be more significant than a planned one.

FIGURE 7. ***Actors improvise the role of the 'office janitor' in deciding room temperature levels, based on suggestions from a participant.***

Surprisingly, of the 12 respondents we contacted, all remembered the theatre event with positive feelings. The words they use – 'excellent acting', 'live images', 'very entertaining', 'lots of fun', 'provoking' – indicate that the theatre event did indeed trigger emotional engagement. While the participants recall having attended the theatre event, not all of them can remember all three scenes. Their descriptions range from very general statements, such as: 'There was a scene set in an office environment', to very detailed ones, such as:

> 'There was one [scene] where the man kept turned things off and closing the windows to save energy, while the female counterpart was not as concerned with the energy issue, but thought that people should not be freezing or that one needs to let fresh air in and so on.'

Some respondents remember the scenes in vivid detail. One indoor climate professor, for instance, describes the office scene quite precisely, especially the dilemma of how to relate to the janitor:

> 'There was a janitor who had problems – what should he do? He was directed from someone in the office, but others were dissatisfied [with him] as they had no influence on how he set the temperature.'

The dilemma here was that people's experience of hot or cold isn't simply an individual value assessment, but socially constructed as well. People talk about how they feel and influence each other. But as adjustments in an indoor climate system in a workplace are often made by professional technicians, the decision of turning up or down becomes a power play between different stakeholders – between managers and various groups of employee. While this may be a mundane observation of practice, it is nevertheless surprising for indoor climate engineers, who tend to see the adjustment of climate parameters as rational decision making based on calibrated values. As one of the respondents remembered it: *'Who is to decide when there are several people together? Then you need to discuss it.'* This theatre scene wasn't actually scripted, but an improvisation added on the spot in response to the audience discussion (Figure 7). From the video recording, we can see that this particular participant was very active in the discussion that led to the 'office janitor' improvisation.

The office scene was the one most participants remembered, followed by the scene set in the zero-energy home. The kindergarten scene, played in the middle, was hardly

remembered by anyone. One respondent suggests that the scenes related to professional interests are best remembered, because they have more obvious relevance; this may be the case, given that many participants work professionally with indoor climate in office settings, be it in industry or academia. On the other hand, another respondent feels that this is exactly the reason why he cannot remember much: 'No, I've got to confess I can't remember much, but that's because it was about something I work with already'. Perhaps a more likely explanation is that the actors stayed in the 'office characters' both during the discussion following the scene and during the hour-long discussion that followed the presentations. This may have helped participants to remember the office scene particularly well. The head of the zero-energy building research centre was quite firm that this event had an influence on conversations within the team later on:

> 'It has changed the way we talk about it [user behaviour], because we suddenly got another frame of reference to discuss the things from. Normally you discuss based on something you've read in a book (…). Sometimes things stick better in your mind if you can relate them to a special event or an experience you've had.'

In general, the respondents found the theatre event to have worked well because it was a refreshing alternative to traditional presentations of numbers and graphs. The content of the scenes was not new or surprising to the participants, as they represented scenes from everyday life and highlighted an aspect of indoor climate and energy consumption, which the participants have professional knowledge about (or perhaps the professional engineering code does not encourage admitting to 'surprises'…). However, theatre can challenge the audience to think of well-known practices from a different perspective, as it presents them in a sometimes exaggerated fashion and therefore, in the words of one participant, shows 'how dumb what you do really is'.

ASPECTS THAT SUPPORT ENGAGEMENT

The analysis of the two theatre events, sharing the same ethnographic findings but with variations in session format, served to identify key aspects that encourage audience engagement – and hence, arguably, impact. Theatre with professional actors has potential to act as drivers for innovation teams to acquire knowledge from ethnographic studies. It encourages discussion of important issues that can sometimes controvert the values or approach of the organization. We have identified these aspects as central when conveying the results of ethnographic studies through theatre:

- **Plans vs. spontaneity**: Supporting a movement of thoughts, so that the participants (including the theatre) leave the session with new understandings, can only be partially planned. New insights appear in the relations between participants, and these cannot be predicted because they emerge throughout the session.
- **Balance between representation and provocation***:* As a starting-point for the event, the team that carries out the ethnographic studies must work together with

the actors and facilitators in generating scenes that are representative of the findings and relevant to the goal of the session. However, the planned scenes also need to have an 'edge' to work as a starting-point for discussion and set the atmosphere of the session.

- **Explorative atmosphere***:* The work of the theatre beyond scripted scenes may take unexpected directions, because the audience decides how the work should develop. The actors need to make themselves available for these explorations by improvising what the audience suggests. A skilled actor in this work will take ideas from the audience, and not just play what they suggest but also – in collaboration with his fellow actors – unfold the possibilities and dilemmas that the suggested situation offers. However, for theatre improvisation to work, it is also essential for the audience to actively offer opinions and suggestions on how the action in a scene can be moved forward. Audience members could even go on stage to try out their ideas and confront the characters that the actors are playing. When doing this, they must be prepared for their intentions to conflict with the character's intentions; but it is precisely in the crossing of intentions that new ideas and innovation can emerge (Buur & Larsen 2010).
- **Reflective researchers***:* For the researchers, there is value in exposing their methods to questioning from the audience. This requires a certain measure of reflective self-critique, but also provides the audience with a unique opportunity to observe and appreciate the relations between method and findings.
- **Supportive space arrangement***:* Managing the room layout of the event can make a considerable impact on the session. This study showed how arranging three different stages for the planned scenes instead of one changed the dynamics of the room, creating a more casual setting and closeness between participants, actors and facilitators and thus facilitating the overall improvisation.

DISCUSSION

Theatre is an emotionally engaging format for conveying ethnographic findings. It encourages participants to discuss, and it helps focus on what people do, rather than what technology might do. We have shown that a theatre event of this kind is highly memorable for its entertaining and provoking character – especially for those participants who engage passionately in the discussions. Indeed, some participants have assured us that the event influenced the way they later talked about 'users' of indoor climate; but this is as much as we can ascertain of organizational impact, based on post-event telephone interviews. Is this use of theatre fun or serious? We'll claim that it is both – and that this is precisely the point: Combining the emotional engagement with rational argumentation increases the likelihood of the ethnographic findings – in particular the controversial ones – making a real impact. Is it applicable to other contexts and organizations? In collaboration with the Dacapo actors, we have so far gathered experience with conveying ethnographic findings through theatre events about hearing-impaired people, about train passengers, and about diabetes patients, to assist with design processes in related manufacturing industries. The results are very positive, similar to those from the indoor climate context. Our research has convinced us that theatre

is certainly 'effective' in this form. To show that it is also 'cost effective' – professional actors aren't inexpensive – requires other methods of research to scrutinize actual practices in the industrial organizations.

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REFERENCES CITED

Anderson, R. J.
1994 "Representations and requirements: The value of ethnography in system design." *Human-Computer Interaction* 9 (3): 151–182.

Blomberg, J. and M. Burrell
2008 "An ethnographic approach to design." In *The Human-Computer Interaction Handbook: Fundamentals, Evolving Technologies and Emerging Applications*. 2nd edition. P. 982. Mahwah, NJ: Lawrence Erlbaum Associates.

Boal, A.
(1979) 2000 *Theatre of the Oppressed*. London: Pluto Press.

Boer, L. and J. Donovan
2012 "Provotypes for participatory innovation." *Proceedings of the Designing Interactive Systems Conference*. Newcastle, UK.

Boyarski, D. and R. Buchanan
1994 "Computers and communication design: Exploring the rhetoric of HCI." *Interactions* 1 (2): 24–35.

Burns, C., E. Dishman , W. Verplank, and B. Lassiter
1994 "Actors, hairdos & videotape: Informance design." In *CHI '94: Conference Companion on Human Factors in Computing Systems*. Pp 119–120. Boston, MA.

Buur, J. and L. Arnal
2008 "Directors of the future." Panel report. In *Proceedings of the Ethnographic Praxis in Industry (EPIC)*. Copenhagen, Denmark.

Buur, J. and H. Larsen
2010 "The quality of conversations in participatory innovation." *CoDesign* 6 (3): 121–138.

Buur, J. and B. Matthews
2008 "Participatory innovation." *International Journal of Innovation Management* 12 (3): 255–273.

Buur, J. and L. Sitorus
2007 "Ethnography as design provocation." In *Proceedings of the Ethnographic Praxis in Industry Conference (EPIC)*. Pp 146–156. Keystone, CO.

Cooper, Alan
2004 *The Inmates are Running the Asylum: Why High-Tech Products Drive us Crazy and How to Restore the Sanity*. Indianapolis, IN: Pearson Education.

Diggins, T. and P. Tolmie,
2003 "The 'adequate' design of ethnographic outputs for practice: Some explorations of the characteristics of design resources." *Personal and Ubiquitous Computing* 7 (3–4): 147–158.

Iacucci, G., C. Iacucci, and K. Kuutti
2002 "Imagining and experiencing in design: The role of performances." In *Proceedings of the Second Nordic Conference on Human-Computer Interaction*. Aarhus, Denmark.

Jagiello, J.
1998 "Organisational theatre of continuous learning: The application of the Forum Theatre technique to continuous improvement." In *Proceedings of 2nd EuroCINet Conference*. Enschede, The Netherlands.

Johnstone, K.
1981 *Impro: Improvisation and the Theatre*. London: Eyre Methuen.

Jones, R.
2006 "Experience models: Where ethnography and design meet." In *Proceedings of the Ethnographic Praxis in Industry Conference (EPIC)*. Pp 82–93. Portland, Oregon.

Larsen, H.
2006 "Risk and 'acting' into the unknown." In *Experiencing Risk, Spontaneity and Improvisation in Organizational Change: Working Live*. P. Shaw and R. Stacey, eds. Pp 46–72. Milton Park: Routledge.

Larsen, H. & P. Friis
2005 "Theatre, improvisation and social change." In *Experiencing Risk, Spontaneity and Improvisation in Organizational Change*. P. Shaw and R. Stacey, eds. Pp 19–43. Milton Park: Routledge

Mead, G. H.
1934 *Mind, Self and Society from the Standpoint of a Social Behaviourist*. Chicago, IL: University of Chicago Press.

Meisiek, S.
2006 "Dissonances, awareness, and aesthetization: Theatre in a home care organization." In *Aesthetic Leadership: Managing Fields of Flow in Art and Business*. S.-E. Sjøstrand, C. Gustafsson, and P. P. Guillet de Monthoux, eds. Basingstoke: Palgrave Macmillan.

Macaulay, C., G. Jacucci, S. O'Neill, T. Kankaineen, and M. Simpson
2006 "The emerging roles of performance within HCI and interaction design." *Interacting with Computers* 18 (5): 942–955.

Nissley, N., S. S. Taylor, and L. Houden
2004 "The politics of performance in organizational theatre-based training and interventions." *Organization Studies* 25 (5): 817–839.

Sacks, H.
1995 *Lectures on Conversation*. Chichester: John Wiley & Sons.

Sato, S., T. Salvador
1999 Methods and tools: Playacting and focus troupes. *Interactions* 6 (5): 35–41.

Schreyögg, G.
2001 "Organizational theatre and organizational change." In *Proceedings of 60th Annual Meeting of the Academy of Management*. Washington DC.

Svanæs, D. and G. Seland
2004. "Putting the users center stage: Role playing and low-fi prototyping enable end users to design mobile systems." In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. Vienna, Austria.

Ylirisku, S. and J. Buur
2007. *Designing with Video: Focusing the User-Centred Design Process*. Springer.

"Out of the Labs": The role for ethnography in guiding clinical trials

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Ethnography and clinical research appear fundamentally disparate, even conflicting. Their very objectives are dichotomous – the latter moves molecules 'from the lab to consumer market' in controlled environments, while the former studies the uncontrolled environment of everyday life. However, with the new reality of pharmaceutical research and development, companies are urged to look into new ways of delivering impact and value to payers, prescribers, and users. This paper explores how ethnographic research can fill that role in early stages of pharmaceutical clinical trials, challenging current paradigms of method as well as parameters for success – and how bridging methodologies can open new avenues for ethnographic practice in business.

INTRODUCTION: TWO CONFLICTING WORLDS

From the advent of penicillin to anti-cholesterol treatments, history has witnessed major developments in medicine and therapeutic offerings. At the same time, however, the prevalence of both lifestyle and chronic diseases continues to rise (Brok-Kristensen 2007). Coupled with the increasingly competitive reality of pharmaceutical research and development, pharmaceutical companies must look into new ways of delivering impact and value to payers, prescribers, and users of medicine alike.

As clinical trials and ethnography have traditionally stood apart in practice, both because of their methodologies as well as their world-views, ethnography stands as an unlikely candidate to deliver this change. Within clinical trials, the development of medicines takes place by moving a molecule from the lab and testing its efficacy on patients – a long process governed by a highly regulated and controlled system.

In contrast, ethnographic methods have provided us with the means towards studying the real world and real people in uncontrolled, everyday environments. Ethnography has a long tradition for understanding people's well-being, the perception of purity and normality as well as stigma in different social and cultural contexts (Goffman 1956, Butler 1990). However, little emphasis has been put on how we apply these methods to the world of product development in an industry that has become central to modern-day well-being. Using a past project as an example, this paper focuses on how the use of ethnographic insights can inform the early stages of clinical trials and is challenging the current lab-based paradigm both in terms of method as well as the industry's parameters for success.

In our discussion we seek to address the following questions: How can ethnography provide insights into how best to test early drug development in clinical trials? How does this open a space for growth in ethnographic praxis in even the controlled and de-contextualized setting of the lab? How can an integrated approach lead to better patient outcomes and more efficient treatments?

THE NEED FOR DIFFERENTIATION: REALITIES OF THE PHARMACEUTICAL INDUSTRY

The emerging pharmaceutical industry

While the pharmaceutical industry was once best described by its never-ending sequence of blockbusters, the reality it faces today harshly contrasts with the "era of abundance" it once enjoyed (Hewitt *et al.* 2011). Today's world is measured by a rise in regulation and competition, as well as diminishing profits.

The pharmaceutical marketplace has slowly become saturated due to the attraction of past blockbuster successes. While new drugs twenty or even ten years ago often created a new therapeutic class, today's are adding to an already saturated field in rapidly crowding pipelines – leading to drugs that struggle to differentiate themselves from their established predecessors. This growing competition can best be measured by diminishing industry ROI – from 1996 until 2004, drug companies produced an average of 275m USD in fifth-year sales for every 1b USD they spend on R&D. In just the next five years, this fell by over 70%. Only 75m USD in fifth-year sales were generated for every 1b USD spent on R&D from 2005-2010 (Hewitt *et al.* 2011). This pressure on pharmaceuticals comes not only from competing branded therapies, but also from the 'threat of generics'; the patents of drugs amounting to 120b USD in annual revenue will be expiring in the next few years, creating an opening for generics (Kandybin *et al.* 2012). In this climate of competition, pharmaceuticals seek meaningful routes for differentiation in their product pipeline.

This pressure is matched by pushes from payers and governments alike for healthcare reform, which in many instances moderates the frequency, pricing, and reimbursement of prescriptions. The end result is a system squeezed through competition and regulation alike, seeking ways to survive – whether by means of a steadfast pursuit of new blockbusters, a move to generics, or an expansion into diagnostics or other adjacent spheres. Within this context, ethnography can offer a unique tool to pharmaceuticals in the realm of R&D and early commercial development: a meaningful avenue for direction, differentiation, and parameters through which to better patient outcomes and investment ratio success.

Limitations and potential: The structure of the clinical trial process

While ethnography provides vast support to pharmaceuticals seeking to grow through the discovery of new treatments, the clinical trials process even in the 'era of abundance' was no easy task. Regardless of growth potential within the industry, the clinical trial process itself is protracted, expensive, and heavily regulated – one European estimate places trials as 58% of total pharmaceutical R&D costs (EFPIA). Clinical trials are defined to commence with the testing of a therapy on humans – and as such sit after the extensive process of testing on non-humans and of gauging the market potential: only 0.1% of compounds tested in pre-clinical phases subsequently progress to clinical trials (Tufts).

Prior to beginning clinical trials, the sponsor is faced with a number of potential indications and value propositions that they could explore: the process of moving from a molecule to value proposition. These can then be narrowed and combined in order to maximize commercial attractiveness as well as feasibility.

Clinical trials themselves serve many purposes, from being a safe and validated means to test a compound and its indications to demonstrating to payers that a drug has been approved for coverage for certain conditions and populations. It also serves as a period during which prescribers can familiarize themselves with new treatments and their protocols and promise. The process is divided into a series of phases: Phase I – IV. While Phase I tests on a small and healthy sample size primarily to ensure safety, later phases grow to samples in the hundreds and thousands which focus more on efficacy, dosing, and indications. However, even if a drug is suitably safe and efficacious as measured by governing bodies, there is no guarantee that it will be successful in garnering scripts, patient outcomes, or ideally both in conjunction. We will argue that by using ethnography as demonstrated in the following case, developers will be able to increase the probability of this success in the market. Furthermore, by challenging the current paradigm of drug development by moving from a value proposition to a new therapy through the use of ethnography (rather than from a molecule and analysis to a resulting proposition), we argue that developers can better channel and maximize their investments through garnering cross-divisional focus on an over-arching disease strategy.

Though clinical trials are by no means new to ethnography, such studies often focus on the social relations and interconnection of governing systems upon which the research process depends (Petryna 2009). In contrast, our research stood much closer to medical anthropology endeavouring to understand diseases in context (Lock 1995, Cohen 1998, Brok-Kristensen 2007). Its approach to understanding the context and realities of the studied disease was modelled after prior medical anthropology – however, although its analysis and application vastly diverged. As such this paper will focus not on our ethnographic method, but rather on how our project applied our deep understanding of the underlying needs to a set of metrics that could be tested in clinical trials. Through this new approach of creating a design brief for the clinical trials process, our client could measure their compound's success not only in the eyes of regulatory bodies such as the FDA, but also in those of patients and doctors.

CASE STUDY: ETHNOGRAPHY AS A GUIDE FOR EARLY CLINICAL TRIALS

Study background

In the fall of 2012, our firm conducted a consulting project for a major pharmaceutical company in order to better understand current treatments and to inform our client's perspective for developing offerings for a chronic degenerative disease. The project's overall goal was to understand success criteria for a late entrant into a highly lucrative but also rapidly saturating therapeutic class. However, because of our client's unique position at the time – having molecules in Phase II and Phase III clinical trials but no existing portfolio for

this disease area, what began was not a campaign to better market an existing drug. It was rather an exercise in providing an in-depth understanding of the potential of the drug in development and a means for differentiating it by first understanding what 'successful treatment' would mean from a doctor or patient's perspective, as well as how doctors build therapy knowledge and skill in this field. The project found its success in translating and structuring these insights into guiding principles on how to approach the disease as well as recommendations (or 'design briefs for the clinical trials process') and differentiating hypotheses that our client could test in clinical trials.

The study was conducted in the US as well as two European markets, studying patients, doctors, and nurses who were subject to and subjects of this disease. The research was designed so that respondents formed a true ecology. We followed multiple sets of doctors, nurses, and patients of the same clinic, and in so doing made clear the various perspectives of the disease and the criteria for living well with it, treating it well, and effectively slowing its progression.

One finding was that the defining characteristics of the disease varied broadly among stakeholders – a factor common to many disease areas such as diabetes (Schoenberg *et al.* 2005, Brok-Kristensen 2007). Doctors, nurses, and patients simply did not agree on what ought to be included as the components and symptoms of the disease. Patients included many secondary conditions and manifestations of the disease that doctors viewed as tangential or derivative, whilst doctors focused upon the root causes of the disease – which were often neither felt nor noticed by patients. This resulted in having two disparate standards of success for treatment. For a doctor, treating the cause and stymying disease progression was all important but for patients this was insufficient unless matched with relief for the day-to-day symptoms related to the disease that current medicine only indirectly addressed. That is, while governing bodies and our doctors first measured success in a percentage decrease in disease progression, our patients rarely thought in terms of these long-term consequences. Successfully living with the disease was being able to walk their children to the bus stop, or keeping appointments with friends that they had scheduled weeks in advance.

While these results were hardly surprising, when coupled with the current FDA standards for approval or success within treatment, this divide became more poignant. The FDA's success criteria in this therapeutic class met health care professional (HCP) expectations with regards to safety, but its measure of efficacy was far below the standard of HCPs both in stringency and in scope. This became a key issue for to a large degree, portions of clinical trials are run, and variables are measured, so as to prove success in the FDA's (or other governing bodies') terms – neither necessarily in the terms of HCPs, who at the end of the day choose which drug to prescribe, nor patients, the final end-user with the ultimate prescription veto.

This case made it clear that these variations in success criteria were neither semantic nor reducible to marketing campaigns. Rather, HCPs in our studied disease area faced a marketplace of drugs that gave decent results to the average patient, as mandated by regulating bodies. Yet, they faced a wide spectrum of indistinguishable drugs at the individual patient level: they were at a loss for what gave great results for specific patients – the scenario with which they faced in reality. Despite having quite a few drugs on the market

from which to choose, they had little understanding of which would be best for the patients they treated. To complicate this further, this therapeutic class bordered being on prohibitively expensive and had trial periods for success that spanned many months – meaning patients and payers would spend exorbitant amounts of money for 6 months to 1 year before even being able to evaluate if the chosen drug was efficacious. As a medical professional, this amount of uncertainty and inability to clearly procure the best treatment proved to be a great struggle – challenging their self-perception as medical experts.

Furthermore, while HCP and FDA perceptions of efficacy were mostly congruous for this therapeutic class – patients' views of successfully living with the disease stood in stark contrast with the accepted idea of successfully treating the disease. As secondary conditions were central to their perception of the disease but no current drug was specifically aimed towards or tested along these parameters, patients struggled to understand the worth of this exorbitantly expensive therapeutic class.

Given the benefit of an ethnographic approach and the deep understanding of the realities of living with and treating this disease that it allowed, it became clear that the route to ensure success and differentiation for our client would also be one previously unfamiliar to ethnographic studies. What began was the slow process of challenging our client's perspective towards clinical trials, as well as the structure and parameters within it that they would employ. Our joint task was to consider how best to redesign clinical trials not only to demonstrate success in the eyes of the FDA but also to go a step further and include success for both patients and HCPs as foundational criteria.

Setting a direction for early clinical development

Understanding how drugs function and malfunction in the context of their users – understanding how drugs exist outside of the labs – gave us a unique opportunity to provide strategic direction for how drugs should be considered within the labs.

For example, the therapeutic class that we had been studying had been labelled at first by doctors and pharmaceuticals alike as the 'miracle treatments' primarily due to its chemical composition. It was assumed that it would revolutionize life for patients – and in some instances it did. However, for the majority of cases, and with all but one of our respondents, the supposed 'miracle drug' failed them, in part because it was termed a 'miracle drug'. While in the context of the lab, the drug's chemical composition was deemed a miraculous scientific breakthrough, it did not account for the realities of living with the disease or success from the user's perspective.

The discourse around the therapeutic class combined with its prohibitive price led patients to assume this drug would significantly diminish the effects of the disease. However, patients severely discounted the drug's effect on long-term disease progression (what the drug-class targeted), as it was something they could neither feel nor measure. Instead because the short-term and day-to-day effects of the disease were their primary concern (something the drug was never directly intended to combat) patients then felt they had been cheated or misled by pharmaceuticals and their physicians alike. If today they could not braid their daughter's hair or rely on being able to get out of bed and go to work, it did not matter to them that in ten years their disease would not be worse.

This misalignment between how patients experience the disease and how doctors and pharmaceuticals think about the disease was just one finding we were able to translate into the realm of clinical trials. Working alongside different departments within our client's organization, we were able to map out the 'foundational' needs for a drug – the basics for success outside the context of the lab – as well as a number of 'differentiating' needs – areas where no existing drugs yet provided for but would greatly improve either how patients perceive living with the disease or the assurances doctors look for when prescribing this class of drug. Both these foundational and differentiating needs went a step beyond the current drug offerings in that they accounted for the context of the drug in the world of the disease. Thanks to our client's expertise in medical research, we were then together able to propose practical solutions for how to measure success against these new set of needs in clinical trials. These proposals ranged from testing outcomes earlier and more frequently to including and focusing on demographic factors that physicians thought in terms of but which were not currently measured. Translating this knowledge back into something testable and demonstrable in clinical trials allowed our clients to begin to prove to patients and doctors alike that their solution was different – it understood the disease outside of the laboratory.

Translating insights and unmet needs to impact and early differentiation

Our client faced a considerable hurdle – they sought to enter a disease area, which had been populated for over a decade with a half-dozen drugs, as late entrants. They had the foresight to see that these current offerings, while good, did not sufficiently treat the disease. They also realized that each of these drugs ran clinical trials similar to the previous ones, "copy-cat" clinical studies, as our client described them. This means that clinical trials in this therapeutic class run the risk of being demonstrably efficacious only to regulatory standards. Ethnographic insight into the disease allowed us to challenge this – to strive for efficacy to the standard of living well and to translate what efficacy means in a real world perspective, not just as a pharmaceutical term.

In order to make this translation from insight to impact within the tightly defined scope of clinical trials, our team focused first on aligning our internal team, our client's project team, and the various departments with which they worked on a basic value proposition – a guiding principle that encompassed our understanding of success criteria, how key players understood and struggled with the disease. This brought a sense of clarity and a shared language around what it means to create success in the market place, not just in the lab.

This fairly abstract concept or "guiding direction" was then grounded by being applied to each of the foundational and differentiating needs found through our research, which together formed the "key unmet needs". Pairing these components gave the client team direction and strategic fuel: e.g. how do you create a drug provides added value and that stands out in the market? Working together with the client-team, we were then able to consider how we could test for success from the user's perspective within clinical trials.

This model, of moving from a value proposition to a drug, fundamentally contrasted with how clinical trials in our experience were typically run: from a molecule to a set of value

propositions that were narrowed down through further molecular and market analysis. The original model had succeeded for decades – in many instances because drugs at the time were creating a new therapeutic class. There was not the same need for differentiation. In therapy areas that still have openings for significant improvement, translating ethnographic insight into metrics that can be assessed in clinical trials provides one means for differentiation – treating the disease with new and deeper meaning.

THE ROLE FOR ETHNOGRAPHY IN CLINICAL TRIALS

While clinical trials may benefit from ethnographic insights in a multitude of instances, the authors find two areas to have the greatest mutual potential by providing avenues for ethnography to further the practice of running clinical trials, developing treatments with a greater degree of success, and bettering patient outcomes. These junctures are at the onset of clinical trials, and then again in very early stages. In the former ethnography can benefit pharmaceutical development by providing a unified disease strategy and in the latter a treatment value proposition – both of which can be translated into defined metrics for testing in clinical trials.

Defining a unified disease strategy

The status quo in development is to move from a molecule to a value proposition – which makes economic sense: starting with a broad pool of potential uses before narrowing down based on efficacy and market potential. However, in light of the push for differentiation, and ethnography's benefit of moving development from the constraints of the labs, the authors propose moving from a unified disease strategy to development.

A unified disease strategy or a broad cross-departmental approach to treating a disease area can provide a number of benefits. It is the foundation to any broad portfolio development: having a clear perspective on how a disease ought to be treated. Ethnography can provide guidance towards a disease strategy by understanding the underlying phenomena related to the disease in pre-clinical phases. This helps not only to guide innovation around therapeutic classes and to unify broader counter-disease measures, but also to develop cross-departmental synergies in our client organization.

Having an overarching disease strategy means clients can then allocate resources from a variety of departments and through a spectrum of methods (drug development, foundations, services, sales, device development, marketing, etc.) to serve one vision for changing or ameliorating a disease. Given a drug-launch may be years if not over a decade away, having a unified strategy allows for organization-wide efficiency in planning a maximally impactful launch. And, as doctors and patients hardly think of pharmaceuticals as a number of free-standing wings, having a clearly defined disease strategy enables all departments to work towards a single goal in a cohesive manner. Using ethnography to help define this goal ensures that it will reflect the reality of living with and treating a disease today. Not only does ethnography allow for users to be brought to the core of clinical development, it also allows for developers to be able to harness shifts in societal perceptions of diseases in order to innovate – to question constantly: how do we develop drugs for a new reality?

Using treatment value propositions to guide clinical trials

As trials commence, and particularly in their first and second phases, another opportunity opens up to consider development from a perspective outside of the labs. Here, ethnographic insights are not translated into a strategic direction for a disease area, but rather for a specific treatment. At this level, studies can be recalibrated given the additional understanding of success from the patients' and prescribers' perspectives. This lies at the core of running non-"copy-cat" trials: using an understanding of how the disease is lived with and treated in order to form an over-arching value proposition, and then applying that proposition across a number of stakeholder needs. Given this perspective on how to deliver upon these needs, we can then translate these goals into criteria that will be tested in clinical trials.

But, using a treatment value proposition, our client found one way in which they could simultaneously test towards the needs of their users, and aim for a differentiated treatment. In the disease area we were studying, for instance, it is difficult to isolate which drug will be best for which patient; however, we can now begin to test on indicators that will help prescribers identify the best drug for the individual – rather than the current paradigm of having a good drug for the average. By adding in a number of other similar measures to the trials, our clients can begin to reduce the barriers to entry of a new drug from a prescriber's perspective by actively helping them build a skill around how best and on what occasions to use the drug. From a patient perspective, we worked towards adding indicators that measure many related issues that patients consider central to their disease but doctors and pharmaceutical companies have traditionally overlooked as tangential. This higher bar of success (from both the patient and doctor's perspective) is a step towards ensuring accurate use and retention. Finally, while the alignment of departments in disease strategy can provide a unified approach to a disease, having an underlying treatment value proposition means departments can work together towards a more targeted, and perhaps more streamlined, process of drug development.

CONCLUSION

The use of ethnography in clinical trials, it seems, is a space of great opportunity for the practitioners of ethnography, their pharmaceutical clients, and those who treat, pay for, and suffer from diseases. Differentiation is key for emerging treatments and ethnography serves as one potential means to achieve this. It further allows for a shared understanding of the unmet needs of patients and practitioners across departments, which helps align development and can streamline the development process from the earliest stages.

Though many other methods may be successful in helping guide pharmaceutical development towards this outcome, ethnography holds the additional benefit of demonstrating the use and ideal use of treatments in the context of the everyday. Whether this means developing drugs so that they are tested in accordance with the mental models physicians use to treat their patients, or such that physicians can more easily build a skill around – ethnography helps inject inspiration for development from outside of the lab.

In order to do so, however, one must accept the necessity to combine the everyday life reality with the very structured system of clinical trials. In the presented case, some of the needs we found could not be tested for in clinical trials without cannibalizing the potential of the drug (e.g. testing focused on the most ill patients which would lead to poor results) or being unfeasible (e.g. high-frequency monitoring). This lead to a prioritization of our own, understanding the needs most fundamental to the disease in conjunction with how they could best be tested. Without being tailored to sit within the structure of clinical trials, our findings, while interesting would have lost all value to our client.

Furthermore, engaging our client across many departments proved to be a great help both to bolster the methodology as well as the findings, as development is a large organization-wide endeavour. Having a basic value proposition that could serve as strategic guidance and inspiration for all departments and then more granular findings relevant to each individual department allowed for a unity in purpose early in the clinical trials process as well specific recommendations within departments. Despite these cautions, in bridging the methodologies of ethnography and clinical trials, not only can we work towards a new form of drug development, but also a growing area of ethnographic praxis.

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REFERENCES CITED

Brok-Kristensen, Mikkel
2007 "Changing Diabetes for good." In *Ethnographic Praxis in Industry Conference 2007 Proceedings*. Pp 91-103.

Butler, Judith
1990 *Gender Trouble: Feminism and the Subversion of Identity*. New York: Routledge.

Cohen, Lawrence
1998 *No Aging in India: Alzheimer's, The Bad Family, and Other Modern Things*. Berkeley: University of California Press.

Goffman, Erving
1959 *Presentation of Self in Everyday Life*. Anchor Books.

Hewitt, Jeff, J. David Campbell, and Jerry Cacclotti
2011 *Beyond the Shadow of a Drought: The need for a new mindset in pharma R&D*. Oliver Wyman.

Kandybin, Alex, and Vessela Genova

2012 "Big Pharma's Uncertain Future." *Strategy + Business* 66.

Lock, Margaret
1995 *Encounters with Aging: Mythologies of Menopause in Japan and North America.* University of California Press.

Petryna, Adriana
2009 *When Experiments Travel: Clinical trials and the Global Search for Human Subjects.* Princeton University Press.

Shoenberg, Nancy E., Eliane M. Drew, Eleanor Palo Stoller and Cary S. Kart
2005 "Situating Stress: Lessons from Lay Discourses on Diabetes." *Medical Anthropology Quarterly* 19 (2): 171-193.

WEB RESOURCES

Tufts Center for the Study of Drug Development.
Accessed 7 August 2013. http://csdd.tufts.edu/index.php.

European Federation of Pharmaceutical Industries and Associates (EFPIA).
Accessed 7 August 2013. http://www.efpia.eu/documents/32/70/Clinical-Trials.

Session 3: Maneuver your lenses! What are new practices under today's fast changing contexts?

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The third session examines new practices in ethnography – from blogging communities to mediation between digital and analog interviews – it questions what works and what doesn't, and how retrospective, introspective and prospective insights conjoin in this new 'fast subject' world.

We are in the midst of a social, technical, educational and industrial upheaval. Many public and private sectors are in transition. As ethnographic researchers adapt to and move between and within temporary, digital, quick field studies, and yet bridge rural migrations in modern urban contexts, they, too, are in the process of mediating practices and theories. This session explores the ways in which ethnography today relates to blogging communities and new users, how mediation between digital and analog interviews can develop insights, what works and what doesn't for online education, and how retrospective, introspective and prospective insights conjoin in this 'fast subject' world. To discuss, six authors in this session will present their views by developing theoretical frameworks, unique research processes, and an artful prescription of research field.

DRAFT

The "Consumption Junction" of ICT in Emerging Markets: An Ethnography of Middlemen

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In rural China and India, a fragmented commercial distribution system and the lack of online shopping can significantly limit the range of consumer choice. In this paper, we look at the role that mobile phone shopkeepers—the middlemen—play in influencing what users can and will buy, but also in training them in using and understanding technology.

INTRODUCTION

The *consumption junction* is "the place and the time at which the consumer makes choices between competing technologies" (Cowan 1987:263). We take her insight that consumers' choices are embedded in a "network of social relations that limits and controls the technological choices that she or he is capable of making" (Cowan 1987:262) and we apply it to the smaller scale choices that consumers in emerging markets make when buying a certain brand or type of mobile phone, in order to understand the sometimes significant consequences that the networks around consumption have on how people understand and use technology. We draw from ethnographic field work done in 2009-2011 in rural China and rural to small town India to illuminate one of the constraints imposed on consumers by the 'network': the web of small shop-keepers that sell ICT to rural populations. Rural China and India are places where there is still little online shopping, and where fragmented distribution channels of consumer goods make unusual the unified, mostly well-ordered, and predictable shopping experience that are common in the Western world. In such circumstances, the choices of shop owners, also constrained by factors such as distribution networks, local infrastructure, and policies, shape what users can buy. Moreover, given that shop owners are often the ones more familiar with their stock, and more fluent in the use of information communication technologies (ICT), they also play an important intermediary or translation role in how many consumers understand and use ICT, and importantly, the usages engendered.

In the following sections, we will first define the meaning of 'consumption junction' and how it relates to existing literature on user choice in emerging economies. We then describe our methods, and in particular the value of ethnographic observation to capture behaviors that usually escape other methods of gathering evidence, including interviews. We continue with evidence from our field sites and a discussion on similarities and differences between

our findings. In the conclusion, we discuss the implications of looking at consumers' choices from different points of the network in which they are embedded, and why this is important even in environments where the network is less visible, and producers and consumers are seemingly in direct communication.

DEFINING THE "CONSUMPTION JUNCTION"

To understand the nexus where consumers decide what to buy, Cowan looks at the diffusion of the cast-iron stove in the United States, which was invented in the early 18th century, and provided many advantages over hearths, from increased fuel efficiency, to superior cleanliness and comfort. However, this new type of stove did it not become common in the US until the second half of the 19th century. Cowan points out that historians usually ignore this lag, or offer cultural explanations whereby the open fire of the earth represented something quintessentially English, which appealed to that segment of the American population and which would be lost if using a cast iron stove. For her, however, this question is the starting point for a historical investigation of the role that factors beyond consumers' control had on the choices they could make (Cowan, 1989).

Cowan takes the perspective of consumers, and patiently reconstructs how the network that brought them cast iron stoves—a complex combination of the location of stove producers and buyers, of transportation infrastructure, of wholesale and retail intermediaries choices, etc—was organized. By doing so, she alerts us to how very little control consumers may have when the network is configured in certain ways, and how easy it is to take these constraints for 'cultural prejudices' or simple pigheadedness that prevent people from purchasing determinate products, or from making choices that seem superior.[1]

In heading her invitation to carry out an analysis that focuses on the consumer, but extends to other socio-economic areas, we identified rural shop-keepers as a key network element that has been much overlooked, especially by qualitative researchers. Consumers' behavior and choice is the primary focus of disciplines such as consumer research, marketing, and economic psychology (Bettman, Luce, & Payne, 1998; Hansen, 1976; Tsiotsou & Wirtz, 2012), but has also been studied from an anthropological perspective that looked beyond typical financial constraints (Douglas & Isherwood, 1979; Kitner, Kuriyan, & Mainwaring, 2011), but the eco-system that allows and constrains these choices and uses has not attracted the same amount of attention. There are a few ethnographic studies of entrepreneurship in emerging economies (Arora & Rangaswamy, n.d.; Ilahiane & Sherry, 2008; Rangaswamy & Nair, 2012; Smyth, Kumar, Mehdi, & Toyama, 2010) that illuminate

[1] Cowan's approach recalls in many ways the approach of Actor Network Theory (ANT), which also puts the network at the center of its inquiry. However, whereas Cowan's perspective is 'embedded' in the network and attempts to recreate it from the consumer's perspective, ANT scholars look at the network from a *super partes* perspective, not from a within it (Law, 1992). Rogers in his seminal work "Diffusion of Innovation" focuses mostly on the role that communication and social systems have in helping innovation spread from research labs to society, but does not really consider exogenous factors that make up the network, and that cannot be influenced by communication channels (Rogers, 2003).

the lives and perspectives of shop keepers, but do not focus on the network in which they are embedded, and on the role *their* choices play in the final choices (and opportunities) that their clients have. In western countries, both distribution channels and retail stores are dominated by registered and licensed businesses. But in emerging markets such as China and India the situation is very different. Both supply chains and retail shops are extremely fragmented, and characterized by the presence of a number of players who stray the lines between official and grey economy, such as hole-in-the-wall shops, itinerant or door-to-door and group sales people (Blanco, 2009). In the mid-2000s, only around 20% of retail shops in China were formal businesses (defined as businesses that are legally registered, pay taxes, have licenses, etc); and in India only about 2%, and 87% of rural villages do not have any kind of organized marketing and distribution systems (Swaminathan, 2007:149-150).

Moreover, in both countries online shopping has not penetrated rural areas yet, due to a lack of basic infrastructure such as delivery services, as well as low percentages of Internet users, and, especially in the case of India, general lack of Internet connectivity (CNNIC, 2013; International Telecommunication Union, 2013).[2] This will undoubtedly change in the next few years, as the number of rural Internet users increases, and creative solutions are found to infrastructural problems. But for the time being, shopping is very much an experience that takes place offline. The literature on distribution networks is dominated by a business perspective, which is mostly preoccupied with the practical organization of supply chains, and its effect on the ability of large companies to reach consumers, and to offer them appropriate goods.[3]

None of these studies illuminates the huge network of small distributors and shop keepers, and the role *they* play in not only bringing goods to final consumers, but also in selecting the kind of goods they will have access to. And yet the little research that exists that focuses on the role played by these hole-in-the-wall distribution chains has shown that they can be a fundamental link between users who are often isolated and not reached by traditional marketing, and product makers.[4] In the next sections we will describe how the

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[2] According to estimates by the ITU, in 2012 only 12.58% of the population had access to the Internet. The percentages are higher in China, with 42.1% of the population online, but this goes down to 27.6% in rural areas (CNNIC 2013, ITU 2013).

[3] A much cited example is the one of Unilever, which created single-serve doses, or sachets, of their personal care products so that they could be affordable by poorer (and often rural) consumers in India (Hammond & Prahalad, 2004). In the ICT field, Nokia's success in Asian rural markets was attributed in part to its partnering with local distributors and adapting to local conditions through the provision of services targeted to rural users such as Nokia Life Tools (Alcacer, Khanna, Furey, & Mabud, 2011).

[4] For example, when malaria specialists piloted a program in rural Kenya to train shop keepers to educate their clients about the correct amount of anti-malarial drugs, they found a marked increase in the purchase of drugs with the appropriate percentage of chloroquinine, and in the number of children with malaria fevers who were given a sufficient amount of the medicine. Although the authors acknowledged the fact that shop keepers' motivations could prove unreliable and unlikely to make them community educators super partes, they

network shapes the decisions shop keepers make, and how they, in turn, influence the consumption junction of final consumers. But first, a few notes on our methods.

FINDING MIDDLEMEN AND THEIR NETWORK: NOTES ON METHODS

This paper draws from ethnographic field work done in the period 2009-2011, in rural China by the first author, and in rural and peri-urban India by the second author. Whereas our presence and research goals in our respective fields were very different, we both rely extensively on observation of the behavior of shop-keepers and their clients, and the environment in which they operated, followed by interviews with both.[5] The Chinese field site was a small village (2-300 inhabitants) in western Shandong province, close to the border with Hebei. A two-lane paved road connected it to a nearby town, and public transport ran relatively frequently. The village itself had well-kept dirt roads, and a handful of shops, including a mobile phone one. All the shops were set up by people who had returned after having spent a few years working in urban areas, or by people who had family members who were internal migrant workers. Because of its proximity with paved roads and public transport, the village served as a hub for more remote villages, but also as a stop for passing vehicles. The mobile phone shop that was the locus of author 1's fieldwork was owned by Ms. Hua (not her real name) and her family. Author 1 met with her several times between 2010 and 2011, in different times of the year, at both her original shop and at the one managed by her father, which she took over when her own shop was torn down to make space for a newly built 4-lane road in the summer of 2010. At first the meetings took place outside the shop, in a nearby rural shopping mall. Subsequently, author 1 spent a few days in Ms. Hua's shop, to observe what kind of clientele she had and her interaction with them, and interviewed customers, Ms Hua, and her father. This data is triangulated and integrated with findings from interviews and observations in other mobile phone and computer shops in different villages in Shandong.

In India, almost every rural village of every size will have a small store of some sort, and these stores often serve in a social role, as do many small stores around the world. The country store in the US South, the *bodega* in Mexico, the *toko* in Indonesia—all serve as points of social gathering, a place to share gossip and knowledge, and to connect to the larger (and more distant) world outside of the village. As such, the shopkeeper serves not only as a provider of goods, but as, like Mrs. Hua above, a gatekeeper and enabler of the wider world and the goods and services associated with that world. The data on shopkeepers comes from various field sites and studies conducted in collaboration with academic partners and Intel Corporation. Observations and interviews regarding the impact of mobile phone and internet service on villagers were conducted in villages outside of Bangalore, in the rural

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identified them as an important nexus of information circulation and sharing about specific goods (Marsh et al., 1999).

[5] It is also worth noting that our work was part of wider research projects that focused mostly on the final consumer/user of ICT, and whose results have been published or written up elsewhere (Kuriyan & Kitner, 2007; Oreglia & Kaye, 2012; Tacchi, Kitner, & Crawford, 2012)

areas of Gujarat State in Northwest India, around the town of Belgaum (in between Mumbai and Bangalore), and from work done on the project known as Daknet (Pentland, Fletcher, & Hassoon, 2004) in Rajasthan.

As we saw briefly above, there are similarities in the way rural ICT markets are organized in the two countries, especially in the ubiquity of informal retail shops and in the scarcity or indeed absence of brand names and higher-end products. Approaching these fields using the same methods, and positioning ourselves mainly as observers, gave us insights into the local, socio-cultural differences, as well as an opportunity to compare the role played by the two different systems—or networks, to echo Cowan, in shaping people's choices. In China especially, long periods of silent observation in stores has been a key technique to understand the dynamics between shop-keepers and their clients, which were then explored in depth in interviews. The observation provided the time to become fully immersed in a reality that is very different from shopping in a Western context, and the opportunity to develop an appropriate interview protocol. Questions based on assumptions and experiences, rather than on this initial phase of observation, would have resulted in many dead-ends and much time wasted to find the right points of entry. Observation required an early investment of 'unproductive time' that was repaid abundantly by informed questions and rich answers.

SHOP-KEEPERS AS GATE-KEEPERS

In both sites, the network components that constrain consumers' choices are multiple and overlapping. There are State policies, such as the "Household Goods to the Countryside" that heavily discount local brands in China (Chinese Ministry of Commerce, n.d.); rural distribution networks dominated by local, low-cost brands; a delivery service that does not reach many rural areas; and, last but not least, limited incomes. ICT shops are often improvised establishments run by returned migrants and their families in China, and locals in India, where wholesale purchase is limited to what they themselves have access to. Rural ICT purchase is therefore a negotiation between what the consumer desires, and what he has reasonable access to (and the pronoun 'he' is a conscious choice, as clients of rural ICT shops tend to be men); ICT use is also often shaped by the technical help that shop owners give their customers, from loading airtime on phones, to choosing ring-tones, to downloading music.

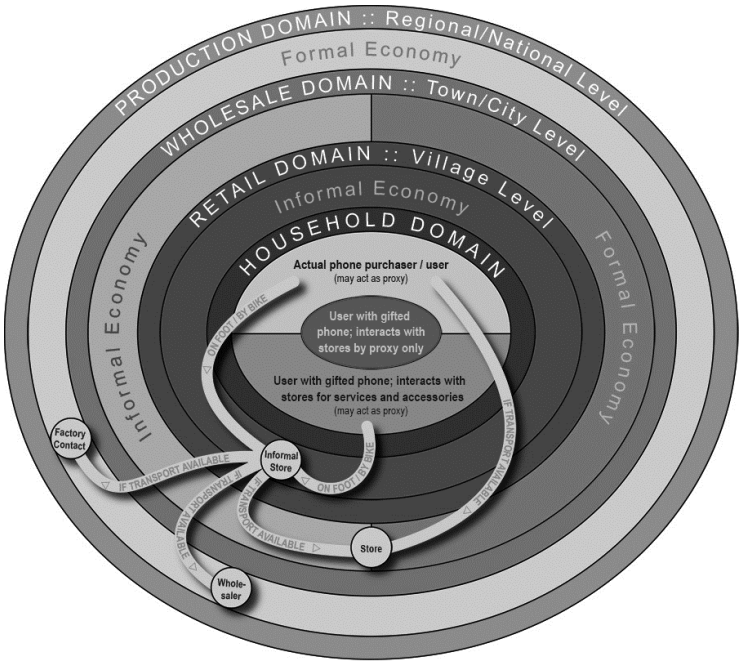

FIGURE 1. ***The "Consumption Junction" in rural China***

In China, Ms. Hua's elder brother migrated to Shenzhen, in that southern hub of factories that is the Guangdong Province, in the early 2000s, and found a job as a driver. He soon realized that there mobile phone factories were everywhere, and they had models that were newer and cheaper than those that could be found in his village. He proposed to his parents to open a mobile phone shop in the village: they would operate it, and he would mail the phones from Shenzhen. In 2005, they transformed a room of their home into a store. They sell Chinese brand and *shanzhai* phones, SIM cards, and accessories like batteries, earphones, and phone decorations. Ms. Hua, who began working in the shop full-time as soon as she graduated from middle-school, is the main salesperson as well as the technical expert, and her father is in charge of the administration and liaising with companies like China Mobile. She keeps track of the best-selling models and of trends, and then discusses orders and purchases with her brother, who sends new phones from Shenzhen about once a month, and brings a suitcase-full when he comes home during the Spring Festival holidays. She also helps clients choose and configure their phones and calling plans. She can also troubleshoot common problems and diagnose more serious ones.

Shop keepers like Ms. Hua serve the community where they grew up. These are typically small places, where everybody knows each other in a way that is the dream of front-line customer service in official businesses. Because people mostly farm the same crops, and

migrate to the same areas and to similar jobs, shop keepers know exactly what is the budget of their customers, and when they will have disposable income and will be likely to buy higher value phones (around Spring Festival and at harvest time), and the periods when cheaper phones or repairs to existing ones will have to make do. There were no foreign brand-name mobile phones, nor Chinese upper market brands in the several rural shops Author 1 visited. The shop keepers were all fully aware that the *shanzhai* phones were copies and not real foreign brands, but were typically parsimonious in sharing this information with their clients, who often asked for a new version of their (original) Nokia, at the time still one of the most popular phones around. Ms. Hua described her strategy for balancing her customers' requests with her inventory as one of finessing the information asymmetry between her knowledge of the market and the customer's. She was aware that younger, more tech-savvy people were not shopping in her store, and that her clients were often looking for characteristics that she could 'spin' in selling her stock. For example, one morning a man in his 30s came to the store to look at her latest models. His phone—a Chinese brand feature phone—was still working perfectly well, but he declared he was tired of it, and wanted something new, with more features and better looking. Ms. Hua did not ask what kind of features he was looking for. She pulled out her most expensive phone, and started showing him how it worked. It was June, which meant that the wheat harvest had just been sold. She knew that her client had cash to spend. After some bargaining and hesitation, the man purchased a knock-off of a Sony-Ericsson. However, he did not know how to move the SIM card from the old phone to the new one, which Ms. Hua did for him. Then he asked her to choose the ringtone for him, and to show him how to listen to the music that came pre-installed on the phone. He could not operate the phone himself, so Ms. Hua spent a significant amount of time going through each function with him.

In the Little Rann of Kuch, in the state of Gujarat, the local shopkeeper was the person who provided not only basic supplies for villagers such as shampoo and soup mix, but also the mobile phones that have become a critical necessity for those who work in the salt pans of the arid desert area. Particularly for the salt-workers, the goods and services the shopkeeper provided were of the utmost importance: being so remotely located from the village themselves, often the one saltworker with a motorcycle would gather all the salt workers' phones and transport them to the shop to be charged up, repaired, or to top up the minutes on their pre-paid account. The same was true in the villages that lie within 100 kilometers of Bangalore: villagers could not afford the trip to the city to shop for any sort of ICTs, but instead relied on the informal shop owner as the go-to person to recommend and procure, for example, a second-hand Nokia phone. In the dusty streets of Belgaum, the local phone stores are more than a village store, but the function of the store owner is much the same, as he guides each customer to a certain phone or brand. There is little to no choice of what type of phone might be had; that is all in the hands of the shopkeeper. Why this works is also a function of cultural behaviors and beliefs, which will be discussed more below.

This might seem like straight-forward customer service, even if somehow heavy-handed. However, the system of advertising, marketing, information, and peer-to-peer discussions that contributes to shape consumers' desires and that exists in urban areas is, in rural areas in general, concentrated in one single person—the shop keeper, who then becomes a gate keeper. If we look at the concentric circles around the consumption junction,

the more operators there are in a circle such as wholesale and retail, the more options a consumer will have, or at least be aware of. In the countryside, people who are not 'mobile,' nor educated enough are cut off from a variety of resources that shape their choice, and rely on one entry point, the shop keeper, to fulfill their consumerist aspirations.

Rural customers are limited not only to accessing the goods and information that the shop-keeper offers them, but often also depend on them to learn about different uses of ICT, or to actually use basic functions of their phone. A lot of traffic in all the rural mobile phone shops visited came from customers needing help to figure out basic functions such as locating the volume control, or changing ringing tones, as well as shopping for better calling plans and adding money to their pre-paid phones—this latter a service often offered for a small fee. This represents a second-layer of gate-keeping, but also a significant investment in time and relationship building on the part of shop-keepers.[6] And in underdeveloped markets, this investment can be so disproportionate to the economic returns that it makes the business unviable (Wallis, 2012). Thus the consumption junction for the consumer is in fact a funnel, where most of the actual decisions are taken further up the chain.

THE CONSTRAINTS OF GENDER AND AGE

In rural China, transport and telecommunication infrastructure exists and is overall efficient (Baum-Snow & Turner, 2012; Yu & Li-Hua, 2010). From the perspective of shop keeper like Ms. Hua, this meant that they can travel easily to bigger towns to get parts or restock their supplies, or, if their distribution network was organized along family lines, they could get their new stock shipped reliably and affordably through the post office or through couriers. Villagers also can travel relatively easily from small and relatively isolated villages to bigger centers, and have more choice in their purchases, and younger, more educated and more mobile people did just that. In India, on the other hand, infrastructure such as roads can be challenging depending on the location. More than physical barriers to transportation, however, are the barriers to travel that come in the form of social class and gender, which can be seriously constraining.

In both places, older people and married women were less mobile. In China, the former did not typically venture outside the village by themselves, and certainly not to purchase

[6] Ilahiane thus describes a mobile phone shop keeper in a bazaar: "He seems always to be building a montage for his scene. He is smooth; he uses this to gain the trust of shoppers and vendors. When one goes to the cellular store in the modern district, one will never be invited behind the counter. But in Joutia, vendors will sit down with their customers, show them how to navigate the interface, and discuss the relative merits of various technologies. The Samurai and his associates spent an average of at least 30 to 40 minutes with potential buyers: 'we provide free services here and there so that we can build trust; people are illiterate and we explain to them the functions and the basics of mobile phones. All they need to know is how to use the phone for talking. That is how we do our advertisement. Good work and good words lead to social networks; and people come from all over, even people from the Moroccan Radio and Television, to search for the Samurai.'" (Ilahiane & Sherry, 2008:251)

ICT. At most, they discussed purchases with younger members of the family, and on occasions even paid for them, but left both the practical choice and the logistics of the purchase to them. Married women, unless they worked outside the village, tended to be more tied to the home and less free to take unescorted trips to urban areas. Less mobile people such as these were typical patrons of Ms. Hua's shop, together with other local residents and passers-by attracted by the big China Telecom sign outside and the convenient location. Women of all ages tended to receive mobile phones as gifts from men, or from other family members who had migrated to urban areas. The shop keeper was then the point of reference for these purchases, and in high season Ms. Hua had several male customers per week asking her advice on what kind of phone to buy. They trusted her as someone who knew both what other women would like and what was fashionable not only in the nearby city, but in faraway places like Shenzhen, since they knew she was getting her phones there. She based her advice on her own experience (and stock), and typically recommended shanzhai phones with bright color combinations, and models that had good pre-loaded music. She dismissed the idea that older women might want different features on their phones, such as radio, or bigger fonts. If the phone she sold went to a young or middle-aged woman, they would often became her customers too, but only to buy airtime or accessories, or which she carried a large selection.

In rural India, the cultural barriers to using ICTs come not only in the form of physical distance from urban centers and all the diversity of products and services such locations offer. There are a myriad of issues—language diversity, social class, illiteracy, for example—that hinder the development of, for example, smart phone adoption. Here we will briefly examine one of them, gender roles and cultural expectations. Women's roles and life opportunities are changing and broadening in the urbanized spaces of India, and getting an education and finding a good place of employment are now seen as equally important for young women as they have been for men. A part of being well-educated and modern is also knowing how to navigate ICTs and having one's own mobile phone. However, in the rural villages and small towns in which the majority of Indians reside, women are still subject to more strict rules of behavior that both circumscribe their actions and their mobility (Tacchi, Kitner and Crawford 2012). Mobile phone ownership for women in rural villages is far from common, comprising about 30 percent of rural women, and when women and girls do have a phone, it is typically gifted to them by a male relative—a husband, brother, or uncle. But these same men most often get the phone they will gift from a small shop, and their purchase decision will be driven by the agreed-upon but unspoken norms around the roles that women are believed to fill in society. As such, it is commonly believed that women should not be in the streets too much, and that the home is the best place for her. Nor should a woman be on the phone too much as that might lead her to neglect the household duties. So even when the male family members decides to purchase a phone for his daughter, for example, he will have these gender themes in mind, as will the shopkeeper. Hence, many women get plain feature phones, often second-hand, as they are not seen as needing more complex technology like a smart phone.

This unspoken cultural agreement between the purchaser and the shopkeeper leads to constraining choice in the type of technology that is distributed in rural areas and how that technology is consumed. Interviews with husbands and wives in rural Gujarat bore out these

observations, and women were often heard to comment that a "fancy" phone was "not for them" as they would have not use for it in the home. This gender bias in technology plays out in other areas than phones: boys are often the recipients of computers where their sisters use a phone exclusively; mothers get the old phones handed down from their sons when they buy a new phone. Shopkeepers reinforce this thinking by asking who the phone is being purchased for and then suggesting that a certain color or type would be most appropriate for a girl or boy (Author's fieldnotes, Belgaum, 2011).

CONCLUSION

An ecosystem approach that accounts holistically for purchasing patterns in rural areas of the Global South can lead to a better understanding of the broader market and the people that live day to day within that system. This paper began to map out where the consumption junction is and what are the infrastructural as well as the social elements that make it up, from gender to age, from access to transportation to choices made by local shop keepers.

The dates when we carried out our research are important. As noted above, a defining characteristic of rural distribution networks in emerging economies is their extreme reactiveness to local and temporal circumstances, and their success is due to their ability to respond swiftly to market changes. Ms. Hua's shop was made possible by the sudden appearance of low-cost, Chinese brands or *shanzhai* (i.e. pirated) mobile phones in the mid-2000 (Keane & Zhao, 2012), as well as by the lack of regulation (or enforcement of existing regulations) that characterized rural commerce. Her shop did not have a commercial license, it paid no taxes, and the accounting was done by hand in an old school notebook. At the same time, shop keepers like herself had easy access to wholesale shops within a bus ride, which churned out new models constantly. The small profit these shop keepers made came mostly from having extremely low overheads: the store itself was usually a converted room of the family's house, the inventory was whatever can be bought in a single trip to the nearest wholesaler, and the workforce was composed of family members who could put in an indefinite number of hours, keeping the shop constantly open, but without 'official' wages and the related taxes and benefits. A few years earlier, there were no hole-in-the-wall mobile phone nor computer shops, because the low-cost items they sold did not exist. In a few years, many of these shops will not exist, at least in villages closer to urban areas, as the government has already started to crack down on them, by inspecting them and requiring the appropriate licenses and a following of existing rules.

In India, however, the advent of "China Phones" came a bit later, and was more of an urban phenomenon and not aimed really at all at rural dwellers. Rather, the rural shops selling phones were selling mostly second-hand phones, and in the majority were Nokia phones, and then some of the lesser brands such as Motorola and LG. The shop owners would either travel themselves to urban centers where they could buy the used phones, or they would take an order from a villager, recommend what might be bought, and then call their contact in the city to make a deal. The phones would then be delivered to the shopkeeper, and the villager would have little choice but to accept what was delivered and pay the price. Furthermore, if the phone broke or had other operational issues, the shopkeeper again was the person to go to for negotiating repairs or replacement.

In both places, the situation may be quite different today. So why focus on a phenomenon that looks so transient? Our work suggests that the changing nature of these networks is an intrinsic characteristic that will not disappear even when the informal economy becomes formal, or e-commerce reaches rural and remote areas. The network will continue to influence, directly and indirectly, the choices that final consumers make, and understanding it when its influence is particularly visible like in our field sites will help understand choices that cannot be interpreted only as cultural or personal expressions of the consumer. Consumer choices in the field of ICT are the result of a complex system that includes intrinsic motivation (that is, in turn, influenced by one's cultural background, as suggested by Iyengar & Lepper, 1999), the availability of goods and support to understand and operate them, and finally the social environment in general.

Cowan argues that the consumption junction is "where technological diffusion occurs, and it is also the place where technologies begin to reorganize social structures" (Cowan, 1989:263). We have seen how social structures that see women as less in control of money and more dependent on males for their choices are reproduced in the purchase and use of mobile phones. However, the situation is not static. In rural China, young women migrate to urban areas as much as young men, and this experience brings them more independence and more status in the village, thanks also to an increase in financial independence. In rural India, non-governmental organizations like the Self-Employed Women's Association, or SEWA, have been usurping the role of the shopkeeper in the rural areas, recognizing the gatekeeper role they play is detrimental to the advancement of women's status in villages. SEWA makes available micro-loans to purchase phones, and provides women training so that all types of mobile phones (and other ICTs) are accessible and useful (Author's fieldnotes, 2010).

With this study, we therefore want to suggest that the consumption junction is a locus of constant change, and that understanding its different components is important to understand future changes. Future studies might consider addressing small-scale entrepreneurship and new technologies in addressing issues of access and empowerment.

REFERENCES CITED

Alcacer, Juan, Tarun Khanna, Mary Furey, and Rakeen Mabud
2011 "Emerging Nokia?" Harvard Business School Strategy Unit Case No. 710-429.

Arora, Payal, and Nimmi Rangaswamy
n.d. "Digital Leisure for Development: Reframing New Media Practice in the Global South." *Media, Culture & Society*.

Baum-Snow, Nathaniel, and Matthew A. Turner
2012 "Transportation and the Decentralization of Chinese Cities" (working paper).

Bettman, James R., Mary Frances Luce, and John W. Payne
1998 "Constructive Consumer Choice Processes." *Journal of Consumer Research* 25 (3): 187–217.

Blanco, Edgar
2009 "Winning in Emerging Markets: Five Key Supply Chain Capabilities." MIT Center for Transportation and Logistics.

Chinese Ministry of Commerce
n.d. *Household Goods to the Countryside*. Chinese Ministry of Commerce.

CNNIC
2012 *Statistical Report on Internet Development in China, 2012*. Beijing, China: CNNIC.
2013 *31st Statistical Report on Internet Development in China*. Beijing, China: CNNIC.

Cowan, Ruth Schwartz
1989 "The Consumption Junction: A Proposal for Research Strategies in the Sociology of Technology." In *The Social Construction of Technological Systems: New Directions in the Sociology and the History of Technology*. Wiebe E. Bijker, Thomas P. Hughes, and Trevor Pinch, eds. Pp 254–272. Boston, MA: MIT Press.

Douglas, Mary, and Baron Isherwood
1979 *The World of Goods: Towards an Anthropology of Consumption*. New York: Basic Books.

Hammond, Allen L., and C.K. Prahalad
2004 "Selling to the Poor." *Foreign Policy*.

Hansen, Flemming
1976 "Psychological Theories of Consumer Choice." *Journal of Consumer Research* (3): 117–142.

Ilahiane, Hsain, and John Sherry
2008 "Joutia: Street Vendor Entrepreneurship and the Informal Economy of Information and Communication Technologies in Morocco." *The Journal of North African Studies* 13 (2): 243–255.

International Telecommunication Union
2013 *Percentage of Individuals Using the Internet (by Country*). Geneva: International Telecommunication Union.

Iyengar, Sheena S., and Mark R. Lepper
1999 "Rethinking the Value of Choice: A Cultural Perspective on Intrinsic Motivation." *Journal of Personality and Social Psychology* 76 (3): 349–366.

Keane, Michael, and Elaine Jing Zhao
2012 "Renegades on the Frontier of Innovation: The Shanzhai Grassroots Communities of Shenzhen in China's Creative Economy." *Geography* 53 (2): 216–230.

Kitner, Kathi R., Renee Kuriyan, and Scott D. Mainwaring
2011 "Cracking Representations of Emerging Markets: It's Not Just About Affordability." In *Ethnographic Praxis in Industry Conference Proceedings*. Pp 322–336. Blackwell.

Kuriyan, Renee, and Kathi R. Kitner
2007 "Constructing Class Boundaries: Gender and Shared Computing." In *Proceedings of the 2nd IEEE/ACM International Conference on Information and Communication Technologies and Development*. Pp1–7. IEEE.

Law, John Law
1992 "Notes on the Theory of the Actor-Network: Ordering, Strategy, and Heterogeneity." *Systems Practice* 5 (4): 379–393.

Marsh, V.M. et al.
1999 "Changing Home Treatment of Childhood Fevers by Training Shop Keepers in Rural Kenya." *Tropical Medicine and International Health* 4 (5): 383–389.

Oreglia, Elisa, and Joseph Jofish Kaye
2012 "A Gift from the City: Mobile Phones in Rural China." In *Proceedings of the ACM 2012 Conference on Computer Supported Cooperative Work (CSCW '12)*. Pp 137–146. New York: ACM.

Pentland, Alex (Sandy), Richard Fletcher, and Hamir Hassoon
2004 "DakNet: Rethinking Connectivity in Developing Nations." *Computer* 37 (1).

Rangaswamy, Nimmi, and Sumitra Nair
2012 "The PC in an Indian Urban Slum: Enterprise and Entrepreneurship in ICTD 2.0." *Information Technology for Development* 18 (2): 163–180.

Rogers, Everett M.
2003 *Diffusion of Innovations*, 5th edition. Free Press.

Smyth, Thomas N., Satish Kumar, Indrani Mehdi, and Kentaro Toyama
2010 "Where There's a Will There's a Way: Mobile Media Sharing in Urban India." In *CHI '10 Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. Pp 753–762. New York: ACM.

Swaminathan, Jayashankar M.
2007 "Managing Supply Chain Operations in India." In *Building Supply Chain Excellence in Emerging Economies*. Hau L. Lee and Chung-Yee Lee, eds. Springer.

Tacchi, Jo, Kathi R. Kitner, and Kate Crawford
2012 "Meaningful Mobility: Gender, Development and Mobile Phones." *Feminist Media Studies* 12 (4): 528–537.

Tsiotsou, Rodoula H. and Jochen Wirtz
2012 "Consumer Behaviour in a Service Context." In *Handbook of Developments in Consumer Behaviour*. Gordon R. Foxall and Victoria K. Wells, eds. Pp 147–186. Edward Elgar.

Wallis, Cara
2012 "New Media Technologies in China's 'New Socialist Countryside': Techno-Sustenance and the Possibilities for Social Transformation." Paper presented at the 10th Chinese Internet Research Conference.

Yu, Jiang and Richard Li-Hua
2010 *China's Highway of Information and Communication Technology*. Basingstoke: Palgrave Macmillan.

"It was like a little community": An ethnographic study of online learning and its implications for MOOCs

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In this time of social, technical, educational and industrial upheaval, time and space are being compressed and stretched as social actors develop new practices in response to shifts in their lived experience. In the American educational sector, these phenomena have crystalized in the meteoritic rise of MOOCs, massive open online courses. The story of their ascent weaves together neoliberal shifts in financing education, technology developments, and perceived business opportunities. MOOCs have captured the imagination of the business press, venture capitalists, and university leaders. However, surprisingly little attention has been paid to the perceptions of students who are taking online courses – in other words, the users. Drawing on an ethnographic study of a small online class, this paper describes the limitations of MOOC pedagogies by comparison with low-enrollment online courses, and concludes by casting doubt on the effectiveness of MOOC learning experiences as well as MOOC business models.

INTRODUCTION

We live in a time of social, technical, educational and industrial upheaval. Time and space are being compressed and stretched as social actors develop new dispositions and practices in response to dramatic shifts in the institutions that shape their lived experience (Harvey 1990, Jameson 1991, Lash and Urry 1994). In the American educational sector, these phenomena have crystalized in the extraordinarily rapid rise of MOOCs, massive open online courses. The story of their meteoritic rise weaves together neoliberal shifts in financing education, technology developments, and perceived business opportunities.

The cost of an American public university education has risen dramatically over the last 20 years as states have reduced their support, shifting ever more of the financial burden onto students and their families. "Between 1990-1991 and 2009-2010, published prices for tuition and fees at public four-year universities more than doubled, rising by 116 percent, after adjusting for inflation" (Quinterno and Orozco 2012). For many students, it has become necessary to work part-time or full-time in order to pay for their education. This, in turn, has resulted in a longer average time to graduation (Kiss 2011). A second consequence has been that more students marry and start families before graduating. In this context, distance education has gained popularity as a way for students to squeeze their school time into available moments between work and family demands (Wasson 2007). It also saves on commuting time, and enables students who do not live near a college to access educational resources without uprooting their family or losing their job. At the same time, improvements in technology have made distance learning more accessible, as computing devices have become cheaper and internet connections have speeded up.

MOOCs are a new form of distance learning that has recently captured the imagination of the business press, venture capitalists, and university leaders. In the last two years, these massive open online courses have been heralded as the wave of the future in publications from *Forbes* to *Time Magazine* (Carlson and Blumenstyk 2012, Thrift 2013, Pappano 2012, Webley 2012). MOOCs are "open" in the sense that they are free and anyone can participate. They are "massive" in that they attract up to 160,000 registered students, although far fewer complete the courses (Rodriguez 2012). According to a recent *Time Magazine* article, MOOCs have been "heralded as revolutionary, the future, the single most important experiment that will democratize higher education and end the era of overpriced colleges" (Webley 2012). The story of MOOCs as a business and educational phenomenon is evolving quickly; every week seems to bring major new announcements. By the time this paper is published, the story will already have moved on.

However, surprisingly little attention has been paid to the perceptions of students who are taking online courses – in other words, the users. This paper reports on findings from an ethnographic study that compared the learning experiences of online and on-campus students. The online class studied was not a MOOC; it only had nine students. However, its pedagogy was positively evaluated by the students, and would not have been feasible with massive numbers of participants. The paper describes the limitations of MOOC pedagogies by comparison with low-enrollment online courses, and concludes by casting doubt on the effectiveness of MOOC learning experiences as well as MOOC business models.

AN ETHNOGRAPHIC STUDY OF ONLINE LEARNING

The methodology of this study includes an autoethnographic component that makes it somewhat different from many studies presented at EPIC, especially studies of consumers. Autoethnography, in which the "participant" part of "participant observation" takes on a more central role, has a long history in anthropology (Behar and Gordon 1995, Golde 1970, Okely 1992, Wasson 2006). It is not uncommon in the publications of applied anthropologists, for instance in the journal *Practicing Anthropology*, since it offers authors a way "to write about their experiences in a self-reflexive and holistic manner" (Wasson 2006:9). Autoethnography was in fact practiced by founders of the tradition of ethnographic praxis in industry that this conference continues and extends. For instance, Suchman et al. (1999) wrote about how their work at Xerox PARC "aimed at developing new forms of work-oriented, cooperative design" (1999:393).

In the present study, I report on student learning experiences in an online course that I myself taught at the University of North Texas (UNT). The study was organized as a formal research project, approved by UNT's Institutional Review Board, but I played a larger role in the phenomenon examined than would be the case in most ethnographies.

In fall 2006, UNT launched an online master's program in anthropology. It was the first such program in the United States. All aspects of the program, from curriculum to financial model, were collaboratively designed by the entire anthropology faculty, with myself as facilitator (Re Cruz et al. 2007, Wasson 2007). During our planning, we were very concerned about the stereotype of distance education as providing a second-rate learning

experience. We were committed to doing our best to ensure that the online master's program would be equal in quality to our well-regarded on-campus program.

One step we took to make the online program as similar as possible to the on-campus one was to have each professor who regularly taught an on-campus master's course develop the online version of that same course. I had taught ANTH 5010 "Anthropological Thought and Praxis 1" face-to-face since 2001, and therefore developed the online version. ANTH 5010 is a course on the history of ideas in anthropology, required of all students in the fall of their first year. In 2006, when the online master's program went live, I taught the online version of ANTH 5010 for the first time. I was also teaching the on-campus version that semester.

Simultaneously teaching online and on-campus versions of the same class was a fascinating experience. The courses were identical in so many ways – same readings, assignments, discussion topics, and so forth – yet due to the dissimilar communication media, the experiences felt strikingly different. I quickly decided to conduct research on the topic, and obtained IRB approval.

While the research project as a whole compared learning experiences in the online and on-campus versions of ANTH 5010, this paper focuses only on findings from the online course. In fall 2006, the class contained nine students. The primary medium of interaction was WebCT, a widely used learning technology that operated through web browsers. Each week, students read a short lesson online, and then engaged in seminar discussion using asynchronous discussion boards. In addition, I organized a weekly 1-hour teleconference. Participant observation was conducted through my participation in the course; discussions were downloaded and teleconferences were recorded and transcribed. In addition, a research assistant interviewed all class members after the semester was over. Interviews were recorded and transcribed. All fieldnotes, downloads, and transcripts were coded and analyzed using Atlas.ti.

RESEARCH FINDINGS

Students perceived online discussions as high quality

One anxiety the UNT anthropology faculty had when planning the online master's program was the question of whether the quality of online seminar discussions could possibly be as good as face-to-face discussions. Therefore, one of the most important – and maybe surprising – findings of my study was that the online seminar discussions in ANTH 5010 were in no way inferior to the on-campus ones, although they were quite different.

In interviews, the online students universally perceived class discussions to be sophisticated, in-depth, and high quality. While most had not previously experienced online classes, they regarded these new kinds of conversations as equal to or even better than equivalent experiences in face-to-face classes. Here are representative quotes that illustrate the students' perceptions, and provide some clues about reasons for the high quality of conversations:

> "They were deep, I think they were collaborative is another word I would use, deep and collaborative, there was a real sense of building on ideas"
>
> "I don't think I ever got this quality of discussion in any class I ever took on campus, because I think people have so much more time to mull over what they're thinking and when you write it out you see what you're thinking and you get to whittle it down"
>
> "It does seem a lot more thought provoking and it gives more opportunity for more in-depth study about what's being said and what's being discussed and I think that's interesting cause you know, the people that are doing it online really slow down and think about what they're writing. And also have a chance to research what they're writing before they put it out there."
>
> "The online- I mean it makes sense to me that you'd be able to have deeper discussions from the fact that you'd be able to think about what you were trying to say and craft like this great e-mail and articulate everything really well. And you know, that's a strength of the online program."
>
> "I think they are more in-depth because I think when you read someone's discussion answer or post and you answer to their post you can print out what they are saying, you can read it a number of times and then formulate your own opinions of it and I think it's more in-depth. I can think about what they are saying more. As opposed to on-campus, someone can just be talking and then someone jumps in and someone else jumps in, they're not really, it just goes like all over the place."

These quotes clearly demonstrate the students' sense that their discussions were a valuable learning experience, and point to some of the affordances of the communication media that contributed. As described in Wasson et al. (2007), which drew on Clark and Brennan's (1991) list of communication media affordances, two affordances of the class discussions were particularly helpful. One was *revisability*. Students were able to edit their messages until the text expressed exactly what the students wanted to communicate. The time pressure of face-to-face interaction was missing. The other was *reviewability*. Students were able to re-read each other's messages and reflect on them as they were constructing their replies. The evanescence of spoken words was missing. So the text-based, asynchronous technology of the discussion boards actually contributed to the quality of the seminar discussions.

Learning is social

In addition to the affordances of the communication media, online students also emphasized the importance of the social relationships they developed with each other and

with the instructor. Indeed, a fundamental insight in the education literature is that *learning is social*. Especially in courses where the goal is for students to develop a nuanced understanding of complex issues, class discussions allow participants to acquire new insights by collaboratively engaging in critical analysis. This is termed the "co-construction of knowledge" in the education literature (Gunewardena et al. 1997, Lapadat 2003). In such class discussions, each student's turn at talk builds on the previous one, and the discussion as a whole builds to increasingly sophisticated conclusions and understandings. The role of the professor is to facilitate discussion rather than lecture.

Studies of distance education have found that successful online courses weave together three kinds of "presence": *cognitive presence,* the collaborative exploration and construction of ideas; s*ocial presence*, the cohesion, trust, and open communication that develop within a community of learners; and *teaching presence,* the instructor's facilitation of the group's learning process (Garrison et al. 2001, Garrison 2007). While cognitive presence is what people commonly think of as learning, it can only occur effectively when supported by the other two forms of presence. In interviews, online students from ANTH 5010 articulated how these three forms of presence were interwoven in a way that allowed students to participate in the co-construction of knowledge:

> "I felt comfortable talking to other people in the class simply because of the environment [the instructor] created, and by that I mean the sense of openness and I think we seemed to have embraced that in the way that we kind of took that from her, took a lead from her"

> "[The instructor] was very encouraging of the discussions and nobody ever felt judged and there was never a "that's wrong"… and the other side of that is all the students. We were all very encouraging to each other, supportive of each other even if we didn't agree, it was always softly put, probably partly because that's the type of people we are and probably because it was a learning process and we were getting to know each other, but it just made for a really comfortable environment posting, it really felt like you were part of a class"

> "In the first few weeks of the class we talked constantly… and you know, you get really comfortable with people, you kind of get a sense of how other people are in the program and there's only so many people… it was like a little community"

> "With an online program it's easy to feel disconnected and isolated from the class and from the professor. And I think a way to overcome that is for the professor to really express their availability and their commitment to the class… For them to be a presence that's visible, that's recognizable, that you can count on, that says a lot for the potential of developing a virtual community… I don't think it's just the students for your support system, I think that's a vital component"

As developer of the online course, I incorporated features into the course design that encouraged the growth of social relationships and effective communication practices. I started the semester with an "icebreaker" conversation where students shared information about themselves and their local geographical and cultural context. The syllabus and the course's WebCT "Start Here" page provided explicit guidance for students on how to construct discussion posts, stating that the goal was to mirror face-to-face conversational interactions as much as possible. For instance, I advised students to write multiple short posts rather than one long "monologue." I also instituted a weekly teleconference, both for the sense of social connection that the phone offered, and to provide an additional communication medium to accommodate students' varied learning styles. In class discussions, I sought to model openness, respect, and intellectual curiosity, and encouraged all students to participate. Finally, I responded quickly to students, whether in class discussions, emails or phone calls – speed that turned out to be vital in creating a strong teaching presence.

The online master's program as a whole also included several features designed to build sociality among online students, and between students and faculty. Right before the start of their first year, each cohort was required to attend a three-day face-to-face orientation at UNT. This time together laid the foundation for relationships that students continued to build online. In addition, most students took the same set of required courses in their first year, allowing them to engage quite a bit with each other over an extended period of time.

TWO CONTRASTING MOOC PEDAGOGIES

How does the pedagogy of a small-enrollment online course compare with the pedagogy of MOOCs that enroll many thousands of students? The emerging scholarship on MOOCs has identified two contrasting pedagogical approaches (Daniel 2012, Pence 2012, Rodriguez 2012, Siemens 2012).

MOOCs originally emerged from a philosophy of learning called Connectivism, promoted by George Siemens and others. Courses in this vein have been labeled cMOOCs (Daniel 2012, Siemens 2012). Connectivism seeks to empower students to acquire knowledge and insight by forming learning communities that they themselves control and indeed construct. Typically, students in cMOOCs harvest information from the internet and other sources, share it with classmates, and discuss it, using "a diverse range of online tools, such as mailing lists, wikis, course management systems, web conferencing, video streaming, Facebook, Twitter, Second Life, Flickr, etc." (Rodriguez 2012). For Connectivists, then, learning is "the ability to construct and traverse connections" (Downes 2007), and pedagogy should focus on encouraging students to build connections and collaborations, and to harness information flows on networks (Kop et al 2011:74). The course topics that have been offered so far have been sophisticated explorations of online learning itself, such as: connectivism and connective knowledge (CCK 2008); personal learning environments and networks and knowledge (PLENK 2010), and mobile learning (MobiMOOC 2011) (Rodriguez 2012). cMOOCs have primarily attracted students who are already professionals and researchers, and therefore fairly self-sufficient as learners. Putting the learning process into the hands of the learners has thus worked fairly well (Kop et al. 2011:75). The term

MOOC is, in fact, based on the similarity between student interactions on cMOOCs and player interactions in massively multiplayer online games (MMPORGs) (Pence 2012:28).

However, while MOOCs originated with a Connectivist philosophy, the concept of massive open online courses was subsequently adopted by people with a very different understanding of learning and pedagogy. As one reviewer noted, the two kinds of MOOCs "are so distinct in pedagogy that it is confusing to designate them by the same term" (Daniel 2012:2). The second wave of MOOCs, termed xMOOCs, favors a more traditional learning approach. xMOOCs duplicate the pedagogy of large-enrollment face-to-face classes based on lectures and multiple-choice exams (Pence 2012, Siemens 2012). However, this type of passive learning approach is poorly regarded in the education literature, because students have been shown to learn more effectively when they are more actively engaged in their learning process (Gunewardena et al. 1997). Some critics, therefore, argue that xMOOC pedagogy "ossifies the already outdated mission of 19th-century education… it does not 'fix' what is broken in our system of education. It massively scales what's broken" (Davidson 2012). Whereas cMOOCs encourage students to use a wide range of online learning tools that they themselves select, xMOOCs present canned content using a narrow range of online tools, mainly videorecorded lectures by famous professors and multiple-choice tests, with a student discussion space and limited "office hours" by TAs (Rodriguez 2012:8). xMOOC course topics are generally targeted at an undergraduate audience. Early courses tended to focus on science/technology, but they are now expanding to a diverse array of subjects.

Of these two varieties of MOOC, it is xMOOCs that are receiving a high level of attention from the media, educational administrators, and venture capital. And the main focus has been on how universities are starting to adopt MOOCs. Courses offered through start-up companies that target universities, such as Coursera and Udacity, adhere to the xMOOC model, and the future expansion of MOOC offerings is expected to come mainly from for-profit ventures.

WEAKNESSES OF MOOCS

Of the three kinds of presence required for effective online pedagogy, only *cognitive presence* is easily supported by the MOOC learning environment. cMOOCs appear to be highly engaging intellectually (deWaard et al. 2011, Kop et al. 2011, Pence 2012, Rodriguez 2012). "When a Connectivist course is working well, one can see a great cycle of content and creativity that begins to feed on itself with people in the course reading, collecting, creating, and sharing" (Kop et al. 2011:80). The passive learning approach of xMOOCs makes intellectual engagement more of a challenge, but well-designed courses certainly have the potential to generate interest and encourage learning among students.

The potential for *social presence*, on the other hand, is severely limited by the high MOOC drop-out rate and other aspects of MOOC course design. As our ethnographic study found, having a small group of students interact regularly over the duration of a course lays the foundation for the development of the trust and sense of community that enables students to openly share ideas. The large numbers of students who enroll in MOOCS are not a problem for social presence per se. It is common practice to organize students in large classes into a lot of little groups. The problem is that MOOCs have an extremely high drop

out rate, from about 40% for cMOOCs to 85% for xMOOCs (Rodriguez 2012). Such a high attrition rate severely undermines efforts to build a sense of community within a group.

The pedagogy of Connectivist courses is explicitly based on collaborative interactions among learners and the co-construction of knowledge. And research on cMOOCs has found that collective scaffolding occurs in such courses, where "some participants assisted others to expand their understanding… and… helped them implement their own… projects" (deWaard et al. 2011). However, the interactions are relatively fleeting and superficial, compared to those in the ANTH 5010 course described above. Studies of cMOOCs have found that while "many participants realized the importance of connections with other learners and of relationship building to advance learning… they found these things extremely hard. Some learners did manage to be connected with a few others and interact in small groups" (Kop et al. 2011:87). cMOOC students identified a variety of reasons for having difficulty building connections, including the lack of a centralized course structure; course goals being set by each participant for themself rather than by the instructors; the fragmentation of conversations due to a plethora of online tools; lack of skill in the use of tools; and lack of adequate time to participate (Kop et al. 2011:86).

Finally, the potential for *teaching presence* is limited for MOOCs due to the extremely high ratio of students to instructors. For instance, in 2011 the Stanford course CS221 Artificial Intelligence enrolled 160,000 students, of whom 20,000 completed the course (Rodriguez 2012). As there were two instructors, the student:teacher ratio ranged from 80,000:1 to 10,000:1. Obviously instructors cannot spend much time with students in this situation.

cMOOCs deemphasize the importance of the instructor; the Connectivist philosophy puts "the responsibility for information gathering, the validation of resources, and the learning process in the hands of learners themselves" (Kop et al. 2011:75). In fact, instructors are reconceptualized as "facilitators." However, this "requires learners to be autonomous in their learning and to have advanced analytic and synthesis skills" (Kop et al. 2011:75). Since cMOOC participants have tended to be researchers and professionals, many are able to manage these demands, although evaluations in one study included comments such as "Too little participation and interaction by the facilitators. Be sure to provide a higher level of participation by facilitators" (Kop et al. 2011:86).

The xMOOCs offered by various start-up ventures need to be differentiated with regard to their intended audience. Some firms, such as Udemy, target professionals who are looking for individual courses that provide a specific skill. As mentioned above, teaching presence may be less critical for experienced professionals. However, more often MOOC firms target undergraduates and offer introductory level courses; examples are Coursera and Udacity. For their courses, the lack of teaching presence is a greater problem since undergraduates typically need more learning support.

Ironically, the students who most need social presence and teaching presence are also the most likely to enroll in MOOCs. Economically disadvantaged students tend to arrive at college less well prepared than those who are well off. At the same time, the companies developing MOOCs are marketing them as more affordable alternatives to face-to-face courses. So economically disadvantaged students are more likely to get tracked into MOOCs. Without the support of a sound pedagogy that interweaves cognitive presence with social presence and teaching presence, these students are then more likely to fail. This

irony has led to passionate critiques that MOOCs will reproduce and exacerbate class differences in our society. For instance, Carlson and Blumenstyk (2012) claim that advocates of MOOCs, "many of whom enjoyed liberal-arts educations at elite colleges, herald a revolution in higher education that is not for people like them or their children, but for others: less-wealthy, less-prepared students who are increasingly cut off from the dream of a traditional college education… Here's the cruel part: The students from the bottom tier are often the ones who need face-to-face instruction most of all" (2012:2). San Jose State University recently "paused" its use of three remedial math MOOCs because of poor student performance; no more than 51% of students passed in any of the MOOCs, while at least 74% of students in the equivalent face-to-face classes passed (Rivard 2013).

CONCLUSIONS

MOOCs are an extremely fast-moving phenomenon. Every week seems to bring an intriguing new development. By the time this paper is published, the evolution of the MOOC phenomenon will already have moved further along its trajectory. I can only hope to highlight a few longer-term trends and possible directions that the MOOC trajectory may take in the future. Here, then, are three predictions:

One lasting value of the MOOC phenomenon will be that it brings greater acceptance and status to distance education. The engagement of elite universities such as Stanford, Harvard and MIT has started to change the long-standing negative perception of distance learning as being solely the province of low-status universities. It has legitimized the idea that as our society moves toward greater reliance on social media, in both personal and work contexts, it is reasonable for the education sector to adopt technology-mediated forms of communication as well.

At the same time, I suspect that the hype around MOOCs will die down considerably once their strengths and weaknesses have been more clearly identified. There will be some initial "ups and downs" as particular universities experience dramatic successes and failures. Over time, leading practices will emerge that improve current MOOC pedagogies. However, the constraints on social presence and teaching presence will not go away. Eventually, MOOCs will be seen as a limited-purpose tool that conveys limited benefits in a limited set of contexts.

I fear that MOOCs may end up contributing to the ongoing bifurcation of American society. Many studies have demonstrated that the rich are getting richer, while the poor are getting poorer (Burkhauser et al. 2012). An important factor is the disparate educational experience of children from different class backgrounds. Children from low income neighborhoods are often not as well prepared for college as those from higher income areas. At the same time, as states reduce their support of public universities, the rising cost of college is making it increasingly difficult for low income students to afford a degree. Consequently, university administrators may feel pushed to offer MOOCs as a way to make college education more accessible to students who are struggling financially. And such students may feel pushed to take MOOCs. Yet their educational experience will not be as beneficial as that of students in traditional classes, due to the limitations on teaching presence and social presence. MOOC students will be more likely to fail, and they will not

have as much opportunity to build relationships with classmates that could contribute to their intellectual and professional development.

The findings and predictions presented in this paper raise doubts about the business model of MOOCs as a profit center for universities. Start-up ventures to sell MOOC services to universities are being developed, and universities are starting to replace some internal courses with contracted MOOCs. It should be noted that when MOOC are offered through universities, the "O" of "open" in the MOOC acronym is no longer correct; these courses are only accessible to students who have been accepted by the university, and are not free. In any case, the MOOC business model may not be successful in the long run if there is a high failure rate for college students. While many in the business world are touting the financial opportunities of MOOCs – Forbes has called it "the $1 trillion opportunity" – others are wondering if this is just another example of excess hype around a new kind of technology company (Davidson 2012). Through the Freedom of Information Act, the *Chronicle of Higher Education* obtained an agreement between Coursera and the University of Michigan. According to the *Chronicle's* analysis, "the contract reveals that even Coursera isn't yet sure how it will bring in revenue. A section at the end of the agreement, titled 'Possible Company Monetization Strategies,' lists eight potential business models" (Young 2012:1). None have been successfully carried out yet.

MOOCs may also have business implications concerning the next generation of employees. By contributing to the decline of American higher education, MOOCs could make it harder for industry to find qualified employees. Education in the U.S. already compares poorly to other countries; according to a recent OECD report, "U.S. ranks 14th among 37 OECD and G20 countries in the percentage of 25-34 year-olds boasting higher education attainment... higher education attainment levels in the U.S. are growing at a below-average rate compared to other OECD and G20 countries" (Huffington Post 2012).

In addition to assessing MOOC business models, this paper contributes to the EPIC community by illuminating online learning issues. Theories of learning, such as activity theory and the concept of communities of practice, have been foundational in the development of ethnographic praxis in industry, starting with projects at Xerox PARC and the Institute for Research on Learning (Nardi 1996, Orr 1996, Suchman 2007, Wasson 2000, Wasson and Squires 2012). As such projects have demonstrated, learning can be conceptualized more broadly than what happens in the classroom, encompassing workplace activities as well as other contexts. The present study contributes insights on learning that is technology-mediated. Members of the EPIC community may be able to apply these findings in their own organizations, or to client projects on related topics.

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REFERENCES CITED

Behar, Ruth, and Deborah A. Gordon, eds.
1995 *Women writing culture*. Berkeley: University of California Press.

Burkhauser, Richard V., et al.
2012 "Recent trends in top income shares in the United States: Reconciling estimates from March CPS and IRS tax return data." *Review of Economics and Statistics* 94 (2): 371-388.

Carlson, Scott, and Goldie Blumenstyk
2012 "For whom is college being reinvented?" *Chronicle of Higher Education*, 17 December. Accessed 7 March 2013. http://chronicle.com/article/The-False-Promise-of-the/136305/.

Daniel, John
2012 "Making sense of MOOCs: Musings in a maze of myth, paradox and possibility." *Korea National Open University Fellow Report*.

Davidson, Cathy N.
2012 "Size isn't everything." *Chronicle of Higher Education*, 10 December. Accessed 7 March 2013. http://chronicle.com/article/Size-Isnt-Everything/136153/.

Downes, Stephen
2007 "What connectivism is" *Half an Hour*, February 2007. Accessed 13 March 2013. http://halfanhour.blogspot.com/2007/02/what-connectivism-is.html.

Garrison, D.R.
2007 "Online community of inquiry review: Social, cognitive, and teaching presence issues." *Journal of Asynchronous Learning Networks* 11 (1): 61-72.

Garrison, D.R., T. Anderson, and W. Archer
2001 "Critical thinking and computer conferencing: A model and tool to assess cognitive presence." *American Journal of Distance Education* 15 (1): 7-23.

Golde, Peggy, ed.
1970 *Women in the field: Anthropological experiences*. Berkeley: University of California Press.

Gunawardena, Charlotte, Terry Anderson, and Constance Lowe
1997 "Analysis of a global online debate and the development of an interaction analysis model for examining social construction of knowledge in computer conferencing." *Journal of Educational Computing Research* 17 (4): 397-431.

Harvey, David
1990 *The condition of postmodernity: An enquiry into the origins of cultural change*. Malden, MA: Wiley-Blackwell.

Huffington Post
2012 "Education at a glance 2012: OECD report finds U.S. lags behind other countries in higher education attainment rate." *Huffington Post*, 11 September. Accessed 13 March 2013. http://www.huffingtonpost.com/2012/09/11/oecd-education-at-a-glanc_n_1874190.html.

Jameson, Fredric
1991 *Postmodernism, or, the cultural logic of late capitalism*. Durham: Duke University Press.

Kiss, Claire Reid
2011 "Graduation rates decrease nationwide." *Massachusetts Daily Collegian*, 30 January. Accessed 30 August 2013. http://dailycollegian.com/2011/01/30/graduation-rates-decrease-nationwide/.

Kolowich, Steve
2013 "The professors who make the MOOCs." *Chronicle of Higher Education*, 18 March. Accessed 18 March 2013. http://chronicle.com/article/The-Professors-Behind-the-MOOC/137905/?cid=wb&utm_source=wb&utm_medium=en#id=overview.

Kop, Rita, Helene Fournier, and John Sui Fai Mak
2011 "A pedagogy of abundance or a pedagogy to support human beings? Participant support on massive open online courses." *International Review of Research in Open and Distance Learning* 12 (7): 74-93.

Lapadat, J. C.
2003 "Teachers in an online seminar talking about talk: Classroom discourse and school change." *Language and Education: An International Journal* 17 (1): 21-41.

Lash, Scott, and John Urry
1994 *Economies of signs and space*. London: Sage.

Nardi, Bonnie A., ed.
1996 *Context and consciousness: Activity theory and human-computer interaction*. Cambridge, MA: MIT Press.

Okely, Judith
1992 "Anthropology and autobiography: Participatory experience and embodied knowledge." In *Anthropology and autobiography*. J. Okely and H. Callaway, eds. Pp 1-28. London: Routledge.

Orr, Julian
1996 *Talking about machines: An ethnography of a modern job*. Ithaca: ILR Press.

Pappano, Laura
2012 "Year of the MOOC." *New York Times*, 2 November. Accessed 18 March 2013. http://www.nytimes.com/2012/11/04/education/edlife/massive-open-online-courses-are-multiplying-at-a-rapid-pace.html?pagewanted=all&_r=1&,&.

Pence, Harry E.
2012 "When will college truly leave the building: If MOOCs are the answer, what is the question?" *Journal of Educational Technology Systems* 41 (1): 25-33.

Quinterno, John, and Viany Orozco
2012 "The great cost shift: How higher education cuts undermine the future middle class." *Demos*, 3 April. Accessed 30 August 2013. http://www.demos.org/publication/great-cost-shift-how-higher-education-cuts-undermine-future-middle-class.

Re Cruz, Alicia, Christina Wasson, and Tyson Gibbs
2007 "Teaching Practice." Special Issue of *Practicing Anthropology* 29 (1).

Rivard, Ry
2013 "Citing disappointing student outcome, San Jose State pauses work with Udacity." *Inside Higher Ed*, 18 July. Accessed 18 July 2013. http://www.insidehighered.com/news/2013/07/18/citing-disappointing-student-outcomes-san-jose-state-pauses-work-udacity.

Rodriguez, C. Osvaldo
2012 "MOOCs and the AI-Stanford like courses: Two successful and distinct course formats for massive open online courses." *European Journal of Open, Distance and E-Learning*, 5 July 2012. Accessed 7 March 2013. http://www.eurodl.org/?article=516.

Siemens, George
2012 "MOOCs are really a platform." *Elearnspace*, 25 July. Accessed 18 March 2013. http://www.elearnspace.org/blog/2012/07/25/moocs-are-really-a-platform/.

Suchman, Lucy A.
2007 *Human-machine reconfigurations: Plans and situated actions*. New York: Cambridge

University Press.

Suchman, Lucy, et al.
1999 "Reconstructing technologies as social practice." *American Behavioral Scientist* 43 (3): 392-408.

Thrift, Nigel
2013 "To MOOC or not to MOOC." *Chronicle of Higher Education*, 13 February. Accessed 7 March 2013. http://chronicle.com/blogs/worldwise/to-mooc-or-not-to-mooc/31721.

Wasson, Christina
2000 "Ethnography in the field of design." *Human Organization* 59 (4): 377-388.

2006 "Making history at the frontier." *NAPA Bulletin* 26: 1-19.

2007 "Designing the first online master's program in applied anthropology." *Practicing Anthropology* 29 (1): 7-11.

Wasson, Christina, and Susan Squires
2012 "Localizing the global in technology design." In *Applying anthropology in the global village*. C. Wasson, M.O. Butler, and J. Copeland-Carson, eds. Pp 253-287. Walnut Creek: Left Coast Press.

Webley, Kayla
2012 "MOOC brigade: Will massive, open online courses revolutionize higher education?" *Time Magazine*, 4 September. Accessed 12 March 2013. http://nation.time.com/2012/09/04/mooc-brigade-will-massive-open-online-courses-revolutionize-higher-education/.

The pop-up ethnographer: Roles of the researcher in temporary spaces

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As our lived reality becomes ever more mobile and networked, society and business has adopted cultures and practices to embrace the creation of temporary interstitial 'pop-up' environments. These spaces, which can take the form of work environments (e.g. the UK Innovation Charity Nesta's 'Productive Coffee Breaks'), training (e.g. workshops), knowledge exchange (e.g. sandpits, culture hacks), and social environments (e.g. festivals), require us to examine the role of the temporal ethnographer. Our paper explores the changing and challenging roles that researchers must adopt and move between (from organizer, facilitator, participant, observer, and analyst) by examining four empirical case studies in a range of research contexts. Furthermore, we consider how short-term studies in such temporary, 'pop-up' environments can contribute to and be enriched by ethnographic practices.

POP-UP ETHNOGRAPHY: A RESEARCH OPPORTUNITY

Ethnography has responded and reacted to the modern world, as evidenced by the rise of multi-sited studies, design ethnography, and virtual ethnography (e.g. Hannerz, 2003; Salvador et al., 1999; Barab 2004; Hine, 2000; Hine 2011); shifting away from traditional, long-term individual researcher engagement within a single, geographically-bounded community. As society becomes ever more networked and mobile, a new sociological paradigm is emerging around movement (Urry, 2007); similarly, Human Computer Interaction (HCI) and design research is developing new ways to engage, create, and evaluate mobile user experiences (e.g. Maxwell & Woods, 2012; Stals et al., 2013). Mobility also affords the creation of temporary interstitial 'pop-up' spaces, which are becoming more prevalent in the form of work environments (e.g. meetings), training spaces (e.g. workshops), knowledge exchange (e.g. sandpits, culture hacks), and social contexts (e.g. exhibitions or festivals) – all offering new places for qualitative research.

This paper examines the application and potential of ethnographic techniques (such as participant observation and semi-structured interviews) in temporary spaces by considering four discrete research-driven events that were conceptualized and led by the authors. Three

key aspects are of particular importance in pop-up spaces, namely time, space, and design in relation to the challenges and opportunities for research. We investigate the role of researcher as catalyst rather than discreet observer, highlighting the tensions that arise when navigating the multi-faceted roles of active participant, observer and facilitator, and the corresponding expectations of each (for example, aligning research goals with impact factors, public engagement criteria, and industry partner expectations).

As trends across society embrace the pop-up, so too is this mirrored in Human Computer Interaction (HCI) and ethnography as they move towards ever shorter time frames, rejecting wide lens approaches (e.g. Millen, 2000) in favor of multi-sited studies and 'rapid' context-sensitive ethnography (Kluwin, 2001; Handwerker, 2001), where the researcher is aware of and has knowledge of the cultural system. Pop-up environments are by definition limited in time, and therefore require close monitoring and responsive facilitation to ensure the most effective use of resources, however these intensive, condensed environments or specific events within larger pop-ups can by directly instigated by researchers, providing the opportunity to embed data gathering and a focus on thematic topics of interest into the space from the outset. This proactive approach resonates with Adler and Adler's 'complete-member researchers' categorization of ethnographic roles, as described by Angrosoino and Pérez (2000). As 'complete-member researchers' with high levels of immersion and agency within the group, researchers are able to sidestep gatekeeper issues, as they are often not only active members but instigators of events. The danger of 'going native' or developing 'over-rapport' (Hammersley and Atkinson, 1995) is, we argue, warranted by the level of access and environment and is characterized by the researcher's understanding of the group's shared history and the researcher's ability to provide a constructive space to explore their issues.

The debate around what is and is not 'ethnography' remains unresolved (Dourish, 2006; Hannerz, 2003), however we posit that this is less important than the discussion of where ethnography exists in reality. We argue that a form of temporal ethnography is possible, and indeed necessary to take account of these fleeting environments, and that HCI and design methods are enriched by drawing on principles from social anthropology and ethnography.

POP-UP ETHNOGRAPHY: CONTEXTUAL BACKGROUND

Temporary research spaces or residencies are not a new concept as Steveni's Artist Placement Group (APG), set up in 1966, indicates (Steveni, 2001). These spaces strove to 'integrate artists into businesses and corporations' to provide genuine understanding, appreciation, and collaboration. At the same time, there was an interest in studying how activities were done in the workplace, and in this context the word 'practice' was used (Kanter, 1977; Van Manen, 1977). During the 1980's and 1990's Hakim Bey coined and used the term 'Temporary Autonomous Zone' or TAZ to describe an experience where the everyday control from social and regulatory constraints are put to one side in order to experiment in situ with new behaviors and rules. These experiences were not only supported through a flexible mind, but through physical space, with temporality being a central concept. Since that time the residency has also developed, representing a more esoteric concept that chimes with TAZ; residencies have extended and expanded, lasting anything

from a few days, weeks or even months, moving beyond the concept of artist placements in industry to include technologists-in-residence, scientists-in-residence and writers-in-residence in diverse departments. At the same time, exchanges between business and disciplines have moved beyond art and science to become common practice, increasingly formalized as knowledge exchange (KE). Whilst early placements were considered a form of collaborative endeavor enabling exchange and understanding, later developments such as Happenstance (Coldicutt, 2010) were recognized as a way of activating a space such that the people who inhabited it worked towards a particular goal outside of their normal routine; similarly, Scott (2010) describes the residency as providing situated critical reflection in order to bring new values or perspectives. What sets these time-limited residencies apart from pop-up environments is their ability to longitudinally embed oneself in another culture and, most pertinent, with a focus on practice, process and reflection. Here in particular, ethnographic methods (including auto-ethnography) have a key role to play in reflective practice across disciplines.

Pop-up spaces have been conceptualized and are now firmly embedded in our communities, used for a variety of entrepreneurial and business opportunities (Thompson, 2012) from retail, art and design, to dining and social venues. By their very nature, here one day and gone the next, they demonstrate all the characteristics of being 'thrown together', but actually require a large amount of organization, co-ordination and mobility, frequently assisted by technology, resonating with the work of Urry (2007).

POP-UP ETHNOGRAPHY: FOUR CASE STUDIES

We present four examples of pop-up research environments that the authors have orchestrated and led, outlining the wider research context for each example and describing how they physically manifested with respect to time, space and design. Finally, we briefly reflect on the researcher roles adopted by the research team in each case study.

Example 1. Chattr

Chattr was a provocative artwork and design research experiment that was premiered as part of the FutureEverything Ideas and Innovation Summit (FE2013) in March 2013 in Manchester, UK. Chattr used ethnography to understand the user experience of a public artwork through physical Wizard of Oz prototyping and was presented in a temporary environment, namely a festival and conference focusing on technology and society. The project sought to understand attitudes to privacy in digital and physical spaces and asked a challenging question; how far would we accept the capture and sharing online of our private conversations? What are the implicit rules for exchanges in these new spaces, and how do visitors negotiate these?

Research context – The premise of the project was to sign up festival 'visitors' to Chattr, wherein by participating they agreed to a terms of a service and Data Use Policy, modelled on similar exchanges by internet companies. The Chattr project was experienced as a seamful interface, rather than the seamless interface sought by standard software

development. The seamful approach is often adopted by Media Art and Critical Design to probe and expose some of the physical nature of the underlying technology (Chalmers and Galani 2004; Chalmers, Bell et al. 2005). These kinds of interfaces promote a lived experience; moments of reflection and potential behaviour change with a compelling user experience that is difficult to study, therefore ideal for qualitative ethnographic methods.

FIGURE 1. ***The members only Chattr lounge. Photo credit: TAPE.***

Description: Time – The FE2013 event, which ran over five days, brought together a diverse audience from a range of backgrounds including creative industries, academia, business, local and national government and cultural organisations. Chattr operated within the event for a period of two days, however researchers engaged for an intensive period spanning four weeks to design the artwork, agree roles and ethics, research questions, evaluation and analysis along with practical issues such as pre-testing and take down after the event.

Description: Space – FE2013 represented a type of festival space in which audiences come to 'expect the unexpected', where innovation projects, artworks and live experiences showcase cutting edge and future thinking through exploration. Chattr provided a service in the form of a 'members only' lounge as a discreet physical space, which gave participants exclusive access to benefits such as a view over the city, comfortable chairs and equipment. In exchange, participants agreed to allow their personal data in the form of conversations to be recorded and transcribed for publishing during the conference itself and on the internet in perpetuity.

Description: Design – A Wizard of Oz technique (i.e. using human agents to simulate the system) implemented a complex socio-technical system that represented current and future computational capability. This in turn allowed the live artwork to function as a probe or critical intervention in order to expose the interactions and behaviour change for closer scrutiny. Thus Chattr, a hypothetical service and system, could be realized and explored. The research evaluated both a hypothesis of future scenarios alongside participants' interactions with it. Four active researchers employed ethnographic techniques including observation, semi-structured interviews with participants and non-participants, data analysis of transcribed conversations, data gathering from social media interactions with and around published conversations, and reflection on the project overall.

Reflections: Researcher roles – Chattr could be conceived as the most traditional research project presented in this paper (if we put aside the complex and formal use of the Wizard of Oz method) however researchers moved between vastly different roles at different times. On one hand assuming the active and visible role of interviewers, documenters and data gatherers for a Chattr evaluation, and on the other acting as wizards for the system itself, which could be interpreted as facilitation. This facilitation, or agent activity, took the form of promoting the 'service' by negotiating access to the space at conference registration, where the project was described as a new start up and terms of service were verbally introduced; on this basis visitors were asked whether they would be willing to take part. Participants were not known to the researchers prior to the project, so there was no longitudinal information to draw on. However, conferences and festivals do include pre-existing connections between delegates, functioning as physically temporal communities of practice, rather than geographically bounded.

Example 2. Serendipitous maypole

SerenA: Chance Encounters in the Space of Ideas is a project that seeks to understand serendipity and its widely acknowledged role in research and innovation with the goal of supporting the design of digital systems, services and devices, and to highlight processes that people can adopt in their research, business and everyday lives. As part of SerenA, a half-day workshop was run by two of the authors in June 2012 in Dundee, UK, for a group of artists, centred around 'Serendipitous Connections'. The Serendipitous Maypole workshop formed part of the conclusion of a week-long arts festival created for and attended by an artists group in Dundee and was intended as a reflective exercise for participants for their own practice and to reflect back on the festival events and also to support research findings for the wider SerenA project as well as answering a public engagement remit.

Research Context – Our aims for the Serendipitous Maypole were twofold; a) to explore and reflect on the values of a festival space as a 'pop up' community and network and b) to feed into the requirements gathering of the design of a mobile self-documentation system for researchers, i.e. to discover how, in this instance, creative practitioners and artists currently document their thoughts and ideas. This might then inform new possibilities for digital note-taking and software development in SerenA. The workshop attempted to

document, capture, and reflect on the ways that festival-goers had documented their activities – a form of meta documentation. This concept dovetailed well with the festival organisers' approach of a 'daily scroll', an exquisite corpse-like scroll that was in constant circulation amongst the group to capture events as they happened, as a mix of visual hand drawn images, quotes and thoughts that were displayed in their entirety at the conclusion of the festival.

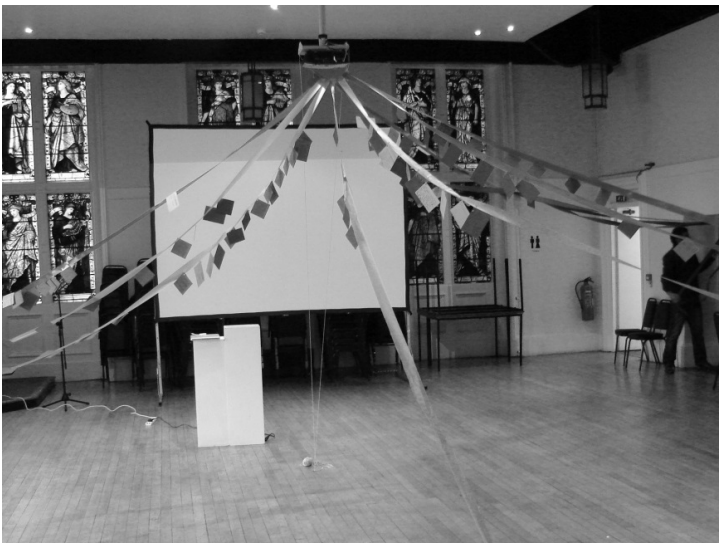

FIGURE 2. ***The serendipitous maypole. Photo credit: Deborah Maxwell.***

Description: Time – Due to the late running of previous festival activities, the two-hour afternoon Serendipitous Maypole event did not start on time, and began in a slightly fragmented way, with late arrivals trickling in. In total, 11 participants took part in the workshop (7 female, 4 male), 9 of whom signed the informed consent ethics forms. Participants ranged from fine art students to practicing artists and lecturers.

Description: Space – Prior knowledge of the space and indicative numbers (approximately 20) in part suggested the Maypole concept; the traditionally styled high-ceilinged room (seating up to 200 people) was set up with several large round tables at one end. The ribbon strands of the Maypole were set up beforehand in the centre of the room, away from the tables and chairs, and were attached via a simple string hoist to a fixed projector housing. The Maypole was conceptualised as an annotated static form of a traditional maypole, drawing visually on prayer flags, with each coloured strand (five colours in total, two strands of each colour) intended to represent a specific thematic reflective element as drawn out by the participants.

Description: Design – The workshop began with a contextualising discussion led by the authors around serendipity and the notion of an open and prepared mind conducive to new connections, i.e. leading to serendipity. This was followed by a discussion on the role of documentation in artistic practice.

Participants were asked to reflect back on the festival activities so far and to complete a set of pre-prepared cards designed to encapsulate a range of documentation styles and media, and were encouraged to complete as many cards of each type as they liked. The pre-prepared cards were of five varieties, each a different colour, with printed prompts on one side and a blank 'Ideas Park' space on the back available for writing, drawing or any other response. All cards had the type specified (i.e. image, writing, sound, object, or memory) and a space for participant's name (for post-event evaluation purposes). Each card type had a prompt (e.g. for 'writing' the prompts were 'fragment, name, verse, diary, other'), a query for the documentation method (e.g. for 'image' the prompt was 'How did you document the image? E.g. digital camera, sketchbook, mobile phone, back of napkin'), a question 'Why was it important to capture that moment?', and a final question around the future use of the documentation (e.g. for 'sound' the question was 'Future for this sound? E.g. post it on the internet, weave it in a soundscape.').

After the card completing exercise, participants were asked to write one or two words on blank coloured cards relating to the values they felt about the festival, with the instruction that they would be collectively grouping and organising the values afterwards. There were a substantial number (59) of values and emotions captured that were then clustered as a whole group activity into organically generated themes of thinking, play, memory, and public. These themes were assigned to lengths of different coloured ribbon, and the corresponding cards were pinned onto them, along with the completed documentation cards from the previous activity. Once the cards were all attached, the lengths of ribbon were hoisted into the air to form a maypole effect (fig. 2), which facilitated easy reading and visual display of the thematic cards across the axes.

All material was retained by the researchers post-event. Participants showed no reluctance to hand over the cards.

Reflections: Researcher Roles – The festival consisted of a series of discrete events (e.g. participative talks, workshops, exhibitions and performances) that, whilst they could be attended independently, in practice were largely attended by a core group of creative practitioners who attended all the events. Some participants knew each other prior to the festival but others grew to know each other during the week. The Serendipitous Maypole took place on the final afternoon, on a particularly wet and windy day in Dundee, and it was immediately apparent that there was an inherent informality and lack of punctuality by this final festival day. In this example, the degree of researcher control was limited due to encroaching on existing group dynamics and essentially being a guest performance or activity. The tensions of research versus festival and art practice were profoundly noticed when attempting 'correct' protocol regarding obtaining informed consent, which was treated by suspicion by some younger group members.

Example 3. Designing for delight

Designing for Delight was a one day co-design workshop associated with the SerenA: Chance Encounters in the Space of Ideas research project, as with the previous example of the Serendipitous Maypole workshop.

Research context – With respect to serendipity, the authors ran an ideation and prototyping workshop in May 2013 in Dundee, UK, about the role of emotion and particularly designing for delight. The workshop brief was contextualized from findings of a previous delight workshop held at British Computer Society's Human Computer Interaction conference (BCS HCI2012). The goal was to move beyond conventional models of user driven, user generated and participatory design solutions, towards engaging design experts to develop future creative technical solutions for delightful digital product and service design.

FIGURE 3. ***Example of a designer's digital note taking system. Photo credit: Deborah Maxwell.***

Description: Time – This one-day event (11am – 4pm) issued a project challenge to three expert designers and three research team members, all from a range of relevant disciplines, namely service design, HCI, interaction and product design, art, and creative business development. Designers were invited from previously known contacts, although the research team and designers had not actively worked with each other before. The three research team members (including two authors) were part of the Design team in the SerenA project and

had been working together between 3 months and 15 months. Prior to the event, all participants (i.e. both designers and researchers) were asked to bring an example of their personal notebook or sketchbook to provide insights into their creative practice.

Description: Space – The workshop was held in a small meeting room with break out spaces within the Visual Research Centre at Dundee Contemporary Arts (DCA), Dundee, UK. Lunch took place in the DCA café, which provided an informal space to continue both semi-structured and unstructured discussions. Walls were utilised to post supporting material and for note-taking, as well as the central table to provide a focus for card-based materials.

Description: Design – The workshop allowed both expert and research participants to develop the brief through a range of different sessions led by each member of the research team, ranging from individual, paired (with a designer and researcher in each pair) and group sessions, with a closing plenary. Lo-fi workshop materials encouraged visual drawing and written modes and included proforma guides and blanks and paper. The rationale was to create an open record that could be quickly and easily articulated and shared for critique. The research context around Serendipity and Delight was presented initially, including findings from previous research activities and literature reviews. This was followed by a sharing of personal experiences of 'delight', before a show and tell discussion around documentation and note taking. Over lunch, the researchers led a light-hearted discussion around the persona of each participant's notebook, anthropomorphising them into historical or fictional characters that led to telling insights about the value placed upon the notebooks themselves (which were a range of physical and digital notebooks). The afternoon session was around ideation and prototyping, using a design-led 'rip and mix' approach, where affordances of mobile internet devices (e.g. GPS, colours, sound, light sensor) were mixed with associations of notebooks (e.g. memory, ritual, adaptability, security) and attributes of delight (e.g. magical, unexpected, nature). These attributes and affordances emerged both from research in the area and discussions that took place during the day, serving as a catalyst for idea generation. Finally, these ideas were presented back to the whole group.

Reflections: Researcher Roles –The researchers in this event switched between facilitating, observing, and actively participating – challenging designer statements and sharing their own views and research knowledge. The equal balance of researchers and designers worked well for this intense environment and small group numbers.

There was a reliance on many data gathering modes (i.e. sound recording, images workshop, materials written observation and notes on the fly, and memory). A key challenge is in codifying this knowledge exchange session into usable research data for analysis and development post event.

Example 4. eChiasma workshop: A design in action ideation workshop

Design in Action is a research project investigating the potential for design as a strategy for innovation in Scotland. The 27-strong research teams spans six academic institutions

across Scotland, identifying and facilitating innovation around complex problems in key industry sectors. A subgroup of the research team are actively exploring how digital tools and activities can support and enable intensive 2-3 day residential workshops, called Chiasma. The key challenge facing the research team is to help participants become engaged with the process prior to Chiasma and stay engaged and in touch with fellow participants post event. An eChiasma workshop was led by the authors to generate ideas to address this challenge, drawing on some of the ideation principles of the Chiasma but focusing on how supportive digital tools and prototypes for knowledge exchange might be developed.

Research context – The eChiasma research group, composed of PhD students and early career researchers, was at an early stage in the research process having begun to articulate research aims and individual research interests in the digital tools sphere. Following initial meetings, there was a need to shift from wider abstractions to more concrete ideas and prototypes that could be tested with end users in an adaptable and iterative fashion, informed by HCI and service design principles. Several of the outputs from the eChiasma workshop are currently being developed into working prototypes ready for evaluation.

FIGURE 4. ***Discussing the 'washing line' of ideas. Photo credit: Deborah Maxwell.***

Description: Time – The eChiasma workshop was a full day event that took place in April 2013 in University of Abertay, Dundee, UK, with an hour set up time to transform the room from a traditional classroom layout towards a studio space. All seven participants were

members of the eChiasma research team, namely, four doctoral students, one research assistant and two postdoctoral researchers.

Description: Space – The eChiasma event was held in a classroom within the University of Abertay. The theatre style layout was reconfigured into small group working stations around desks. To help generate an atmosphere of excitement and interest in the work, as well as providing a digital documentation and component to the day, a live Twitter feed using the hashtag "#echiasma" was on rolling display at the front of the room.

Magic whiteboard paper and graffiti paper were placed on walls around the room to allow participants to sketch out and share ideas, and a full length glass wall was populated with empirical data findings from previous research activities and individual team members' eChiasma research aspirations (a prerequisite task), A make-shift 'washing line' of household string was also hung across one side of the room. The rationale behind this was that participants would be able to write possible solutions on cards and vote on these ideas to identify which of them they would be most interested in working up in the near future.

Description: Design – The day began with participants taking part in an ice breaker task. Although participants knew one another already, this was an opportunity to get into the spirit of a Chiasma event, suspend realities and, for the facilitators (in this case two of the paper authors who were also part of the eChiasma research team), to set the tone of the event as an informal, interactive, non-hierarchical research space.

Participants had previously shared wide scoping research questions on the areas they would like to explore and these were unpacked through structured short rounds of brainstorming. Participants then worked through several iterations of ideas generation activities to produce several potential solutions which could be implemented to support knowledge exchange, and specifically help those attending a chiasma to form relationships and become engaged in the process.

Reflections: Researcher roles – The workshop was conducted as an internal event, so all participants had background knowledge of the project and had met each other on several occasions previously. All participants had previously attended eChiasma meetings and were aware of the aims of the project and the goal for the day, and all had provided information to be used on the day ahead of time, as directed by facilitators. The researchers (and paper authors) leading the workshop were actively participating, to the extent of presenting final co-created ideas as a pitch to the rest of the group at a 'Dragon's Den'-style panel at the end of the day. This role included documenting the activities (e.g. through Twitter and photographs) as well as critiquing, brainstorming, and self-reflecting on the process as a learning experience.

DISCUSSIONS AND REFLECTIONS

The four examples described in the preceding section demonstrate a range of researcher-participant relationships, all taking place in temporary pop-up environments. In each of these examples, the researcher (or research team) acted as a catalyst, orchestrating events rather than as a passive, unobtrusive observer.

As the table in figure 5 shows, the researcher adopted a range of roles in each case study, from observer to participant, facilitator to agent through to that of an expert or specialist academic. The spread and priorities of each of these roles was determined by the context; for example in Designing for Delight, the research need for a co-design approach necessitated the adoption of an active participant role by the researcher to place an equal emphasis between the researcher as an academic 'expert' and researcher as learner, to work with and appreciate the skillset of the participant designers. As with any qualitative study involving human subjects, successfully negotiating the researcher-participant relationship is critical, and as scholars increasingly acknowledge the need for study group rapport and conceptualising informants not as 'subjects' but as collaborators to open a dialogue (Angrosino and Pérez, 2000, p. 675), so too this resonates with design and HCI constructs around participatory and service design.

Figure 5 also indicates the variety of data capture media used for each case study, including participant self-documentation and collaborative research-participant completed materials. Employing a multi-methods approach not only has a practical rationale (i.e. to maximise limited resources and time) but also extends the notion of triangulation towards Richardson's crystallisation theory (Richardson, 2000) shifting away from the naïve concept of a fixed, apparent, objective truth that research strives for towards the realisation of a multifaceted set of 'truths' viewed through cultural lens and biases. Similarly, the open acknowledgment of the researcher cast in a central director role in these pop-up spaces is intertwined with issues of trust, authenticity and perceptions of power or authority, which could be explored further in future studies.

Table 1. ***Summary of research roles for each example***

	Group dynamics	**Data gathering techniques**	**Researcher roles (ordered by priority)**
Chattr	No knowledge of participants beforehand. No group work required.	Audio recording, still photography, observation, researcher notes, semi-structured interviews, questionnaire, physical posting of discussion, live social media streams.	Agent observer
Serendipitious maypole	No detailed knowledge of participants beforehand. Participants all knew each other. No group work required.	Still photography, researcher notes, participant completed cards, physical representation of maypole.	Facilitator Expert Observer

Designing for delight	The three participants did not know each other beforehand. Research team (three members) knew each other well. Group work as integral part of the process.	Still photography, participant completed cards, collaborative participant-researcher storyboards, researcher notes, collaborative participant-researcher mind maps.	Facilitator Expert Participant Observer
eChiasma Workshop	Internal project group – everyone knew everyone else. Group work throughout the process.	Still photography, live social media stream, participant completed cards, collaborative participant-researcher storyboards.	Participant Facilitator Observer

In comparison to more traditional ethnography, in pop-up environments conscious design decisions must be made beforehand regarding the spatial requirements, configuration and tools, in order to estimate the number of participants, types of activities and data gathering techniques. However, this must be balanced with an in-built flexibility to adapt on the fly to participant responses and observed and emergent group dynamics. In our examples there is always an element of participant self-documentation, whether this be through a parallel social media channel like Twitter (e.g. Chattr), or by prompted activities (e.g. Serendipitous Maypole). Such an approach adheres to the overall use of multi-methods but also maximises the limited human and time resources in these often 'one-shot' environments (i.e. this configuration of participants may never occur again). Construction of these environments in terms of selection of informants or participants can be directly orchestrated by the research team too (e.g. by invitation in Designing for Delight), or more opportunistic (e.g. Chattr) and is again driven by the research agenda of the organising team. Awareness of the participant make up and any pre-existing group dynamics (such as those encountered in Serendipitous Maypole) is critical in the design of activities to facilitate group formation of participants and in the importance of the creation of a safe environment to encourage rich interactions.

Clearly there is much work to be done in assessing the research validity and identifying the key components in pop-up environments as well as the opportunities they may negate or obscure. Future work could include the development of a framework for determining the range and continuum of researchers' roles, and a set of evaluation criteria for multi-disciplinary use, as well as the development of a set of guidelines for successful navigation of these varying roles, along with practical field guides or notes. This paper does not attempt to introduce such a framework, rather it seeks to present a range of examples of pop-up events and to ground the concept of a temporary research environment in an historical and academic context.

Short-term ethnography or ethnographic informed observation (e.g. Brockmann 2011) is not new, nor is adopting an active research role; what is more unusual in 'pop-up

ethnography', we contend, is the extent of researcher direction in temporal groups coupled with temporal physical spaces, as informed by ethnographic practices and influenced by design and HCI methods.

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REFERENCES CITED

Angrosino, M. V. and K. A. M. Pérez
2000 "Rethinking Observation: From Method to Context." In *Handbook of qualitative research*. 2nd edition. N. K. Denzin and Y. S Lincoln eds. Thousand Oaks, Calif.; London: Sage.

Barab, S. A., M. K. Thomas, T. Dodge, K. Squire, and M. Newell
2004 "Critical design ethnography: Designing for change." *Anthropology & Education Quarterly* 35 (2): 254-268.

Bey, H.
2007 *The temporary autonomous zone, ontological anarchy, poetic terrorism*. Forgotten Books.

Brockmann, M.
2011 "Problematising short-term participant observation and multi-method ethnographic studies." Ethnography and Education 6 (2): 229-243.

Chalmers, M. and A. Galani
2004 "Seamful interweaving: heterogeneity in the theory and design of interactive systems." In *Proceedings of the 5th conference on Designing interactive systems: processes, practices, methods, and techniques*. Cambridge, MA: ACM.

Chalmers, M., M. Bell, et al.
2005 "Gaming on the edge: using seams in ubicomp games." In *Proceedings of the 2005 ACM SIGCHI International Conference on Advances in computer entertainment technology*. Valencia, Spain: ACM.

Coldicutt. R
2010 "Innovation in arts and culture #3: the Happenstance project." *The Guardian Culture Professionals Network*. Accessed March 17 2013. http://www.guardian.co.uk/culture-professionals-network/culture-professionals-blog/2012/apr/26/happenstance-project-digital-arts.

Dourish, P.
2006 "Implications for design." In *Proceedings of the SIGCHI conference on Human Factors in computing systems*. Pp541-550. ACM.

Hammersley, M. and P. Atkinson
1995 *Ethnography : principles in practice*. London: Routledge.

Handwerker, W. P.
2001 *Quick ethnography*. Altamira Press.

Hannerz, U.
2003 "Being there... and there... and there!" *Reflections on multi-site ethnography*. *Ethnography* 4 (2): 201-216.

Hine, C
2011 "Towards ethnography of television on the internet: A mobile strategy for exploring mundane interpretive activities." *Media Culture Society* 33 (4): 567-582.

Hine, C.
2000 *Virtual ethnography*. Sage Publications Limited.

Kanter R. M.
1977 *Men and Women of the Corporation*. Basic Books, New York.

Kluwin, T. N., C. S. Morris, and J. Clifford
2004 "A rapid ethnography of itinerant teachers of the deaf." *American Annals of the Deaf* 149(1): 62-72.

Maxwell, D., and M. Woods
2012 "Encouraging Reflexivity in Mobile Interactions." In *Proceedings of CHArt (Computers and the History of Art) 28th Annual Conference*. Pp 15-16. London 2012.

Millen, D. R.
2000 "Rapid ethnography: time deepening strategies for HCI field research." In *Proceedings of the 3rd conference on Designing interactive systems: processes, practices, methods, and techniques*, 280-286. ACM.

Richardson, L.
2000 "Writing: A Method of Inquiry." In *Handbook of qualitative research*, 2nd edition. N. K. Denzin and Y. S. Lincoln, eds. Thousand Oaks, Calif.and London: Sage.

Salvador, T., G. Bell, and k. anderson,
1999 "Design ethnography." *Design Management Journal (Former Series)* 10 (4): 35-41.

Scott, J., ed.
2010 *Artists-in-labs: Networking in the margins*. Vienna and New York: Springer.

Stals, S., M. Smyth, and W. IJsselsteijn
2013 "Walking & Talking: Probing the Urban Lived Experience." Submitted to *alt.chi , CHI2013*. Accessed 12 March 2013. http://altchi.org/2013/login.php?action=showsubmission&id=207.

Steveni, Barbara
2001 "Organisation and Imagination (formerly APG, the Artist Placement Group)." Accessed March 17 2013. http://www.slashseconds.org/issues/002/004/articles/bsteveni2/index.php.

Thompson, D.
2013 *"pop up people" Action Research Project*. Accessed 18 July 2013. http://emptyshops.files.wordpress.com/2012/06/popuppeoplereport.pdf.

Urry, J.
2007 *Mobilities*. Polity.

Van Manen, M.
1977 "Linking Ways of Knowing with Ways of Being Practical." *Journal of Curriculum Inquiry* 6 (3): 205-228. Accessed 17 March 2013. http://www.jstor.org/stable/1179579.

Techno|theory deathmatch: An agonistic experiment in Theory and Practice

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Theories about humans and their relationships with technology are part of a lifeworld shared by many corporate ethnographers, although individuals' practices for engaging with theory can vary considerably due to factors such as disciplinary training and workplace norms. Within the EPIC community the perception of a constrained relationship between theory and corporate ethnographic praxis has emerged as a matter of concern. This paper recounts our experiment with bringing theory into daily work by designing and playing a game that had us adopt the personas of theorists while engaging in rhetorical combat, competing to surface insights relevant to an ongoing technology development project. Each phase, from initial game design, through prototyping play, to the final event, supported our collective practice of theory, brought to light hidden assumptions about the role of theory in our work, and provided actionable value to our daily work activities.

> The analogy between forms of sport and forms of discourse and knowledge should be taken as literally as possible.
> Peter Sloterdijk, 2013.

PLAYING AROUND WITH THE PRACTICE OF THEORY

Theories about humans and their relationships with technology are part of a lifeworld shared by many corporate ethnographic practitioners. Practitioners are typically exposed to theory in professional training programs, but may enjoy limited opportunities to deepen engagement with theory once inside corporations. Individual practitioners' approaches to engaging with theory can vary widely due to factors such as discipline, training program, and the workplace norms they have encountered across their careers. Moreover, corporate settings don't always offer teams the time necessary to engage with theory collectively, or at least to do so in what feels like a satisfactory manner. For our team, as for many practitioners in our field, daily work involves researching and contributing to the processes whereby new technologies are designed, developed, and brought to market. Despite the relevance of theories about humans and technologies to this work, opportunities for explicitly engaging with and contributing to theory may not always be recognized by our organizations, or even by ourselves, as integral to daily practice. These challenges help

explain why the historical relationship between theory and corporate ethnographic praxis has been characterized by a series of constraints (Baba 2005; Sherry 2007) leading to expressions of concern and even anxiety among EPIC practitioners about the state of our collective approach to leveraging and producing theory (Cefkin 2010). In this paper we seek to add to these conversations by sharing our experiences experimenting with a novel approach to connecting theory to daily practice during the course of one work project.

The large technology corporation we work for is actively involved in designing and developing technology-based products and services on a global scale. To this end, our team's designers and anthropologists work in cross-disciplinary projects in which our qualitative research and design contributions are combined with the contributions of technology researchers, market analysts and business development executives, among others.[30] In one multi-year project that is still underway, we are exploring opportunities for telemedicine in various global healthcare contexts. Taking stock of our situation after some initial project activities—these included a technology literature review, several months of project meetings, and ethnographic research at sites in the U.S. and abroad—we realized that many issues raised by the project (the use of new communications technologies by both doctors and patients during medical encounters, the displacement of embodied co-present humans by video-realistic digital avatars during remote conferencing, and the general impact of disruptive technologies on health care institutions) inspired us to want to refresh our broader thinking about the human and institutional implications of new technologies. In the normal course of the projects we work on, however, there are few formal or explicit opportunities to re-engage as a team with theory.

This is not to say that we don't at times make use of and engage with relevant theories. Within our team we often recognize and acknowledge moments when particular ideas taken from theoretical writings inform our work practice, whether it is working through the design of a research program or advocating for a particular interpretation of data. As professionals interested in developing our skills as designers and researchers, we read (usually alone) and sometimes chat together about new theoretical interests. In project work, however, we felt we lacked an organizational form for taking our personal, informal and somewhat invisible activities of self-development through theoretical engagement, and making them more collective and more explicitly linked to project goals and outcomes. In short, we found ourselves wanting to do more to keep current with new ideas, wanting to create a space for explicitly discussing theory in relation to our projects, and interested in exploring our assumptions regarding the value of theory and theoretical practice within the total set of practices of design research work in a corporate context.

CONCEIVING DEATHMATCH

Techno|Theory Deathmatch (hereafter simply "Deathmatch") was imagined as a response to that situation. The exact design of Deathmatch emerged gradually through conversations, but its general outline, we realized early on, would involve two phases. First

[30] Past team member Eugene Limb moved to a new organization during this project but continued to take part in the activities described in this paper.

we would prepare by reading books we were interested in reading, works we thought might prove valuable to our project or to our professional development generally. Then we would play, by meeting and engaging in a series of matches of rhetorical combat, speaking not merely about our theorists but *as* them, channeling their worldviews and their voices, to

Figure 1*. Gameplay avatars representing Lucy Suchman and Bruno Latour confront each other in Deathmatch Arena, while other theorist figures look on in the background. By reaching for and holding avatars during combat, players could fluidly signal shifts in speaking voice, a helpful device in a game in which players alternate between participating as themselves and as invited theorist combatants. Photo Credit: Tiffany Romain.*

share and work out what we had learned and what that might contribute to our project. To clarify our nomenclature for the purposes of this paper, we will say the human player ventriloquizes an individual theorist, and that this player-theorist pair, this conjoint or hybrid speaking agent, is the *combatant*. During Deathmatch, combatants would face off one-on-one to present their views on our project and share the insights they would offer if they were members of our team, working alongside us on this project. Those insights would be treated as valuable (earning points in some as yet undetermined judging system) insofar as they surfaced actionable implications for our team's activities in the remainder of the project. We hoped that this chance to share, evaluate, and critique ideas arising from a range of perspectives would strengthen the project and our team's ability to contribute to it.

Deathmatch was also conceived, in part, as an effort to emphasize the view that theory is something that is and can only be part of practice. That is to say, to *practice* theory means to engage in specific activities (reading, writing, annotating, listening, talking, thinking,

arguing, explaining, etc.) in the course of elevating one's ability to make sense of the world. To understand theory as something that transcends these empirical practices is to risk locating it in an autonomous realm of ideas, created by knowing Subjects, about a world of Objects (Latour, 2013). Such a perspective imposes an ontology that divides Subjects from Objects by an unbridgeable chasm and contributes to the casting of theory as an all-or-nothing domain in which adepts must undergo some ritual transformation of social status (the graduate program) or cross over some particular threshold of virtuosity before becoming justified in claiming to "have theory" as part of their professional toolkit. Once theory is seen as something that one can never have mastery of, despite how casually we find ourselves slipping into believing otherwise (and this, usually, about others!) but rather something that must be practiced, something that is always and only approached incrementally, through the taking of small steps, then it becomes easier, we believe, to recognize the value in integrating elements of theory-practice, even in modest forms spanning weeks, days, or even hours, into our work routines.

A final element in the conception of Deathmatch was a willingness to embrace and even exaggerate the presence of material artifacts and embodied practices in the work of theory-practice. The initial idea of Deathmatch came into the world inseparably linked to a vision of using the material artifacts of game culture to shift us out of the realm of serious talk, and of using the convention of playing both as ourselves and as player-theorist combatants as a way to dislodge us from the social interaction conventions that come when we dramatize our own identities. These two playful elements would also, we hoped, help support our efforts to unite team members with different personal histories of theoretical practice in a shared experience of mobilizing theory in the context of our current project. Exactly how we would implement these approaches, we should add, did not become clear to us until after the prototyping session discussed below.

> …useless play…and simulated fights celebrate their existence somewhat wilfully, in the clearest possible contrast to the utilitarian objectivism of the working world.
> Peter Sloterdijk, 2013.

PREPARING FOR DEATHMATCH

Once our commitment to seeing the game through to the end was acknowledged, we began our preparations. Each player informally nominated authors whose works they wished to read, and a shortlist was established. Players proposed theorists based primarily on personal interests in reading particular recent books; in some cases the interest was in re-reading a familiar work, now with a different perspective and with the intention of sharing it with the team. We explicitly sought to welcome authors operating in a range of theoretical registers, spanning not only various academic disciplines but also the kind of popular technology writing that represents and informs the perspectives of many actors in the world of technology innovation in Silicon Valley. The final selections made were (in alphabetical order): Anne Balsamo's *Designing Culture*, Steven Johnson's *Future Perfect*, Kevin Kelly's *What Technology Wants*, Bruno Latour's *An Inquiry Into Modes of Existence*, Evgeny Morozov's *To Save Everything, Click Here*, Peter Sloterdijk's *You Must Change Your Life*, Lucy Suchman's *Human-*

Machine Reconfigurations, and Sherry Turkle's *Alone Together*. Once these works were chosen, we distributed them amongst ourselves. Recall that the game emerged in response to a work environment where we felt we had insufficient time to engage deeply with theory.

FIGURE 2. ***Creating insight cards for each theorist made it easier to manage the sharing of ideas during gameplay; cards could be sorted, arranged into sequences, pointed to, and placed near and around the related insights of other theorists. Photo Credit: Tiffany Romain.***

The decision to have each book read, at first, by just one player, meant that each player could read two books yet come away from Deathmatch having gained some measure of benefit from eight. Players who wished to serve as second or third reader of a particular book were welcomed to do so. In the month leading to our first Deathmatch encounter, participants set to reading their books plus any additional materials by their authors they felt would help bring those theorists to life while presenting and defending their views on our telemedicine project.

PROTOTYPING PLAY

A first session of Deathmatch gameplay was convened to prototype the game design. We met on a Friday evening, at one of our homes, over dinner and beers. Players were expected to arrive having read the works by their authors and prepared to enact the role of combatant. Because many aspects of gameplay had not been finalized before we gathered that evening, we found that players had taken different approaches to equipping themselves for gameplay. Some arrived armed with direct quotes or summaries of arguments and

proposals for how these could be turned into design criteria. Others had moved directly to offering specific design ideas inspired by their readings. We spent some time sharing stories about our experiences preparing, then played through two matches, and as we played, we allowed ourselves to shift between the game frame and the prototyping frame, carrying on a conversation about elements of gameplay, the role-playing experience, what should count as a relevant insight or contribution, what methods we would use for scoring, the value of physical artifacts to support gameplay, and so forth.

Prior to that session we had imagined that combatants would fight for three rounds, each round providing an opportunity to deliver different types of 'moves'. In Round 1, combatants would deliver insights focused on making sense of what had happened so far over the course of the project, such as shifts in strategic direction, or changes in positions taken by different stakeholders. In Round 2, combatants would offer insights that helped us assess the impact of our team's contribution in relation to other inputs into the project. In Round 3, combatants would vie for supremacy in generating and evaluating ideas for actions we might take during the remainder of the project. As a result of our prototyping session, we decided to adopt a much simpler approach.

For our final Deathmatch event, each match would be a single round with the following structure:

- Each combatant has 3-5 minutes to present topline critiques of and proposals for the project.
- Each combatant then takes 2-3 minutes to rebut their opponent's remarks or elaborate on their own earlier comments.
- The floor is then open to all players for 15 minutes; players may speak as themselves, discussing and evaluating combatants' suggestions, and can also talk back and forth with combatants, seeking clarification of or challenging their proposals. This conversation will include six voices, the four players and the two player-theorist combatants.
- After approximately 30 minutes of total match play, each player assigns a score to each of the two combatants based on some criteria to be determined. Scores are tallied to determine the winner of the match.

By the end of our prototyping play session, we also agreed that moves by combatants would be valid if they fell into one of three categories:

1. Insights surfacing ideas for improving existing product features or creating new offerings or new features based on the core technology.
2. Suggestions for process innovations and methods our team could adopt to increase chances of success for the project going forward.
3. Perspectives for understanding the macro context, such as (political, economic, legal, cultural, etc.) structures and drivers impacting the course of the project and the future trajectory of its offerings out into the world.

After prototyping, we had moved closer to a shared vision of what our goals for the game would be. We had also learned that, despite our best intentions to arrive prepared, none of us felt adequately immersed in our theorists' works to channel their presence. We concluded that we needed several more weeks to adequately prepare before we could expect to have a successful game.

MAKING ARTIFACTS — CARDS, AVATARS, ARENA, SCORING

As a result of our prototyping experience we decided that each player would make insight or 'move' cards as part of our preparations for game day, a constraint intended to help us distill our potential (and potentially abstract) contributions into discrete units. Cards created for a given book were not intended to capture the most generally significant or representative ideas it contained, but rather those insights and ideas that seemed most useful in the context of our project. During final gameplay these cards did prove helpful by anchoring a move delivered orally by a combatant to a physical marker that could be pointed to later, or placed in some configuration relative to other cards that it supported, extended, or contradicted. Having things we could literally point to during philosophical debates about abstract ideas made it easier to keep track of our conversations.

FIGURE 3. ***To facilitate gameplay, players created 10 to 20 cards for each theorist they represented. Some cards captured ready-made insights that players anticipated presenting during combat, others were meant to serve as crystallization points for generating collaborative ideation.***

During our first gameplay prototyping session there was occasional confusion about when a player was speaking as a combatant and when she or he was speaking as her or himself. Having an avatar to speak through would, we hoped, facilitate and streamline the mechanics of turn-taking and position taking. To address this we created game figures for our theorists out of paper, foam-core, and a large dose of levity. Figure 1 shows, for

example, a Lucy Suchman avatar with the body of WALL-E, and Bruno Latour as Spartacus. Figure 3 reveals two other avatar figures: Peter Sloterdijk as a golem, and Kevin Kelly with the body of a Sentinel from the Matrix films his work helped inspire. Mikael Jakobsson has described *levity* as an essential characteristic of play in virtual worlds. For him levity is an emergent phenomenon resulting from "a complex interaction" among potentially indeterminate factors, but elements he identifies as crucial include aesthetics—"The environment evokes a certain state of mind. The look and feel of the environment is not a given, it is the designer who sets the tone" (2006: 133)—and the use of avatars: "The avatar works as a mask which has the psychological effect of shielding the participant and thus affects the way participants interact … The avatar allows us to be together without some of the pressure that physical presence exerts on social interaction" (2006: 133-134).

During our final Deathmatch event these figures supported us in making the transition into an alternate world, and offered practical support for gameplay in two ways. As we expected, by reaching for and holding these simple artifacts during discussion players could fluidly and instantly signal shifts between their own voice and the voice of a given theorist. A second phenomenon was less expected, and requires some explanation. Each match of our game pitted two combatants against each other, and during their match the figures of the competing theorists were placed on Deathmatch Arena, a decorated raised platform in the middle of the table. After the match was over, those combatants left the arena and joined the four of us on the sidelines as observers of subsequent matches. This led to the unexpected circumstance of past combatants becoming active participants in the conversations that arose during later matches. That is to say, at the point when players were invited to discuss or directly confront combatants, we discovered that combatants from previous matches spontaneously invited themselves to join our conversation (by having the player who voiced them reach out, move the avatar back into Deathmatch arena, then take the floor speaking in the voice of the theorist). As a result, in the first match, the four players found themselves interrogating only the two active combatants; in the second match, the players found themselves joined by the two combatants from the first match, so that six voices were challenging the two active combatants. By the fourth match the four of us found ourselves taking turns with six past combatants debating the strengths and weaknesses of newly offered moves. This element, which emerged unplanned during our final gameplay interaction, turned out to be both fun and productive.

The final artifacts needed for our game, along with cards, figures and the arena, were simple scorecards. After each match, players silently scored each combatant's performance using a numerical scale in the categories we had agreed upon, and these score sheets were tallied to determine winners.

> The basic subject-forming exercise…[is] the methodically performed withdrawal from the complex of shared situations one calls 'life' or 'the world'.
> Peter Sloterdijk, 2013.

DEATHMATCH — POSTGAME ANALYSIS AND COMMENTARY

The benefits of having worked out our own rules and expectations for the game, and of having done so in response to our specific situation, should not be underestimated. A different team interested in holding its own Deathmatch would choose different theoretical works, pull out different insights, choose different criteria for scoring, and find different value in individual moves made. For this reason, those teams would not be well served, in our view, by having us provide more details about the choices we made in our playing of the game. With Deathmatch providing a general framework, making choices as a team regarding specific aspects of play becomes itself a valuable part of playing the game. This is meant as a partial justification for our not saying more about the particulars of our final Deathmatch event. In what follows, however, we will share some of what we felt we learned when looking back on that event and on the experience overall.

A Space of withdrawal

One benefit of Deathmatch was the opportunity to withdraw from our daily routines and enter a new space, one defined initially by its anti-structure, by the absence of the procedures, expectations and artifacts encountered in organizational life that help us make sense of "what to do next." As we collaborated to develop a sense of what exactly would be involved in gameplay, we gradually filled that empty space with new structures, new artifacts and expectations, but these existed in a kind of counter-world that stood outside our everyday work routines. Seeing the game as what Sloterdijk might call a *space of withdrawal* has two sides, however. What does it say, for example, that we felt we needed to conduct Deathmatch outside of work hours, meeting once at one of our homes and once in a local public library? Were we providing ourselves with the necessary conditions for self-transformation, or continuing to relegate theory to the margins? Keeping these activities separate was as much a way of defending ourselves against others in the workplace, those who might see time spent in the game as outside the legitimate work of the organization, as it was a way to create a temporary state of *communitas* outside the constraints of our work environments and our own work personas. Recall, as well, that the circumstance of our feeling we lacked the time to engage deeply with theory was an inspiration to us for exploring more *ad hoc* and lightweight ways to bring theory into our work. This too could be seen as making a virtue out of necessity. Was our choice to treat theory as something that can be meaningfully engaged even under conditions of constraint merely an indication that our work environment had succeeded in imposing a structurally necessary over-valuation of *flexibility* into our collective habitus (Martin, 1994).

The winner

It should not go unrecorded that the ultimate champion of our Deathmatch event, the competitor seen as offering the greatest value for our team, turned out to be Anne Balsamo. Balsamo's victory was perhaps not surprising. Her book is about and directed at people like us, designers attuned to culture, engaged in the development of technology innovations.

Combatants earned points by directing insights toward three aspects of our project (future offerings, our process, and drivers shaping the world within which the project unfolds), and it was perhaps inevitable that Balsamo was able to be successful speaking to more of these issues than her opponents. Other resonances between her work and our situation became apparent when we considered her success. Her approach to design involves taking the tools of social science and applying them to design practice in a lightweight but meaningful way. This is essentially what we had hoped the game would do for us. Balsamo, in *Designing Culture*, also presents design as, at least in part, a form of mediation, emphasizing that designers "negotiate shared understandings and meanings among participants, who come from different disciplinary backgrounds, hold divergent assumptions and values, and have particular investments in the innovation process" (2011: 11). For us, not only was Deathmatch a way of enacting an intentional approach to the process of working through

Figure 4. ***Combatant AnneBalsamo|MikeGriffin unleashes a deadly "Single Air Quote" move on KevinKelly|EugeneLimb during Deathmatch play. Photo Credit: Jay Dautcher.***

assumptions, of making our own and others' theoretical commitments more explicit, the game helped us rethink the negotiations that are always part of project work. As one game player said:

> "One benefit of the game for me personally was helping me adopt more of a 'Yes, and' attitude toward people with more technologically positivist worldviews. I was surprised that it taught me to tolerate Kevin Kelly and Steven Johnson. It reduced my hostility toward them. Having

> gone through Deathmatch helps me see that there are always frames people are committed to. So now, I can just feel, 'You're not wrong, it's just that the things you care about are not the things that matter to me'. In our lab we're always coming up against people's worldviews, and being able to manage that is really important in our design work. Sometimes you can feel like you're getting steamrolled by them, or like there's a fight there [to be had], and it helps to realize how deep the differences in our theoretical commitments can be".

The spirit of playfulness we tried to design into the Deathmatch approach to engaging with theory contributed, we think, to achieving the outcome of promoting mediation across competing commitments. The play frame helped to take away from the seriousness, even ferocity, that sometimes overtakes us when we find ourselves articulating and defending theoretical approaches in the face of opposition. The role-playing element was also consequential. That we took part *as* our chosen theorists, and hence found ourselves in a group dialogue *with* those theorists, shifted us in an empathetic direction in a way that merely discussing their ideas would not have done. Conversations about theory, in the context of workplace relationships, can also carry with them an element of concern for the associated face-work, the presentation of the self as qualified to speak competently about certain things. Role-play shifted things here, too, and speaking *as* theorists, while maintaining (by literally holding in our hands) *their* faces, did something to reconfigure that peculiar burden that comes with needing to always be taking one's own position relative to what one is saying someone else is saying. With Deathmatch we were as free to speak *as* our theorists as were to speak *about* them.

Rethinking the place of Theory-Practice in our work

A new way of thinking about our design practice also emerged from Deathmatch, partly through exposure to Sloterdijk's writings on practice in pursuit of virtuosity. Practice, for Sloterdijk, is "any operation that provides or improves the actor's qualification for the next performance of the same operation, whether it is declared as practice or not" (2013: 4). As practicing beings, our lives are shaped by our responses to "the phenomenon of vertical tension, without which no purposeful practicing is possible" (2013: 14). And it is the "awareness of the inner gradient" (2013: 60) in all of our practice that leads us to seek elevation, that is to say, virtuosity. Academic graduate programs present students with a clear path for becoming increasingly competent theorists, training them in the repetitious work of engaging with theory, compiling bibliographies and conducting literature reviews, reading passages of mind-numbingly incomprehensible prose, presenting summaries and critiques to peers and professors in small seminars, and so forth. And professors, through their written work and their presentations, if not also teaching, provide a clear model of what the virtuoso performer of these same academic theory-practices might aspire to, a model that is reinforced regardless of any flaws that might mark individual professors as being, after all, just practicing humans, aiming at the impossible. In the context of corporate ethnographic work, however, and in ethnographic work in support of technology design in particular, it is less clear that there *is* a shared model for what virtuosic practices of theory-using and theory-

building are meant to look like. If it is true that we all aspire to be virtuoso practitioners of what we do, what then is our vision for the place of theory-practice in our work? What *are* our most common theory practices, and what does virtuosity in those practices look like? Digging deeper, we might also ask, how do we operate as a community despite not having such a model, and why do we not even recognize its absence?

A loss of focus, or, Deathmatch going feral?

During the matches of our prototyping play session, our invited theorists were generally very cooperative, making contributions that helped us stay focused on imagining new possibilities for our telemedicine project. In the month that followed, as we prepared for our final event, we maintained a loose conversation about how to relate theory to our practice, and the more we read that month, for some of us at least, the more it seemed serendipitous that the works we were reading were not only providing inspiration for designing telemedicine technologies that were good for people, as we intended, they were also proving "good to think with" when reflecting on the game itself, how to design it, and how to understand its value; that is to say, for helping think about the place of theory in everyday practice. During our final Deathmatch, as a result, some of our combatants seemed to want to talk as much about the place of theory in design practice as they did about our technology project. While we realized, after the game, that this took some of our focus away from our intended goal, it also shows a certain generative capacity of the game to "go feral" (Bell 2010), to take us in unexpected directions, lead us into unexpected environments, and ultimately to behave in ways that defy any simple notions of control and supervision.

Prior to our final Deathmatch event we also had not anticipated the dynamic that past combatants would speak up to challenge and support both players and other combatants. This transformed the game into something that did more than juxtapose and oppose theoretical perspectives, it helped us see those theories woven together in dialogue. This helped us also move closer to a way of looking at the world, or at least of looking at theory, that accepts that no one theory or instrument can provide total understanding, and that theoretical views in combination deliver a more multi-dimensional understanding than any one theory alone. As one player said:

> "What was surprising was how helpful the whole activity was for brainstorming new possibilities. one thing to look at an individual theorist and draw inspiration for design ideas, but juxtaposing different, sometimes wildly contrasting, theories next to each other and hashing them out, helped tease out ideas that we, as a team, might not have thought of otherwise."

Deathmatch provided an excellent platform for bringing multiple theoretical frameworks into mutual engagement and then positively articulating the contradictions and complementarities between them, and for recognizing when, how, and why different theoretical perspectives can be applied to the same or overlapping problems to provide different, but perhaps equally important, insights.

Moving forward

One measure (though *not*, we think, the only measure) of the value of Deathmatch, will be determined by the positive impact it ultimately has on our team's contributions to a successful outcome for the telemedicine project. These effects will be evident only in a future that has not yet come to pass as we write this paper. Barely one month has elapsed since we held our event, and we continue to discuss among ourselves ideas for taking the insights that emerged during gameplay and moving them forward in the project. At the very least, we have created shared content we find ourselves drawing on in everyday conversations. The process of taking up and applying our findings more formally is made complicated by the fact that some of the parameters shaping the project and our role in it are (as they always somehow seem to be) in flux. We do imagine moving the game forward in our own practice, and anticipate playing in the future, keeping most game elements in place while making slight adjustments to others; perhaps creating a short list of questions each combatant must answer early in the match, for example, as a way of normalizing combatants whose theoretical registers can vary tremendously. We also see opportunities to include a wider range of colleagues into the game, technologists, marketing people, colleagues whose training has left them committed to different values and different ways of thinking about the relationships people have with technology.

Most technologies, Kevin Kelly tells us, "don't know what they want to be when they grow up." It is only through encounters with a range of adopters, and collusions with other inventions, he says, that new technologies can find their roles. Deathmatch is no exception, and the possibility that the game will be played by other teams leads us to consider other future versions of, and permutations of, the game. While the structural elements of the game as we played it were sound, much of the game's value for us emerged as we worked out together the particulars of gameplay, and later evaluated the implications of choices we had made; we expect the same will be true for other teams. Which theorists to invite, which insights seem useful, these will of course vary relative to the specifics of the project (or theme or topic) that a future team makes the focus of their Deathmatch interaction. Perhaps the most challenging concern will be how to adapt the game to the more typical business project time-frame of a few months, a scale of action that offers even less of an opportunity to engage with theory by withdrawing into play. We believe the challenge can be met. The primary time cost is in preparation, and there is no reason the game could not be fruitfully played by participants who had read a single 20-30 page article each. If a no-frills approach is taken to creating game figures and insight cards, the game, including negotiating goals and expectations, reading and preparation, gameplay, and then analysis, could perhaps be turned around in the space of several days.

> The main thing is to carry out the exercise, not to reason over it.
> Peter Sloterdijk, 2013.

CONCLUSION

Our team, by designing and playing a game that embraced the idea of allowing players to draw on contemporary theory in a fun, flexible, partial manner as a means of enriching daily professional practice, found success in multiple ways. First, the game provided a platform that allowed us to bring a diverse range of invigorating new ideas into a research project and mobilize them for insights that support us in making useful contributions to that project. Second, the game design process itself pushed us into conversations about the relationship between theory and practice (or more properly, about the place of practices for engaging with theory in that larger set of practices that is, quite simply, everything we do as corporate ethnographic practitioners), and this helped us surface previously internalized expectations and assumptions that may have limited our vision of how we can usefully engage with theory as individuals and as a team. Third, a number of serendipitous resonances between ideas we encountered during gameplay and areas of application beyond the intended target project made the entire experience unexpectedly rewarding. To share one example, our simultaneous immersion in reading about technology while conversing about theory led us to re-conceptualize (or perhaps just recognize) theory as itself a technology. Cast this way, questions about the place of theory in our practice become questions about the implications of the use of technology. This opens up new ways of reading technology theories as theories about theory itself.

ACKNOWLEDGMENTS

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REFERENCES CITED

Baba, Marietta
2005 "To the End of Theory-Practice 'Apartheid': Encountering the World." In *EPIC 2005 Proceedings*. Pp 175-186.

Balsamo, Anne
2011 *Designing Culture: The Technological Imagination at Work*. Durham, NC: Duke University Press.

Bell, Genevieve
2010 "Feral Technologies: An ethnographic account of the future." Presentation delivered at PARC, Palo Alto CA, 3 June 2010.

Cefkin, Melissa
2010 "Practice at the Crossroads: When practice meets theory, a rumination." In *EPIC 2010 Proceedings*.Pp 46-58.

Ensworth, Patricia
2012 "Badges, Branding and Business Growth: The ROI of an ethnographic praxis professional certification." In *EPIC 2012 Proceedings*. Pp238-252.

Jakobsson, Mikael
2006 "Virtual Worlds and Social Interaction Design." PhD. diss., Umeå University Department of Informatics, Umeå, Sweden.

Johnson, Steven
2012 *Future Perfect: The Case for Progress in a Networked Age*. New York: Riverhead Books.

Kelly, Kevin
2011 *What Technology Wants*. New York: Viking.

Latour, Bruno
2013 *An Inquiry into Modes of Existence: An Anthropology of the Moderns*. Cambridge, MA: Harvard University Press.

Maish, Amy and Magda Wesolkowska
2007 "Not Lost in Translation: Maximizing Impact in Marketing Ethnography through Bivocality." In *EPIC 2007 Proceedings*.Pp 288-301.

Martin, Emily
1994 *Flexible Bodies: Tracking Immunity in American Culture from the Days of Polio to the Age of AIDS*. Boston, MA: Beacon Press.

Morozov, Evgeny
2013 *To Save Everything, Click Here: The Folly of Technological Solutionism*. New York: Public Affairs.

Sherry, John
2007 "The Cackle of Communities and the Managed Muteness of Market." In *EPIC 2007 Proceedings*. Pp 16-30.

Sloterdijk, Peter
2013 *You Must Change Your Life: On Anthropotechnics*. Cambridge: Polity Press.

Squires, Susan and Alexandra Mack
2012 "Renewing Our Practice: Preparing the next generation of practitioners." In *EPIC 2012 Proceedings*. Pp 271-285.

Suchman, Lucy
2006 *Human-Machine Reconfigurations: Plans and Situated Actions.* 2nd edition. New York: Cambridge University Press.

Turkle, Sherry
2011 *Alone Together: Why We Expect More From Technology and Less From Each Other.* New York: Basic Books.

Models in motion: Ethnography moves from complicatedness to complex systems

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Since the 90's, one of ethnography's values has been about the reduction in the risk of developing new products and services by providing contextual information about people's lives. This model is breaking down. Ethnography can continue to provide value in the new environment by enabling the corporation to be agile. We need to: (1) identify flux in social-technological fabric; (2) engage in the characterization of the business ecosystems to understand order; and (3) be a catalyst with rapid deep dives. Together we call it a FOC approach (flux, order, catalyst).

INTRODUCTION: RIGHT KNOWLEDGE, WRONG TIME

It is cold and snowy Tuesday morning in December, 7:30AM to be precise. I hate getting up. I love being in bed, snuggled warmly under some covers. Dorms are either too hot or too cold, and my part of the dorm is too cold. I had been up to 4AM studying for an American Short Story Literature class. I'm headed off to the course final in the Academic Center room 203. Having been up most of the night, I'm feeling really confident, despite the early morning hour. I actually spent some of the weekend re-reading all the authors and there is good overlap with a course I had freshman year on American Modern Literature. I also practiced answering essay questions because thinking quickly is not really my forte. I arrive at the room 10 minutes early and take a seat midway back in the room. I can just feel I'm going to nail it. As time ticks by I notice the room is not filling. It is 8AM and no one is in the room. I walk around the hall looking for someone but it is too early and no one is around. I walk up the next floor to the Literature department and ask the admin about the location for the American Short Story course. She looks it up and says, "Yes it is in AC203 but it is tomorrow morning." I rack my brain for what is wrong. I dig into my backpack and come up with my rumpled exams schedule. I'm in the wrong place at the wrong time – I'm supposed to be in my North American Geology final on the 3rd floor of Middleton Science Hall. I'm now 30 minutes late and haven't studied for geology yet!

Unfortunately, it is our contention, that what happened to one of the authors during finals week years ago is also happening to ethnographic praxis in industry today – we are well prepared for a particular kind of work but not the right one, not the one we need to do to enable our organizations and clients to thrive at this time. The frame for the work has shifted. In particular, the guiding model of most industry work, regardless of theoretical approach or particular methodology or area of research or means of representation has been focused on *reducing the probability of failure* for a product, service or strategy. We will explain

the model of value for our work under which we have been working for the past 15+ years, and how business conditions today offer new challenges that make that model less valuable. A *complicated* business environment framed previous ethnographic work, whereas *complexity* frames today's business environment. This new complex business environment drives ethnography to focus on values associated with a higher velocity of the market and greater complexity in the market. These market conditions are antithetical to the assumptions of the market under which ethnographic praxis has thrived. The new conditions, however, do offer new opportunities for ethnography by enabling agility for organizations. We can enter an era of Ethnographic Praxis 2.0.

THE BUT MODEL: WHERE WE'VE COME FROM

The foundation of modern ethnographic practice was laid out in the 90s. Wasson (2000) highlights the rise of the field, particularly via E-lab. Wasson demonstrated that the early successes were about providing deep contextual information about people and their practices. It was this deep knowledge that enabled the spread of ethnographic practice. More recent edited volumes by Jordan (2012) and Cefkin (2010) and a "how to" book by Crabtree et al. (2012) highlight the many field sites and businesses where ethnographic practice has thrived and some growing tensions in the field. Looking over the breadth of the field from these books, one would be thrilled by the growth of ethnography used in business. One of the early papers outlining the area of Design Anthropology (Salvador 1999), laid out the importance of ethnographic work for new product development. This is an important piece for us because it pointed to the role in product development cycle that ethnography could have; Ethnographers could help corporations by reducing the probability of failure. The way ethnography could do this was by providing a contextual and emic understanding of people and their practices. The importance of people was that they had become an integral part of what has come to be known as the BUT model. BUT stands for Business, Users and Technology. The model hypothesized that the greatest business opportunity lay at the intersection of BUT. This required not only the usual deep understanding of technologies and business, but also a "deep" understanding of people. Further, once an area (product, service or strategy) had been identified, either in advance or out of research, then further research on people (the U) would enable proper tailoring of the product, service or strategy

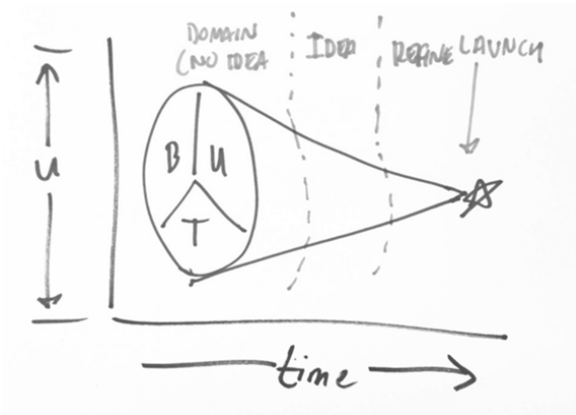


FIGURE 1. ***BUT model of product development***

so that it would be more likely not to be wrong. The research *reduced the uncertainty* associated with creating a new product or service. Whereas a deep understanding of people was not an integral part of doing business before, it was now integral to a model that was driving actions. While business and technology (or product developers) had established ways of reducing uncertainty, ethnography introduced new and important elements into the mix: people and contexts. The reason that ethnography could reduce uncertainty was because the largest unknown was the user, not the business environment or the technology. Further, the assumption was that unknowns were "known unknowns", that is businesses knew what they needed to understand in order to succeed. They were in a *complicated* business environment (Snowden 2007). The business environment was based in cause and effect as being relatively predictable with proper research and analysis.

BUT model assumptions and ethnographic value

The original BUT model that enabled ethnographic praxis in industry to flourish these last 20 years made certain assumptions. Ethnography was interpreted primarily as a way of explaining detailed lives of people. These descriptions often consisted of two parts (Salvador 1999): (1) in situ research to describe *the context* where a product's use was or was imagined to be and (2) an *emic point of view*; the ethnographer could bring back a narratives from the field, ideally people's own words and actions captured, providing the target user or consumer's perception (as point of balance to the corporation's perceptions). Of course there were other foundational parts of the design anthropological approach, like being multi-sited, holistic and generative, though these didn't have the same weight in terms of value for BUT model. In practice, the result has been to understand contexts and ensure emic voices are heard. These two aspects of context and having the people's point of view, were crucial in order for the BUT model to succeed at reducing uncertainty around "users".

The BUT model itself has some assumption that enabled ethnography to thrive with it. First, it assumed that the "market environment" changed at a relatively steady rate. Radical changes or a great deal of volatility in the market were not part of new product development model. Second, the model assumed that the rate was slow enough that classic measures of the market, e.g., segmentation surveys or pricing sensitivity studies, adequately captured a meaningful and relevant state of that market not only at the time of measurement, but at the time the new product would be introduced. Third, as unpredictable as markets for new products are, it assumed that all variables with any likelihood of impacting the new product were known. Therefore, the role of ethnography was to more precisely identify the mean – the product or service that the greatest number of people would choose within the complicated but stable market system.

The assumption in the model is that a company will only take to market '*a*' product or service, and so finding '*the*' product or service attractive (or at least good enough/acceptable) to the greatest number of people was a benefit. Now small-scale manufacturing, "makers", digitization, and so on, allow the *tails* of the distribution of customer needs to be addressed. So '*a*' product or service is no longer sufficient. This phenomenon extends from manufacturing (maker movement), to participation (data, virtual) as well as to funding

(Kickstarter). More and more companies are finding it necessary to move away from a single product/service strategy to an *experimental process* (Intuit, Lean Startup).

In fact, one exception to prove the rule is the notion of the "strategic inflection point" (Grove 1999). Grove recognized that markets do indeed change, but that these changes are punctuated moments in time associated with a significant change in the basis or bases of competition. These punctuated moments of disequilibrium can be specifically identified and isolated is demonstrable by these first three assumptions: (1) Of course markets change, but (2) those changes are either slow enough or only occasionally punctuated with significant change, (3) that changes are the exception, rather than the norm.

The main contribution of ethnographic work in this milieu was specifically to qualify social and cultural variables (as opposed to the market variables) that would contribute the acceptance or rejection of a particular product. The ethnographic work would delve deeply into the context and mindset of the people being studied. Ethnography then became a key to unlocking the "U" for putting together the success puzzle in the BUT model.

There is, however, a fourth assumption of this old model - cultural values and practices change slower than the market systems emerging from and riding on them. Even though we recognize cultural values and practices do change, the evidence suggested they change slowly with time – and so slowly as to be effectively and essentially stable and static with respect to new product development. In short, social-cultural change wasn't assumed to happen in a normal product development cycle. We will re-examine these assumptions in terms of the world today.

THE NEW WORLD CHANGES: FASTER & MORE COMPLEX

We find the assumptions of the BUT model no longer hold as usefully for a large sectors of business, especially those affected by the increase in digitization. We see this as a shift in the market system that is occurring – moving from a complicated but predictable market to a *complex* market system (Basole et al. forthcoming). The market as a complex system posits that constituents are interconnected through a complex, global network of relationships, allowing them to share risks, have access to synergistic knowledge but no entity can know the entire system (Basole et al 2012). Knowledge is emergent and cause and effect can only be known after the fact (Snowden 2005)

From our perspective, there are three reasons the assumptions no longer hold: There is an entirely new class of digital assets that has increased the velocity of the market; the result of the last 50 years is an increasingly available range of "commodity" technology "parts" including access to distribution and manufacturing systems effectively increasing the complexity of the market as well as cultural values "in flux" as a result of the digitization in society. The result of these changes is fundamentally changing the structure and dynamics of at least today's high tech markets, as well as the role of ethnographic research. We expand these themes below.

First, we find significant changes in the "inventory of things" available to us. "Things" are increasingly digital – that is, things that use to be physical and, in economic terms, rival, are now digital and non-rival, meaning that you having a recording of Bach's Brandenburg Concertos does not limit someone else having such a copy. As is clear to the reader, many

things are becoming digital, including but not limited to: music, movies, letters, advertising, identity, friendships, conversations, therapy, medical records, educational materials, games, money, reputation, dating, credit, banking, knowledge, maps, languages, work, politics, government, voting, journalism, photos, revolutions, justice, parking spaces, hotel rooms, etc. What's important is not just that these formerly physical "things" are now digital, but that by being digital, they are qualitatively different: They can be acted on, shared, stored, transformed, etc., in ways previously impossible and therefore, collectively form a new class of digital assets.

Second, whereas access to high technology – that is, digital components – was previously the province of elites of various stripes, increasingly digital components are inexpensive, diverse and plentiful. In addition, access to manufacturing, distribution and sales is also increasingly easy and affordable. While one might think about the possibilities of 3D printing, even today, small scale manufacturing can be done through China from anywhere in the world. Further, the knowledge and capacity to design new products based on digital components is also substantially easier and more plentiful with hundreds of thousands of engineers graduating each year in a much wider variety of countries as well as increasing access to advanced knowledge through various forms of connected education models. The result is that there is essentially a glut of parts, access to a variety of manufacturing and distribution and the skills and capacity.

Third, markets are evolving quickly. Whereas BUT era companies were focused primarily on "a" product, now the evolution and shape of the market are crucial to a company's new offerings. There have been a number of companies that have remained in place but the market has shifted. Their inaction in pursuing appropriate market directions, while satisfying business, user and technology demands, has left them in a weaker position.

Finally, ethnographically, we're detecting flux in long standing cultural values, such as with ownership, accountability, social participation, etc. That is, what it means to "own" something is changing as a result of the first two shifts. This creates the possibility of new social roles, such as the "everyday entrepreneur", where "everyday" refers to the concept of the "journeyman" [sic], or "amateur", even if it's at high levels of skill. Or, what it means to hold people and institutions accountable is also changing, creating the new social roles of "scrutinizer" and "scrutinized". The notion of "cultural flux" as outlined here is itself a new way to look at ethnographic praxis, and is discussed more fully elsewhere (Bezaitis 2010).

In sum, our business environment has become more *complex* (not just more complicated) in the past 15 years. Previously the order that emerged – the system of exchange and organization of players in the industry (Porter 1998) – was slower to change and more easily understood with commensurate methods of measurement. Today the factors we've discussed above result in more interaction of parts of the system, combining more rapidly and added together with cultural flux create a system that is not comprehensible by traditional notions of order (e.g., markets) and they are more difficult to study/understand. The role of ethnography must adapt to articulate how products and services exist within such an ordered system to describing how the system itself might change (what's in flux and what new order *might* emerge) and how the market might be influenced by a company's actions. In this environment the factors of the BUT model give way to an ethnographic focus on Flux, Order and Catalysts (FOC) in the market ecosystem.

New context for ethnography in practice 2.0

Together, these three shifts: the creation of a new class of digital assets, the common availability of commodity parts and skills and the flux of cultural values creates a foundation a very different market system, which itself requires different approaches to comprehend and address the market. We've diagrammed this out in Figure 2. The bottom axis is the Velocity of the Market (Vm); on the left, the Velocity of the Organization (Vo); and on the right, the Complexity of the System (Cs). Cs is defined as the total possibility state space. That is, given cultural flux, commodity parts, and digital assets, there are a vastly larger number of combinatorial possibilities of technological means to reach the market and market acceptance; thus, the Cs is a measure of the total potential bases of competition in the market. Vm is defined as the rate of change of these bases of competition, that is, the activity of engagement in the possibility space. Finally, the Vo is the measure of the organizations ability to keep pace with the velocity of the market with respect to the changes in bases of competition. (Of course, "velocity" is a measure of change over time, so time is implicitly accommodated in this figure.)

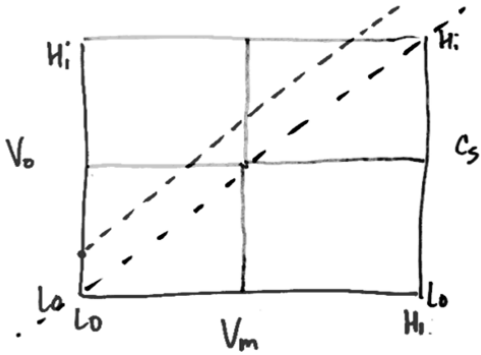


FIGURE 2. ***Emergent Market System: Velocity of Market, Velocity of the Organization & Complexity of Market System***

Vo has two components, how quickly it can test a specific basis of competition, and how broadly it can probe a complex space of potential and diverse bases of competition, both need reconciliation to find a position of stability or order in the ecosystem. Smaller companies require positions of less order – needing only suppliers and customers (Porter 1998). Larger companies, to maintain larger revenues, require positions of more order to which many companies and bases of competition can orient. Maintaining a position of order is a challenge because it is expensive and risky to invest too broadly or too quickly. To avoid the risk, companies adopt a wait and see strategy - to see what market order or winners emerge. The downside of a waiting strategy is it often becomes too late or too expensive to buy ones way into a new market once the order has mostly emerged with entrenched platform providers in place. Ethnography can help narrow the huge possibility states of potential new orders or market platform winners to a few that are consistent with flux. Further it can guide an organization where to probe or catalyze with early action and investment to optimize the velocity and diversity investment equation.

In Figure 2, we've identified the "perfect" or "ideal" position, which is the dashed dark diagonal line, which we assert is the Vo perfectly matched to the Vm and vice versa. We also identified the dashed diagonal line slightly above the dark one, which indicated the "desired"

state of any organization to be "ahead" of the market by just enough to gain competitive advantage. Ideally, this is the optimal position for most companies.

Finally, we must consider the four quadrants, which reflect the relationship of Vo, Vm and Cs. The upper left and lower right quadrants represent less of an opportunity space, so we cover them quickly here: The upper left represents an organization whose capacity for addressing the market (Vo) exceeds the rate at which the bases of competition are changing, even though there is high system complexity (Cs). An example of this would be electronic medical records. In the lower right, we have the opposite, high Vm, low Vo, but low system complexity. An example here would be the establishment of a brand new basis of competition that immediately supplants a prior one, and thus, prior organizations. The shift from iron lungs to the polio vaccine is a good example of the clear advantage in a system of little complexity of market solutions.

In the lower left quadrant, we have low Cs, low Vm and low Vo. This quadrant most closely aligns to the "old" BUT model of uncertainty reduction. In this quadrant, the system complexity is manageable, bases of competition are changing slowly enough that classic methods can be used to measure the market activity, detect trends, and plot not only possible, but probably future states with some confidence such that the success of a product release can be somewhat reasonably ascertained, that is, all else being equal. Moreover, organizations operating in this quadrant have the capacity to move with or, if they are really good, be slightly ahead of the market. Ethnography was able to provide the necessary information to enable companies to at least keep pace, and usually be a step ahead of the market. *Ethnographic research was the competitive advantage.*

However, based on our argument of cultural flux, new digital assets, and new commodity capabilities creating a more complex market system, the upper right quadrant is where all the action is; this represents the "new" model" under which we are operating in a more digital world to develop product, services and create strategies. Our current and old ways of delivering value to organizations in the system need to change. With high Cs, and concomitantly high Vm, we see the bases of competition changing rapidly. Organizations and methods need to adapt appropriately. We will explore this quadrant more fully to understand the system and implications for ethnography.

The high complexity/velocity quadrant

First of all, the system complexity is high – there are more and new digital assets, a commodification of everything and the willingness to apply it. Second, we see a large measure of "disorder" in the system as a result. New products are offered almost daily, from small, medium and large companies, through a variety of market vectors introducing new bases of competition. Each introduction has some probability of bringing a measure of order to the system as other participants orient their efforts to the new introduction. With each new introduction and orientation (or lack of it), organizations at pace with the market (Vo matches Vm) adapt with improvements, changes and/or cancelations.

Figure 3 represents the look and shape of launching new products into a complex system. The system, unlike the BUT or complicated market, presents a very different

challenge. The path to success is not a straightforward linear one. It is not a matter of defining the market. All the parts are moving.

The goal of any organization is to reduce the viable/likely options in the possibility space by introducing order to the system. The question is, therefore, how to introduce order into the system, not reduce uncertainty. Uncertainty will remain. This is a crucial distinction; reducing uncertainty suggests understanding the system, per se, prior to launching the product. It suggests a linear, stepwise process. We contend, however, the system is now too complex for *a prior* comprehension and thus the product launch is itself an experiment about order or arbiter of order. The product launch becomes an indicator of the probability of creating order in the system, even as the system complexity increases with each introduction. Creating order in the system means that at least some of the system elements orient to/around/with the new product/service introduction. Failure to get other parts of the market system to order around the product/service will mean product/service failure. The implication of this is, small companies – or even everyday entrepreneurs – only need to create a relatively small degree of order to "survive" in this system, whereas large companies must create a relatively large degree of order around their product/service to "survive". It is unsurprising then that Kickstarter now funds about one quarter of start-up activity in Silicon Valley and growing – it enables small introductions to the system that require little to orient toward these products and services. In other words, it is much easier to have small successes, of others orienting toward you, in a complex market than large ones.

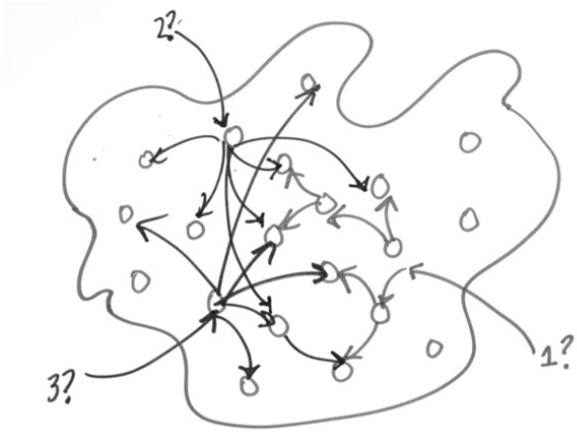


FIGURE 3. ***Product introduction path in a complex market***

IMPLICATIONS FOR ETHNOGRAPHIC PRACTICE

A change to a complex market system and adapting to these new conditions changes ethnographic praxis. It has to. No longer is it adequate to "understand what it's like to be a family in Northern Spain", but rather, we must understand the dynamics of the most salient cultural values and practices of networks that may include people in Northern Spain, but also many others. This change in scope and content of our research must be extended to enable companies we support to take advantage of the dynamics in the system. It means understanding what are the key underlying elements in a complex system, which parts are in

flux, what are possible opportunities to create order and what catalysts can be introduced to test the system.

Further, more than ever, ethnographic praxis needs to account for change over time, not stability in time. Change is a way into the dynamics of social-cultural-technologic systems. Change becomes not only helpful in knowing the key elements but also in understanding the property and relationships of these elements. How are they working or not working in the system. The dynamics of the change are what we need to capture, and not an imagined static state. Understanding which and how to change key elements, as was described by Bezaitis (2011) around ownership, provides knowledge to enable an organization to interact with the complexity of the system. We must tap into these areas causing change for the market order, to understand what we've described as flux areas, in order to provide organizational advantage.

Finally, description must be thick, in Geertz's (1973) interpretation of the word thick, not thick as in dense. Thick description specifies the conceptual structures and web of meanings, not a factual account with lots of detail. They are models of and models for action. More than ever, the goal of our work is not to describe what is, but what may be (Bezaitis 2011; Galloway et al. 2011; Bleeker 2009). While being generative was a goal of the old design anthropology, it is even more complicated now; what may be may be multiple futures. There is no future perfect. We create multiple potential paths.

These changes diverge from what became the hallmarks of ethnographic work in industry: (1) A focus on context (the home, the car, the office, the kitchen, the street, etc.) and being in the context to conduct the work. In part, some of this work grew out of a response to products only being tested in labs, far from the environment they would actually be used in. In part, it was a response to concretizing knowledge from surveys. Whatever the reason, it lead to fruitful explorations of a kind of knowledge that companies were not getting that would help them reduce the risk of product failure. Although working in situ remains important, the goal is no longer to describe or analyze the context but to understand the dynamic forces acting in these contexts. Studying 20 Indian homes may or may not help understand fundamental shifts, the social-cultural-technological flux involving around the nature and practices of "the family" or the positioning of a new service for the home; (2) A second characteristic was a focus on the emic view – to tell the insider story or letting the insiders voice be heard (the Indian mother, the hip Japanese teenager, the senior Irish woman living at home, etc.). Although voice of the people is important as a part of the information to providing avenues into market order, it is not necessarily as crucial as in the past. It will might not be the case that an emic view will provide a direct way to create order, tells us what exactly what is in flux, or provide opportunities to launch catalysts into the market. The emic view, though, continues to be an important input into understanding the dynamics of the system; and, (3) being generative, not merely descriptive. This last point remains relatively important, with a qualifying shift – instead of creating one direction, representing multiple future paths. Ethnographic must enable paths into the market that can enable probing and measured responses to understand where order and stabilization can occur in the constantly emerging market space.

SUGGESTIVE DIRECTIONS ETHNOGRAPHIC PRACTICE

Ethnography cannot continue to do the same old thing and be vital to a complex market place. Ethnography can continue on as a part of any research program, but retaining the control point position we had in the last two decades will not be sustainable without changes to what we do. Ethnography can play a key role in knowing the systems and enabling agility on the part of the organization in a rapidly changing market that is part of a complex system. There are three immediate implications for this new model as to how ethnography should happened in a corporate environment. First, there is an increased need to have constant on-going ethnography to monitor the social-technological changes occurring. Knowledge, not just methods, is important. Monitoring the social world, in particular becomes important in order to understand what is normative, what is changing, and what might be perceived as an opportunity for stabilization and order. Second, we need to be active participants in returning business system information, not just consumer culture information. While BUT assumed a separation between business, users and technology, in a complex adaptive system, these distinctions become blurred. What ethnography was to design in the 90's needs to be what ethnography is to business going forward. Finally, as ethnography takes on new roles, new types of teams need to be formed. While ethnographers have become comfortable working with designers, there are whole new roles and specialties that ethnographic teams need to employ.

Eco-system ethnographic studies

Ethnography can play a key role in knowing the systems and enabling agility on the part of the organization in a rapidly changing market that is part of a complex system. There are three immediate implications for this new model as to how ethnography should happened in a corporate environment. First, there is an increased need to have constant on-going ethnography to monitor the social-technological changes occurring. Knowledge, not just methods, is important. Monitoring the social world, in particular becomes important in order to understand what is normative, what is changing, and what might be perceived as an opportunity for stabilization.

We will briefly explore three separate ways some current ethnographic organizations are enabling the ethnographic stalwart of longitudinal or in-depth work to happen. We call these "my people", "ethno-mining" and "topics" approaches. The examples are meant as illustrative of kinds of approaches.

We look forward to upcoming EPICs for papers that reveal new successful approaches in a complex market environment. The examples here are not endorsements of any of these organizations, the quality of their work or the sustainability of their business practices. We are, however, are suggesting that sustained longitudinal research, rather than frequent movements between topics and people (e.g., domestic help in one project, followed by a project on Chinese youth and cars in another), might not work as well in understanding changes and opportunities for order in a system. We look to these ethnographic research projects as examples of what would support the value of ethnography in the high Vm/Cs realm.

The "My People" model

One approach to ethnography that shows promise is to be deeply engaged, highly specialized, and focus on a particular area of specialty. One example in operation today is China Youthology (http://chinayouthology.com). China Youthology studies one thing – Chinese youth. What is interesting in their approach is the on going monitoring of a particular population segment in a particular geography. China Youthology continuously runs ethnographic explorations with China's youth. These are classical ethnographic approaches in that they include interacting with the youth in a variety of contexts, on and off line. They are monitoring what youth are doing, how they are acting what they are saying. Further, they are not just distant white coat observers, but also active in supporting and sponsoring youth events in the arts and entertainment. These kinds of activities provide the opportunity for insight not only about youth, but also about companies directly interacting with youth in large business eco systems like technology, arts, entertainment, consumables and media.

The advantages of this approach for our model are a through understanding of the system features relations to that population. China Youthology can understand the macro characteristics of the system and what have been the flux points in the system in the past. The research can differentiate what changes that have really changed underlying social-cultural structures and what are more surface changes. China Youthology has a deep understanding of the people, their values and practices and knows the rationale behind past successes and failures of businesses interacting with the population, and recognizes the emergent nature of youth's relationship to the market. They are ready to identify and act upon flux areas as they emerge. This is not the only way to do longitudinal ethnographic work with "a people". Ichikawa (2012) outlined how longitudinal ethnography and collaborative design in a village gave insight not only into the village but Japanese culture. Likewise, Nafus (2013) two year long research with the virtual Quantified Self community, demonstrates that sponsoring community events, conducting collaborative design and being embedded in the community can help ethnographers know not just about the QS community, but also areas of flux in wider American culture. Clearly, there are many ways to do a classic style ethnography with "my people", following them over time to gain a depth of knowledge about potential flux opportunities.

Big data, behavioral tracking approaches and ethno-mining

Given that the digital is a contributor to the disruption, it is also a source for ethnography to remain vital. We see potential in using digital data to enable ethnography to understand the on-going dynamics of the system. In particular, we've seen in the works of people like anderson (2009), boyd (forthcoming), Churchill (2008), Gray (2012) and Patel (2010) are just a few examples of how longitudinal tracking studies reveal larger patterns in the system, and points of disjuncture or flux. EPIC has been a venue that has been open for exploring digital behavioral data not as a threat, but as an important tool in the ethnographer's tool kit. The approach has similar advantages to the "my people" approach though with a different target population, whether that be on-line communities, users of

particular devices, or users of an on-line service. Ethnographically informed big behavioral data enables the ability to notice changes in social and cultural practices – emergent patterns in the system.

Punctuation points – With a high complex and a very dynamic system, it is important to be able to make frequent probes, or tests based on hypothesis about the opportunities for an organization. The "my people" approach or the ethno-mining approach enable a baseline of knowledge of the system. With that kind of knowledge, it is relatively easier to create entry points for these punctuation probes. Nafus (2013) has been conducting these types of probes with the Quantified Self community. These have sometimes occurred in via a regular series of meetings with community members and researchers called "Co-labs." Further, the QS research project is adding a software app to explore community understanding of areas of interest that might arise, like data sharing, which could impact Intel's research project around personal data. Another research activity related to this kind of work, perhaps, has been some of the activities of living labs. Although there are many aspects to living labs (cf http://livinglabs.mit.edu) , the key salient feature for us here is assessing new products and services in real life situations, especially the social and market aspects. At this time, we aren't aware of many other practices in this area, however, these in theory could be similar in structure too much of the work done today with ethnographic practice in industry. Quick studies, done whenever needed, on whatever topic is relevant. The big switch from today's practices would be the focus. Rather, than a constant exploration of the broad unknown, research would need to target particular hypothesis around social-cultural flux, dynamics of the market or potential ways to create order in the market. These ethnographic explorations are examining both the market and social conditions.

Topics model – Long durations of time is not the only way to understand the breadth and on-going system dynamics. Radka (2011) explained how Claro conducted a consortium research project around ownership. The paper briefly describes the advantages of consortium work in terms of taking on a large question at a reasonable cost in a timely manner. For the purpose of the new design ethnography, a key value in this type of work is the ability to do a series of topic related projects. Following these topics in-depth, doing both ethnographic and business ecosystem work, provides a sense of the system landscape, as well as, what fundamentals are in flux. The model maps well to the kind of product development we envisioned in Figure 3. The ownership consortium project lead to new work on value networks, where another aspect of traditional roles was changing and new forms of value were being created. The value network research then lead to research about the personal data economy. If you recall Figure 3, ownership was entry point into the system. The next series of research projects were pursuing relationships to that entry point to understand where products/services could be to get others to orient around them. The topics approach enables the ability to pursue topical relationships in a system to understand which parts of the system are malleable for stabilization or disruption.

Ethno-analytics

In the old BUT model, ethnography was primarily focused on the detailed understanding of people and their contexts. With a new complex market model with a complex Cs and increased velocity Vm in which ethnography needs to add value, there are new opportunities for us. A key aspect is contributing to understanding the market place, not just people and their contexts. We have conducted two different experiments utilizing ethnography to provide insight for our organization to take action in the market of the emerging data economy. We are going to use examples from our recent exploration into data economy. The space of interest around the data economy emerged from flux work around changes ownership, everyday entrepreneurships, new forms of participation, changes brought about mobility and the rise of new sensing technologies. We developed a vision of an emergent data economy, in which individual's data circulates, combines with other data (public and private), and returns economic or participatory value. The premise was on an individual's ability to access and use their personal data.

Eco-system patterns – Ethnography provided a broad understanding of the space for a data economy. Still, we needed market data to determine if there was evidence of disruption of market opportunities. We needed evidence to suggest that "data" is becoming the fundamental driver of the digital ecosystem (vs. traditional drivers of device performance, power, form factor, etc.). Partnering with QUID (www.quid.com), we used the criteria for data economy model from ethnographic data, to run a big data analysis against publically available information about companies. What we were able to create was a history of the rise of a data economy from 2000 until the time of the study in 2011. We were able to map the dynamics and relationships in the business ecosystem that could form a data economy. The analysis revealed that by 2011, private investment in data companies exceeded investment in traditional computing companies (See Figure 4). The companies in the circle were entirely new since 2000. Furthermore, on its current trajectory, other "computing companies", though perhaps remaining profitable, may lose "centrality/ influence" in the broad high tech industry unless they secure strategic positions in the emerging data economy. Figure 4 represents a historical snapshot of the ecosystem in 2011. The digital ecosystem, as

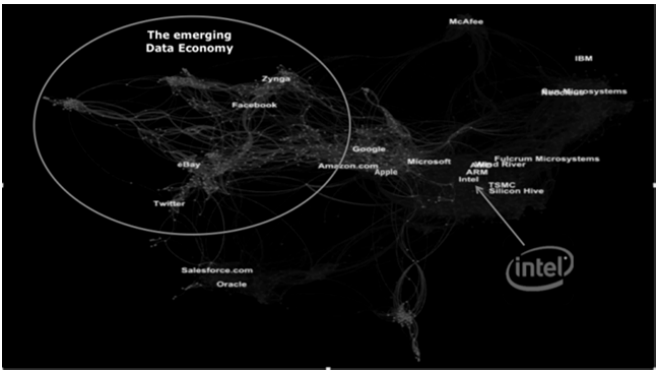
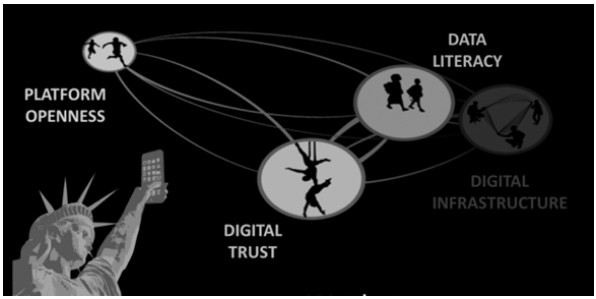


Figure 4. Ethno eco system analysis

traditional computing companies (semiconductors, networking, storage, etc. represented by darker dots) are repositioned in the global digital ecosystem network as data-centric companies (lighter dots, named 'vibrant data' companies) are funded. The ecosystem mapping provided a big data and visual analysis that showed an opportunity space, as well as, some key clusters that could form the basis of gaining footholds of control or strategic influence in an emerging data economy. The main point here is rather than traditional representations and descriptions being used to create something like "personas", the ethnographic content is used to explore the market dynamics.

Eco-system simplicity from complexity – Although we identified the data economy as a potential market because of social-cultural values in flux, we needed to understand the potential of the space. How can a disruption present opportunities for a company (e.g., Intel) to provide the technologies and platforms that empower individuals to benefit from the secure circulation of data, creating and exchanging value to the benefit of themselves and their communities. To narrow the scope of the huge opportunity space, we engaged in an expert sourcing (like crowd sourcing but with a very select crowd of experts) of the complex network of factors that could lead to a data economy (www.WeTheData.org). The analysis itself was not done in the typical ethnographic style, but through an open crowd-sourcing process. Ethnography, however, was crucial to the process. It was through ethnography that we could identify the 90 variables for analysis. From the 90 variables, network analysis showed a cluster of 22 factors that might be considered "leverage points" or potential points of order in a system – these are the catalysts in the market on which we could focus our attention, either by developing technologies for the marketplace, enabling an ecosystem of developers, or other means. Collectively these factors pointed to four broad "challenge areas" or "design criteria" that would have the highest likelihood of catalyzing a new data economy: Digital Trust, Data Literacy, Platform Openness, and Digital Infrastructure (see Figure 5). These serve as a foundation for potential actions internally as well as externally. Further, by making the research and analysis part of an open innovation system, Intel has been able to catalyze and direct fellow travelers and entrepreneurs into the market in a way that furthers Intel's path to successful entry. Ethnography can directly contribute to creating market directions for organizations, just like we have in the past toward product development. The techniques are new and different, but ethnography's ability to contribute value in a market environment like we described of fast Vm and high Cs.



Ethnographic teams

As should be evident from the changes in how we work and where we should focus, there is equally a shift in who we should be working with on our teams. Designers continue to play a key role in making results actionable. However, there are other key new partners in the ethnographic team. Big data analysts play a key role in helping to capture the complexity of both the market environment and the patterns of cultural flux. In our example above, the scouring of the web to help understand the transformation and emergence of a data economy ecosystem relied on big data analytics. The partnership between big data and ethnography was essential in each being able to properly deliver results. In terms of ethnography, papers like anderson et al. (2009) and Patel (2010) have shown that big data can be a partner in the ethnographic enterprise, especially in a longitudinal approach and discovering patterns of cultural flux. Closely related to the analyst, is the data visualization expert. The visualization of the data has a key role both among researchers, as well as, representing the data out to corporations. The dramatic visualization of the unfolding of the ten year story of the data economy market was a compelling. It created a powerful visual story. This is more than "information architect" - it's creating various forms of meaning by understanding data otherwise not understood - visualization creates the understanding as well as describes the data. Finally, bringing business analysts, e.g., economists, directly into the process become critical in enabling an organization to take understand and take action in the market. It is a good sign that many ethnographic firms that have presented at EPIC already have business analysts on staff. In the examples we have presented here, a business analyst has been integral to all of the research. In particular, business analysts are key in enabling a space for an organization or company to create order, as well as, creating and experimenting around catalysts.

FUTURE IS SO BRIGHT FOR ETHNOGRAPHY IN INDUSTRY

Ethnographic work in industry has and continues to improve its methods and techniques. There is, however, mounting evidence that the foundational value of the work related to innovation and new product development is shifting as the market environment shifts. In a system with the characteristics of high velocity market (Vm) and a more complex market system (Cs), ethnography in corporate context needs to make adjustments to how we add and create value through our organizations, as measured by (Vo). The shift to Vm-Cs environment is relatively new. The exact roles and methods that ethnography in industry may take on are still unclear. We have suggested some new directions, including a focus on Flux, Order and Catalysts (FOC). It is, however, clear that knowing people's beliefs, values and practices in a context, and being to articulate their point of view, in order to reduce the uncertainty for new product development will no longer be sufficient for ethnography to retain critical value in business. The new market environment of Vm-Cs emerging, perhaps, creates an even greater opportunity space for ethnography, as it is able to enhance business success to embrace complexity, analyze change factors, and design and experiment to enable innovative agility. Our attention to this shift now will help to keep ethnographic praxis vital.

REFERENCES CITED

anderson, ken, Tye Rattenbury and Dawn Nafus
2009 "Numbers Have Qualities Too: Experiences with Ethno-mining." In *Proceedings of EPIC 2009*.

Basole, Rahul C., Hyunwoo Park and Brandon Barnett
Forthcoming "Coopetition and Convergence in Mobile Ecosystems." In "ICT as a complex and evolving system: Innovative approaches, metrics, and techniques for management and regulation." Special issue,*Telecommunications Policy*.

Basole, Rahul C., Martha G. Russell, Jukka Huhtamaki, and Neil Rubens
2012 "Understanding Mobile Ecosystem Dynamics: A Data-Driven Approach." Paper presented at International Conference on Mobile Business (ICMB), 2012.

Bezaitis, Maria and ken anderson
2011 "Flux: Changing Social Values and their Value for Business." In *Proceedings of EPIC 2011*.

Bleeker, Julian
2009 "Design Fiction: A Short Essay on Design, Science, Fact and Fiction" *Near Future Laboratory*. Accessed June 10, 2013. http://drbfw5wfjlxon.cloudfront.net/writing/DesignFiction_WebEdition.pdf.

boyd, danah
Forthcoming "Making Sense of Teen Life: Strategies for Capturing Ethnographic Data in a Networked Era." In *Digital Research Confidential: The Secrets of Studying Behavior Online*. E. Hargittai and C. Sandvig, eds. Cambridge, MA: MIT Press.

Cefkin, Melissa
2010 "Practice at the Crossroads: When Practice meets Theory." In *Proceedings of EPIC 2010*.

Cefkin, Melissa, ed.
2010 *Ethnography and the Corporate Encounter: Reflections on Research in and of Corporations*. New York: Berghahn Books.

Churchill, Elizabeth and Elizabeth Goodman
2008 "Invisible Partners: People, Algorithms and Business Models in On-line Dating," In *Proceedings of EPIC 2008*.
Crabtree, Andy, Mark Rouncefeld, and Peter Tolmie
2012 *Doing Design Ethnography*. New York: Springer Publications.

Galloway, Anne, Ben J. Kraal, & Jo A. Tacchi, eds.
2011 *Ethnographic Fiction and Speculative Design Workshop*. Association for Computing Machinery (ACM); State Library of Queensland, Brisbane, QLD.

Geertz, Clifford
1973 "Thick Description: Toward an Interpretive Theory of Culture." In *Interpretation of Culture*. New York: Basic Books.

Gray, Mary
2012 "Anthropology as Big Data: Making the Case for Ethnography." Paper presented at American Anthropological Association Meetings, November.

Grove, Andrew S.
1999 *Only the Paranoid Survive: How to Exploit the Crisis Points that Challenge Every Company*. New York: Crown Business.

Horst, Heather and Danny Miller, eds.
2011 *Digital Anthropology*. New York: Berg Publishers.

Ichikawa, Fumiko and Hiroshi Tamura
2012 "Maru: An Ethnographic Approach to Revive Local Communities." In *Proceedings EPIC 2012*.

Jordan, Brigitta, ed.
2012 *Advancing Ethnography in Corporate Environments: Challenges and Emerging Opportunities*. San Francisco: Left Coast Press.

Nafus, Dawn and ken anderson
2006 "The Real Problem: Rhetorics of Knowing in Corporate Ethnographic Research." In *Proceedings of EPIC 2006*.

Nafus, Dawn and Jamie Sherman
2013 "This One Does Not Go Up To Eleven: The Quantified Self Movement as an Alternative Big Data Practice." In "Special issue on Big Data," eds.Kate Crawford and Mary Gray, *International Journal of Communication*.

Patel, Neal
2011 " 'For A Ruthless Criticism of Everything Existing': Rebellion Against the Quantitative/Qualitative Divide." In *Proceedings of EPIC 2011*.

Porter, Michael E.
1998 *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. Free Press.

Radka, Rich and Abby Margolis
2011 "Changing Models of Ownership." In *Proceedings of EPIC 2011*.

Ries, Eric
2011 *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*. New York: Crown Business.

Snowden, David and Mary E. Boone
2007 "A Leader's Framework for Decision Making." *Harvard Business Review*, November 2007: 69–76.

Snowden, David
2005 "Multi-ontology Sense Making – A New Simplicity in Decision Making." *Informatics in Primary Health Care* 13 (1): 45–53.

Salvador, Tony, Genevieve Bell and ken anderson
1999 "Design Ethnography." *Design Management Journal* 10 (4): 35–41.

Wasson, Christina
2000 "Ethnography in the Field of Design." *Human Organization* 59 (4): 377-388.

Session 4: (Co)creation and (co)participation: multiple actors in the research

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Google

The fourth session questions how ethnography is produced through multiple voices. Coming from different disciplinary backgrounds including Design, Business and Software Engineering, researchers report on co-creating and co-participating in the formation of ideas, practices and outcomes.

Once upon a time, ethnographic reports were stereotypically produced in the Malinowskian manner: a single outside researcher enters the location to subsequently reproduce and represent his vision of the reality in that place. In 2013, and probably for the majority of the attendees of EPIC, this is no longer the case. Ethnography no longer has just a single voice: There are multiple stakeholders, often directly involved in the research, even though they may hail from different disciplinary backgrounds ranging from Design, Business to Software Engineering. Moreover, these days we often have multiple researchers reporting several perspectives for the same project. Finally, often the 'subjects' of the research are becoming involved in data reporting, data analysis, and/or implementation of insights as well as consumers/recipients of and through ethnography. In this session we hear from 4 different groups on such co-creative, and co-participatory endeavours that cut across all the above developments in various situated projects, ranging from post-disaster community rebuilding to intra-company international employee relationships and from post-operation cancer care to capturing the intangible of successful individuals in specific company roles.

What research enables: Ethnography by high-school students catalyzing transformation of a post-tsunami community

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We are beginning to witness a broadening of the contribution, positioning and purpose of ethnography in industry, catalysed by questioning what it can enable for communities and societies. By going beyond boundaries and disjuncture of corporate forms and viewing it within an entangled fields of economics, culture and society, this paper discuss how we become aware of what we do, and to enable others to make sense of the transformations that are occurring around them and within them, and how can we all participate in that process of being and becoming. In doing so, we question how to self-reflexively explore how we, as ethnographers, can be empowered to embark on such endeavours.

> Twenty months have passed since then
> Many things happened,
> Many people I've met
>
> Now I like Kesennuma. Honestly.
>
> The only thing I have been thinking before,
> Was once I graduate high-school,
> Would head for 'Too-kyoo', not to come back.
>
> But maybe, I'm going there to learn all sorts of things
> So there will be things I could bring back;
>
> A small step, but I now have hopes to make Kesennuma attractive.
>
> - 16-years-old i.club alumunus, Kesennuma, 2012

WHERE WE STAND: THE RIGHT TO RESEARCH AND TO PUSH THE BOUNDARIES

Since the 1970s, many pioneering anthropologists and ethnographers have entered the industry, embedding people's stories and aspirations into business practices. Wittily put by Nafus and Anderson (2006), the ethnographic role and position in industry has become a

successful 'brand' that is now widely recognized in the value it can create. There is on-going debate in this landscape to resist ethnography being reduced to an application of techniques and data gathering for proprietary knowledge, to help develop better products and services (see Cefkin 2006; Dourish 2006). Seminal scholars in EPIC have been questioning what contribution ethnography and ethnographers can offer to society, beyond corporate boundaries, and to view 'the corporate form as a particular rendering of organizational, economic and social action' (Cefkin 2012, p. 108). Here, Cefkin is particularly eloquent in describing the inseparable and entangled fields of economics, culture and society and brings further reading into the 'multi-located / sited' nature of ethnographic projects (2006). Building on Marcus and Fischer's work, she cautions against the 'multi' natured placements being interpreted as mere physical locations, and reminds us that its '[t]he contexts, resources, networks and infrastructures which make up and surround peoples' social and cultural lives', and that these 'exist in multiple "sites" of action and discourse.' These are the rich complexities and hybrid dimensions in which ethnographers enact their thinking, knowing, and doing in industry. In Cefkin's view, ethnographers in industry have a unique position and advantage of 'working from within systems and networks of cultural production' and from these, produce visible difference in understanding, design, challenges and concepts for mobilization across boundaries and audiences. Zooming in-and-out, from inside to the outside, and from the micro to the macro, are traditional strengths in ethnography. Building on this strength, this paper sets out to explore multi-layered domains where ethnography can become a potential catalyst for change.

The triggers for change can be many things. And this story is told by authors who are industry-employed ethnographers and their colleague in participatory action research who were motivated to help a community re-build its social and economic capital after the Great Eastern Japanese Earthquake. The March 2011 (commonly referred as *3.11*) earthquake caused a tsunami beyond every preventive measure and coastal municipalities were destroyed, some as much as 80% of its town, killing nearly 20,000 people across three prefectures in Miyagi, Iwate, and Fukushima (Science Insider, 2011). In the aftermath of such a disruptive event that shocked Japanese society as well as the international community, the authors were compelled to act, and to co-design interventions that could be of benefit to the people that were affected. Pioneering disaster anthropologists like Oliver-Smith (1996) and ethnographer David Gow (2008) have already pointed out that the extraordinary and critical situations such as post-disaster times can bring opportunities for researchers to shift their attention from 'the ordinary, the everyday, the routine' (Malkki, 1995, in Gow) to the extraordinary, where it could become an opportunity for people to remake themselves and their culture.

Similarly, there is a healthy discourse on the notions of empowerment, activism and transformation in participatory design research (Simonsen & Robertson 2013). The social activist and interventionist stance has been more pronounced in design due to its core premise to transform situations to preferred ones (Simon 1968). Design has a long history of contributing to people's well-being through innovating new products and technology (see for example, Margolin 1989; Papanek 1985). The role of design research can 'evoke discussion of how the world could be' (Grocott 2005) and can create knowledge that is 'lying in the future, possessed by the uncertainties of the future… disposed to bring into being –

not only as provocation or reflection on our world – but in order to make the world or a small measure of it differently' (Rosenburg 2007). This re-situates the question from 'what is / has been' which lies in the current or the past – the traditional knowledge domain for research and ethnography – and takes the Heideggerian view of 'becoming' as central to the emergent of what could be possible. The future-oriented interventions in design is reflected in the notion, 'transformation design' (Burns et al, 2006; Sangiorgi 2011) to emphasise the importance of multi-disciplined professionals working with people in organizations and the community to adapt themselves in an environment of constant change. It is based in participatory action research (PAR) – research conducted 'with' as opposed to 'on' people (Reason & McArdle 2004). PAR demonstrates the value of researchers who work in partnership with community members, where young people (Freire, 1982; Martín-Baró, 1994); women (Maguire, 1987); the indigenous minority such as the Maori (Smith, 1999); and prisoners (Weis and Fine, 2004) became researchers themselves, and by being empowered and informed, championed the force for further changes in the community. Resonating with this activist stance, Pink (2011) calls for an ethnographic practice that positions the ethical and political orientation of the researcher as engaging in problem solving and cultural brokerage when participating in projects of social intervention. She uses visual anthropology, an emergent field of practice, as an example that can open up contemporary pathways to make critical interventions beyond academia and intervene with the concerns of the public. Pink argues that it is a critical stance that can open up and re-frame 'problems', and 'its "doing" is a collaborative task, sometimes an activist enterprise. It seeks to make interventions that are based on the knowledge and needs of collaborators, and as such is critical of existing hierarchies of power and knowledge…'. These exemplify what Appadurai (2006) called as the 'right to research'. Research can have a tremendous power for empowerment and education and can catalyse changes to both individuals and communities, including the researchers themselves.

The paper has three main contributions. Firstly, in the spirit of critical ethnography or 'new ethnography' (Goodall, 2000), we reflect upon the rich learnings offered to us by working alongside an 'extraordinary' post-disaster community. This work demanded us to enact ethnographic praxes that extended beyond the traditional boundaries of a corporation, because people's lives, livelihoods, local industries and community are all entangled together, and the efforts for recovery necessitated participation and support on all fronts. Secondly, we highlight the local high-school students who were critical to the community's transformation in Kesennuma through an after-school program called i.club. Here, instead of the ethnographers being the agent of change, we describe the role ethnography enabled through the students and the stories of connection, re-discovery, learning and empowerment it catalysed. And lastly, by sharing this story, we hope to ignite a discussion among our peers for the need to create and explore new terrains of ethnographic praxis. These terrains call us to examine ethnography through social activism, participatory social innovation, action research and transformation design. In doing so, we question how to self-reflexively explore how we, ourselves, can be empowered to embark on such endeavours.

TRANSITION OF POWER FROM PROFESSIONAL STRANGER TO PARTICIPATORY INNOVATION – THE BIRTH OF I.CLUB

The post-disaster landscape presents a peculiar power-dynamic where people in one geographical place are fundamentally divided into two camps: the ones *to save* and the ones to *be saved*. Particularly in the first several months, the ones who entered the disaster areas were unanimously considered for being there for the purpose to save people. These outsiders were mostly professionals from the government or certified non-profit organizations, and others who had humanitarian motivations. Regardless of their skill set, they were all there to serve the community as *professional strangers*.

As these 'strangers' flowed into affected areas to provide immediate relief effort, the national discourse was shifting from 'how we save *them'* to 'how *we* can be saved', as the repercussions of the disaster began to affect the country as a whole. In addition to the tsunamis that had swept away countless factories and workplaces on the coast, the earthquake had shut down 55 nuclear power plants. This caused a chain-reaction for major industries, including the automotive production, which had to slow down their operations, leading to a significant blow on the Japanese economy. The term 'recovery' shifted from the residents of the affected area to the overall economy, and soon, the region's voice started to dominate the national discussion on how the nation could recover (Ichikawa & Tamura, 2012). Reinforcing the point made earlier in the introduction, the tightly woven inter-relationships between the economy, various industries, systems of food and energy production and distribution, regional communities and urban citizens were suddenly made visible, but also threatened to fray apart. As centralized government efforts, encumbered by bureaucratic processes, revealed inadequacies, organic constellations began to form between communities, non-profit aid organisations, academic institutions and businesses as a way to kick-start localized initiatives.

In this landscape, i.club, an after-school program for high-school students took place in a town called Kesennuma, Miyagi prefecture, on the northeastern coastline, about 500kms north of Tokyo. i.club is facilitated by a multidisciplinary team of staff, students and alumni of i-school, University of Tokyo, industry professionals and international researchers. The program started a month after March 2011, and is sponsored by Save the Children Japan and Restart Japan, a non-profit arm of SONY. But before the i.club initiative fully swung into gear, there were many derailments that became lessons for reflexive learning for the team and forced them to reconcile the awkward privileges and biases that came along with it.

The first of these lessons came when the team noticed that the locals were referring to them as *sensei*, meaning 'teacher'. This is a commonly used term of respect and knowledge, probably owing to the make-up of the team who were associated with educational institutions and professional domains. This labeling was conducive in the first instance as it accentuated their educational positioning that sidestepped any political and business-oriented agendas. This meant that the residents were less guarded in speaking with the team. Secondly, this positioning also separated the team from the rest of the aid-workers and volunteers who, through their hard-work and sacrifice, were inadvertently becoming martyrs, placing emotional burdens upon the local people to constantly give 'gratitude'. However, the team's positioning, which wavered between being seen as experts or neutral researchers,

eventually became an obstacle. For example, one of the owners of a fish company regularly gave a customary greeting, 'good luck with your studies'. After a while, this became a concern for the team – that the locals' perceived their intention as purely academic, to gain from the locals and having little to offer back to the community or create any knowledge that were relevant or actionable in people's everyday lives.

Throughout the fall of 2011 to spring of 2012, the team's ethnographic studies rolled out several key insights that were based on identifying indigenous qualities and resources that the team believed had potential for regenerating the local industry. These insights were built on the community's personal and professional knowledge and networks that could provide a basis for business in tourism, fishing, retail and food (Ichikawa & Tamura 2012). These were presented to the local community and discussed for potential implementation. This had initiated a series of further dialogue, however, none of the residents seriously considered them beyond 'great ideas.' Even though the team was not perceived as 'those who save', they were still being perceived as 'professional strangers'. And this was reinforced even further by the team's effort to *hand over* their research and implications of actions to others, where no one was willing to receive it on the other end.

This critique and realisation stimulated fundamental changes to their approach and role. Learning from participatory action research that situates people as research partners and agents of transformation, the team shifted their strategy from generating new business insights to supporting education. This then meant the need to work with high-school students instead of just the adults in industry, so the students can play an active role as ethnographers – not the team. What this germinated was an experimental model of participatory social innovation, which became the guiding principle of i.club. It coalesced the knowledge, skill-sets, experiences and networks from diverse actors. As discussed earlier, referring to Cefkin (2006), by bringing multiple 'sites' – players, institutions, contexts and relationships – together, this could generate an open process of discovery, learning and transformation. The inflection of design is also significant here. As seen in transformation design for social innovation, it accentuates the creativity and inventiveness of 'ordinary people' to tackle problems in their daily life, where the researchers scaffold the tools and transformative capacities for a human-centred innovation (Sangiorgi 2011).

Whilst many education-led initiatives were established in the locality, emphasizing academic scholarship as a way to advance to better universities or vocation-based colleges, i.club differed significantly by locating the focus of the study in Kesennuma. Kesennuma is a small fishing town, with families reliant on businesses and factories that centred on seafood, as their main source of income. The offering by i.club was aimed towards young people to unearth the hidden qualities and resources in their local town through learning ethnographic approaches, such as conducting observations, home visits, and interviews. Students were encouraged to identify indigenous knowledge, traditions and industry practices to rediscover unique characteristics of their hometown. They had little knowledge or experience of this because the centralised and government-endorsed education system excludes localised content from the curriculum. More troubling was the curriculum's emphasis to advance academically into higher education, that meant, for many of these high-school students, they would have to go out of town to study in bigger cities. This trend has impacted significantly on many regional towns where young people have moved on by permanently leaving their

communities, accelerating entrenched social issues, such as aging, depopulation and employment scarcity to sustain the local economy (Ichikawa & Tamura, 2012). In an effort to build and sustain local connection and businesses, i.club supported the students to 'understand > create > present'. From what they've learnt, the students were inspired to co-design new ideas, prototype them, and present them back to a collective of local businesses, which, in this town, were mainly related to seafood industry from fishermen, factory owners, retail and restaurant owners. i.club underwent an iterative process of action and learning, design and reflection. The accounts below give a snapshot of some of the activities, first-hand stories of people's experiences and the general impact of i.club, which have been observed in the broader community so far.

Stories and impact of i.club: Shifts in perception of a 'loser' to an 'expert'

In the summer of 2012, students participating in i.club were given the challenge to develop a new bento (lunch) box that could be prepared with local ingredients that they had identified through interviews and field visits. The intention for this particular theme was to use the bento-box as a vehicle to drive their fieldwork and to help them rediscover indigenous and traditional knowledge of the processes involved in catching, farming and cooking seafood, which could them be told as stories through different bento-box flavours.

This workshop invited approximately dozen participants from three local schools – Kesennuma High, Koyo High, and Kesennuma West High. This diversity and mixture of students from the three schools were crucial to integrate various experiences and backgrounds into teams for the bento-box task. However, when the team composition was announced, many students were reluctant and awkward – prior to this workshop, none of them had really engaged with one another before, even though they lived in a relatively small township. Upon making further enquiries to reveal the cause of this discomfort, it soon became clear that there were entrenched hierarchies between the schools, where there were divisions between the 'elite' and the 'losers'. For example, Kesennuma High is regarded as one of the best high schools in the prefecture. It has students who are bright and had learned abilities to express themselves to adults. They stood out from the others, and showed enthusiasm and discipline towards the bento-box challenge from the start. In comparison, Koyo High is considered a vocation-based school that produced great fishermen and seafood product professionals for the local industry. These students demonstrated their reluctance through their attitude in the i.club workshop that suggested, 'why should I "study" on weekends?' It wasn't really in their interest to attend the program and they appeared to be forced by the adults to come along.

As the workshop progressed, the students began conducting fieldwork and spoke with many people associated with the seafood industry – fishermen, oyster farmers, seafood factory owners, shopkeepers and restaurant owners – and slowly the dynamics between the students from their respective schools began to change. Kesennuma High students, in their diligence, learnt a great deal from this experience and openly shared their realization that, when it came to local knowledge of their seafood industry, they didn't know very much. In comparison, Koyo students were able to articulate fish names, differentiate seaweed

varieties, how and when they could be caught, and how they should be cooked for best taste and nutrition. This discovery surprised all the students, especially the Koyo students themselves, who were perceived as being less academically accomplished than the rest. One male Koyo student, who showed the greatest displeasure of being there on the first day was now proudly nicknamed 'the chef' by other students in recognition of his extensive knowledge about seafood. He subsequently became the most proactive participant in the latter workshops. Such transformations in the students, from being seen and self-identifying as a 'loser' to then shift to an 'expert', were encouraging signs of empowerment by recognizing inherent or acquired skills and knowledge.

Stories and impact of i.club: enabling pathways into local industry

The second series of the workshop was a challenge to innovate dry-food products. The workshop once again started off with home and factory visits, followed by creating new product ideas and prototypes. A local business owner had generously offered their kitchen space, and students worked on realizing and improving their ideas, aiming to give the locals a taster of their potential products.

Just as fieldwork sometimes requires guidance from professional researchers, prototyping dry-food products also required professional food designers to give advice along the way, and these professionals were invited to join the workshop to help the students create and explore different tastes. That such professions existed was a happy surprise for some students who, until this point, never had the opportunity to work alongside one, let alone realizing that it was a viable career path. One of the female students discovered that this could be 'her dream job', igniting a desire for employment in the local seafood industry after graduating high-school. Kazue-san, manager of *Saikichi* Corporation and a supporter of the i.club program exclaimed, 'I've never seen anyone with so much passion and willingness to be hired by us!' Her remark revealed the trend for many who aspired to find employment outside the town. Enabling the female student to find her future path with *Saikichi* was an unexpected, positive outcome. As touched on earlier, the national curriculum excluded opportunities for students to learn about their local traditions, community and businesses practices, and as a result, there is a general lack of awareness of what value these held for the future. Through ethnography, participation and action research, the students were able to learn about the potentials their town held. This in turn gave the local businesses a chance to offer alternatives for employment, enabling the students to make an informed choice in their future pathways, rather than automatically heading for the big smokes. The ethnographic research process became a vehicle for igniting curiosity and unexpected rediscovery, kindling local pride in students for their hometown and industry – a pride that local business owners also shared.

Stories and impact of i.club: catalyzing inter-generational action

During the dry-food workshop, the high-school students interviewed Konno-san, an elderly business owner who, for decades, had been making semi-dried bonitos (*katsuobushi*).

The students were astounded that, despite being born and raised in this town, many hadn't seen how semi-dried bonitos were produced and were fascinated by its preservation techniques. Dry bonito has a long history and tradition in Japanese culture. Before freezing technologies and distribution network were developed, bonitos were semi-dried by skilled artisans who were able to accentuate the bonito flavour. They were, and still are, considered as delicacies. Konno-san is one of the remaining artisans in Kesennuma, and alongside other factories, his business had flourished for many decades and contributed significant income and security for his numerous employees.

In the interview, Konno-san shared his life story and determination to rebuild his business when all was lost in the *3.11* disaster. His factory was completely destroyed and his house was flooded to the ceiling. Other bonito factories were similarly affected and most gave up their business, owing to the dealers and distributors going elsewhere for their bonito supplies. However, Konno-san soldiered on, despite his sales reducing to 30%, intuiting that such skills and knowledge was rarer than ever, with only three other bonito factories remaining locally. He was very proud of his high-quality product and generously invited the students to taste its delicate flavours. His support for i.club provided a unique opportunity to engage and communicate with a younger generation, to share his knowledge and skilled wisdom about bonito.

This inter-generational exchange through the bonito tasting and Konno-san's story, inspired the students to develop a prototype for a spicy, seasoning oil containing his product. The students reciprocated his generosity with a tasting of their new idea, and his delight was such that he offered them as many bonito as they needed to turn their ideas into a viable product. And today, alongside the product branding and crowd funding development, his factory is gearing up for the production of this seasoning oil. Many other stories like this had also blossomed and i.club students are continuing to participate and develop local businesses, by attending product development meetings held by local manufacturers, and being invited to local food fares to sell their products to customers.

i.club: A 'third' box / space for potentiality and collective creativity

Communities are inherently political and are often segregated into geographical, racial, financial, intellectual, or generational clusters. By actively opening up a 'third' hybrid space for different people to participate in, it can help them to step out beyond entrenched and restrictive boundaries that can hinder meaningful connection. As seen here, the students were able to dissolve their differences and renew their perceptions of one another. In their research and development, through sensory ethnography, their willingness to share insights and prototype new food ideas, they have displayed their competency and latent skills. They are no longer perceived by the community as being young and inexperienced, and instead, they demonstrate a hope for the future. The students had crossed over boundaries between generations, between 'inexperienced' and 'professionals' and between the past and the future. They had over-turned the assumptions and skepticism of some, excelling in ways that were never imagined to be possible at the outset. This demonstrates the empowerment of young

people, who in turn, are empowering others and the local industry, igniting a willingness to transform their businesses and embark upon new initiatives in the post-disaster landscape.

This 'third' hybrid space that i.club created, enabled a place for exploration and discovery for the students and beyond. And it is a beautiful serendipity that one of the exercises undertaken by the students was to create new bento-box themes, which in hindsight, could be seen as a metaphor for the i.club project. The culture of bento-box in Japan is creative and playful, often incorporating regional ingredients and flavours that allow its diversity. Its limitless possibilities, combination and variety are its charm. In contrast to western notions of a 'box' that gives it a restrictive, bounded, 'boxed-in' feeling, a 'box' (*hako*) in the Japanese context is almost its opposite. In the Japanese context, a 'box / hako' is, in fact, a receptacle that has the capacity to be filled with anything. It is openness. It can create the potential for things to occur, and that space of 'emptiness' can invite something to enter. This notion is strongly inspired by Kenya Hara's (2010) design philosophy that draws on ancient Japanese concepts of Shinto and Zen Buddhism. He describes the 'hako' in which emptiness resides providing a space within, 'which our imaginations can run free, vastly enriching our powers of perception and our mutual comprehension. Emptiness is this potential.' And the i.club is proactive in the creation of such spaces for 'scaffolding' learning (Wood, Bruner & Ross 1976), a temporary structure to provide alternative routes to problem solving and enable cooperative learning activity with one another. Permission is given to break out from one's boundaries in the pursuit for a collective, generative process.

The benefit and impact of i.club extends further beyond, to the authors of this paper. Being part of the process of enabling transformation for the students and community had inadvertently ignited passion and the need to be empowered *themselves*. This project had enabled them to think about how to create such spaces for learning, to nurture potentials for change, and give themselves the permission to break out from their own form of corporate boundedness.

BROADENING THE HORIZONS OF ETHNOGRAPHY

The world we live in is in a constant state of flux, and disasters are nature's reminder that we are embedded in this dynamic flow. We are already part of it. Disasters will no longer be extreme events, but will become normative. Transformation, in this regard, is constant and it is always happening. We, and the world we live in, is constantly changing and so the question we pose in conclusion is not only how ethnography can enable transformation, but how we become aware of what we do in this process of transformation. And as ethnographers, if we already know the value we can create for corporations and communities alike, we can also help them make sense of the transformations that are occurring around them, and within them, and enable them to become more conscious and deliberate in how *we are all* participating in this process of being and becoming.

When disasters are predicted to become more frequent and severe, especially in the Pacific rim, with knock-on effects that will be felt by communities and governments for years to come, it seems rather limiting, and perhaps insignificant, to talk simply about ethnography confined within the boundaries of industry. Perhaps we need to attempt to re-locate our role and contribution more broadly beyond it. Through our case study in

Kesennma, we have demonstrated the entanglement of economies, industries and communities that cannot be separated, and the negative chain-reaction that can occur when those connections are severed. Small, regional towns cannot exist in the future without the collective efforts of these constituents. i.club can be seen as a form of publics, that coalesce to 'specifically address the ways in which participants endeavor to enact desired futures and prompt change' (Le Dantec & DiSalvo, 2013). Despite Japan being one of the affluent countries in the Asia-Pacific region, the economic decline is imminent. Some observers say it has accelerated due to this catastrophe, compounded by the actions of many, including governments, corporations and public services that failed to innovate by being entrenched in the old industrial-development model. Are ethnographers, then, merely the canary in the coalmines, or can we become more empowered to actively create the hybrid spaces – a new 'box' – for our discipline and others?

Maybe, cautiously, we need to take the *3.11* disaster as a blessing in disguise. It was a wake-up call to re-examine the transcendent nature of our work, to re-stitch ethnography in business, back into the meshwork of 'living', re-connected more broadly to the lives and contexts of people, community and societies. It was always an imagined separateness from society – the 'implied exogeny' that Nafus and Anderson has alerted us to (2006). Again, referring to Cefkin (2012) we need to broaden the aperture to consider how ethnographic work in industry is in dialogue with broader social and cultural discourses. If we see our positioning in hybrid or 'multi-site' places as the condition for ethnography, we could also then begin to see multiple ethnogra*phies* and multiple *praxes* being enacted by many people, as seen by the students in Kesennuma, that can ignite and catalyse other actions to take place. Freire conceptualized praxis as "the reflection and action upon the world in order to transform it" (1997 [1970]), bringing the undeniable political orientation (personal or socio-cultural) to bear. Extending this further, multiple praxes is not just about our application of theory and practice but how that can enact participation or is participated by others more broadly in the cyclical process. Martín-Baró (1994) describes:

> If our objective is to serve the liberation needs of the people [in Latin America] … [We must] involve ourselves in a new praxis, an act of transforming reality that will let us know not only about what is but also about what is not, and by which we may try to orient ourselves toward what ought to be.

The three authors of this paper have a variety of praxes, crossing domains of education, business, research, ethnography and design. This plurality and transdisciplinarity is our strength, blended and entangled in what we do. And there is also a Japanese cultural nuance to what we do too, where notion of a person 'ningen' is etymologised by 'between-person', situating the human as relational beings where each person's identity is integrally related to that of others (Watsuji 1996). Seen this way, other people also become our strength, nourishing our sense of well-being. The transformation we undergo is the removal of such boundaries, particularly the detached selfness and the distance to others, and instead, an acceptance of being in the between-ness (Akama 2012). The adaptive capacities and social cohesion we witnessed in Kesennuma and many Tohoku communities in the wake of the

disaster demonstrates the resilience that can come through collaboration and participation. Japanese concepts like 'in-betweenness', 'box/hako', 'emptiness' that were introduced in this paper had helped our ways of thinking, our actions and our being, and by sharing this with the international community of practitioners, we hope these can become potential frameworks for further discussion.

In conclusion, returning to i.club again, despite being in its infancy, the process is on-going and has been incubated in other parts of Japan. It is now also operating in Aizu, Fukushima prefecture, since March 2013. Aizu is known for its traditional craftsmanship in wood and lacquering techniques and the high-school students are studying these traditional crafts, its indigenous knowledge and current practices. i.club is continuing the program to empower young people to learn and take action, and to develop a platform for the community where knowledge can be passed on across generations. Our hope is that as the program expands, we are able to further reflect on these learnings and to strengthen the participatory innovation process beyond geographical and cultural boundaries.

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REFERENCES CITED

Akama, Y.
2012 "A 'way of being': Zen and the art of being a human-centred practitioner." *Design Philosophy Papers* 1: 1-10.

Appadurai, A.
2004 "The capacity to aspire." In *Cultural and public action*. V. Rao and M. Walton, eds. Stanford University Press.
2006 "The right to research." *Globalisation, Societies and Education* 4 (2): 167– 177.

Argyris, D.
1985 "The Ethnographic Approach to Intervention and Fundamental Change." *Action Science*: 158-189.

Burns, C., H. Cottam, C.Vanstone and J. Winhall
2006 *RED paper 02: Transformation Design*. London: The Design Council.

Cammarota, J, and Michelle Fine, eds.
2008 *Revolutionizing education: Youth participatory action research in motion*. Routledge.

Cefkin, M.
2006 "Cultural Transitions – WWMD? Ethical Impulses and the Project of Ethnography in Industry." In *Ethnographic Praxis in Industry Conference Proceedings, 2006*. Pp 166-176.
2012 "Close Encounters: Anthropologists in the Corporate Arena." *Journal of Business Anthropology* 1 (1): 91-117.

Dourish, P.
2006 *Implications for Design*. Paper presented at the CHI, Montréal, Québec, Canada, 22-28April 2006.

Freire, P.
1997 Pedagogy of the Oppressed. New York: Continuum.

Grocott, L.
2005 "Promoting Potential: the dissemination and reception of practitioner-led design research." Paper presented at the Design Perspectives Conference. Universidad Iberoamericana, Mexico, October 2005.

Guajardo, M. A., and F. J. Guajardo
2002 "Critical ethnography and community change." *Ethnography and schools: Qualitative approaches to the study of education*. Pp 281-304.

Hara, K.
2010 *White*. Lars Müller Publishers.

Ichikawa F. & Hiroshi Tamura
2012 "Maru: An Ethnographic Approach to Revive Local Communities." In *EPIC 2012 Proceedings*.

Le Dantec, C. A., and C. DiSalvo
2013 "Infrastructuring and the formation of publics in participatory design." *Social Studies of Science* 43 (2): 241-264.

Margolin, V., ed.
1989 *Design Discourse: History, Theory, Criticism*. University of Chicago Press.

Martín-Baró, I.
1994 *Writings for a liberation psychology*. Cambridge, MA: Harvard University Press.

Nafus, Dawn and ken Anderson
2006 "The 'Real' Problem: Rhetorics of Knowing in Corporate Ethnographic Research." In *EPIC 2006 Conference Proceedings*.

Oliver-Smith, A.
2002 "Theorizing disasters: Nature, power and culture." *Catastrophe & Culture*.Pp 23-47. Santa Fe: School of American Research Press.

Papanek, V.
1985 *Design for the Real World: Human Ecology and Social Change*. London: Thames and Hudson.

Pink, S.
2011 "Images, Senses and Applications: Engaging Visual Anthropology." *Visual Anthropology: Published in cooperation with the Commssion on Visual Anthropology* 24 (4): 437-454.

Reason, P., and K. L. McArdle.
2004 "Brief notes on the Theory and Practice of Action Research." In *Understanding Research Methods for Social Policy and Practice*. S. Becker and A. Bryman, eds. Bristol: Polity Press.

Rosenberg, T.
2007 "Designs on Critical Practice?" Paper presented at the Reflections on Creativity Conference, Dundee, Scotland, April 21-22, 2006.

Sangiorgi, D.
2011 "Transformative Services and Transformation Design." *International Journal of Design* 5 (2): 29-40.

Simon, H. A.
1968 *The Sciences of the Artificial*. Cambridge, MA: MIT Press.

Simonsen, J., and T. Robertson, eds..
2013 *Routledge International Handbook of Participatory Design*. New York: Routledge.

Watsuji, Tetsuro
1996 *Rinrigaku: Ethics in Japan*. Translated by Seisaku Yamamoto and Robert E. Carter as *Watsuji Tetsuro's rinrigaku*. Albany: State University of New York Press.

Weis, L and Michelle Fine
2004 *Working Method: Research and Social justice*. London; New York: Routledge.

WEB RESOURCES

Science Insider.
2004 "Japan's Tsunami Topped 37 Meters.". Accessed 1 August 2013. http://news.sciencemag.org/scienceinsider/2011/04/japans-tsunami-topped-37-meters.html.

The Wall Street Journal.
2013 "BOJ Beat: 'Recovery' Would be Blessing For PM Abe." Accessed 1 August 2013. http://blogs.wsj.com/japanrealtime/2013/07/10/boj-beat-recovery-would-be-blessing-for-pm-abe/.

Human API as a research source in health care

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This paper illustrates how the concept of "Human API" can help cancer post-treatment cancer patients with challenges they face once they are released from the hospital. The results and implications of this semester long graduate project will help illuminate how the Human API through its various data collection methods could potentially play a larger role in extended cancer care. The research will also attempt to determine if hyper-connected networks of individual patients could become effective sources of information for health institutions to engage and connect with patients after treatment or surgery.

INTRODUCTION

From the initial suspicion of cancer, through the subsequent journey of diagnosis, treatment, and recovery, a cancer patient experiences extreme physical and emotional challenges. During this period of active treatment, the patient is highly engaged with a care team through many examinations, consults, treatments, follow-ups, and phone conversations that ensue over the course of several months or years. He or she may have dozens—or even hundreds— of regular interactions with hospital staff: doctors, nurses, therapists, administrative staff, security guards, doormen, and cafeteria staff. However, after being released from active care, a patient may be instructed to follow up with his or her oncologist in several months, or even a year. Opportunities to interact with hospital staff drastically plummet and post-treatment patients may feel lost, abandoned, and disconnected. (Trump and MSKCC 2012) Even with access to new technologies, cancer survivors often feel uncertain about how to address various questions and concerns that arise after cancer. The lack of effective channels of communication and trusted counseling from institutions can lead to poor communication between clinical teams, patients, and their families. (Trump and MSKCC 2012) To address this challenge, Memorial Sloan-Kettering Cancer Center (MSKCC) sought to find new ways to engage and connect with these patients after the completion of critical treatment, and to extend the high quality of care that patients have come to expect from the hospital.

The use of information technology and self-quantification through always-on digital devices presents an opportunity for such organizations to better engage cancer survivors in self-monitoring and adoption of healthy behaviors. While number of researchers (e.g. Bentley and Tollmar 2013) have attempted to support such proactive recovery, existing

solutions (e.g. Berkowitz 2012, Hammond 2012) have yet been widely utilized and more work is needed to fully understand the behavior of cancer survivors around such communication tools. In this paper, we explore a proof-of-concept aimed at motivating cancer patients to keep a healthy, social life. The research also looks to explore the use of Human API and the potential that networks of individual patients could become direct sources of information for health institutions like MSKCC. The research question this paper addresses sits in a network of other related questions regarding how such a concept might be implemented. How might we provide intrinsic motivators for stronger, lasting engagement? How might health institutions store and manage vast amount of data collected? What future policies must govern the use and application of such data? Of course, one of the primary questions is regarding privacy. How can sensitive health data be used for an application like this? While we acknowledge the importance of these questions, we chose not to address them in this paper to reduce the scope of the project and be manageable in the timeframe we had.

This project was the outcome of a graduate level course at the Illinois Institute of Technology (IIT) Institute of Design in Chicago, Illinois. The proof-of-concept was presented to the Innovation Team at MSKCC; many of the key findings and design principles were considered highly applicable to the design and implementation of future post-treatment cancer care.

WHAT IS HUMAN API?

Human API is an emerging concept of a modern day technology where the consumer or user is seen as a source of relevant, always-on human health data. In software development the term API stands for "Application Programming Interface", essentially the interface through which outside programmers can develop upon a common platform for their software to communicate with existing software and devices. API's are commonly used by software companies as a way for other programs to interface with their product. For example, the Google Maps API allows The New York Times to use Google Maps data on their website or create interactive visualizations by simply "plugging into" the program. Over the last decade, we have seen a significant increase in locative and ubiquitous technologies that allow us to be constantly connected. This combined with new social media outlets create unprecedented opportunities to create, share, cooperate, and take collective action. In terms of healthcare, the volume of tools in the market to track human data has exploded and adoption is showing momentum. Today, users can easily track their activity with a Nike+ and Fitbit; weight and body composition with wireless scales; blood pressure with a Withings monitor; sleep cycle and patterns using sleep-monitoring devices. Even without complicated peripherals, the everyday mobile phone with its multitude of sensors, can broadcast information about our location, preferences, body patterns etc. In the past, mostly doctors utilized the patients' health data, but with enabling technology, patients themselves have become new consumers of the data. In this sense, Human API introduces new ways to collect, process and consume patient health data. Furthermore, people now have access to comprehensive platforms that allow them to broadcast and transmit this information to a network of other users.

In Palo Alto, California, a commercial Human API platform called the "human/api", is founded on the belief that this new human data being created every second can be fully leveraged only when we have the tools to seamlessly track the data, and the tools to make the data meaningful. Brian Solis said in his presentation at LeWeb 2012 in Paris (and subsequently in his weblog) that the idea of the Human API sets the stage for devices to not only talk to one another, but also talk to us and affect how we process and adapt information to influence how we go through life every day. He claims:

> Products such as Fitbit and Nike's FuelBand build upon the Human API by collecting the digital breadcrumbs of users and assembling them in a way that makes sense of daily activity and validates progress. Perhaps more importantly, these devices, the data they collect and present, and the social relationships linked by publishing this information in social channels drives the ongoing pursuit of goals, and brings people together to help one another live better…Imagine if they could also talk to one another…across devices and also across the various contexts of usage, personal, professional, medical, etc. (Solis 2013)

The most important characteristic of this experience is that the users themselves willfully contribute the data, often in exchange for experiences or challenges that the platforms provide. In Nike+ for example, users share their activity data with Nike, and a network of other users in exchange for creative running, exercise challenges. This connected information system, with users as nodes interacting with devices and platforms to generate data, creates what we call the "Human CPU". The Human CPU (in form of the users who generate data) is a highly contextual, socially aware intelligence that is able to pre-process what information is appropriate and what is not for the overall health of the system.

In a graduate level course at the Institute of Design, we explored the Human API as a platform for organizations to access "Human CPUs." Through such platforms, organizations can track real world data such as preferential biases and group validations, generated from users willing to share a portion of their life, which is a much more viable source of information than any feedback from focus groups, surveys, or market studies. Eventually both the quantified self and the Human CPU provide validation, feedback, and insights for organizations that can lead to better products, services, and experiences for users. Using the example of Nike+, the framework can be explained as: people using Nike+ become the sources of information; they use Nike+ device as interface to "plug in" to the Nike+ platform, which connects network of users sharing running information and exercise challenges. Using this framework, organizations can help build two types of data:

1. Self quantification data (useful for the person and networks using the system),
2. Research data (useful for networks and institutions that can modulate their services based on the information).

In this paper, we describe this exploration and the proof-of concept which came out of the exploration. Our research and proof-of-concept builds upon these design principles and

frameworks of Human API to utilize it as a research source in cancer recovery. In the paper, we also describe how existing frameworks from this project can be useful in other areas of healthcare that require monitoring and changing patient behaviors.

RESEARCH AND CONCEPT DESIGN

The eleven students in the course had fifteen weeks to develop theoretical proof-of-concept and present to MSKCC under the guidance of Professor Anijo Mathew. The group was divided into teams such that each team had diverse backgrounds related to 1) people: ethnography, user research; 2) product: product design, hardware installation, physical prototyping; 3) communication: graphic design, user interfaces, usability, interface design; 4) place: architecture, spatial design; 5) information: information architecture, programming, logic structures. This was essential to the project since our objective was to employ technology to create a new experience and service for a unique user group, an endeavor which required considerations in all five aspects mentioned above. This paper describes the research and proof-of-concept developed by one of the teams. The team consisted of Knowl Baek, with a background in industrial design and ethnographic research; Kyle Duke, with a background in architecture and ethnographic research; Roy Luo, with a background in computer science and interaction design; and Monica Lee, with a background in graphic and industrial design, in particular, information and communication technology (ICT) products. Joining our expertise from various fields, we built a research study to understand post treatment cancer experience and developed a theoretical proof-of-concept for extended cancer care using the concepts of the Human API.

Based on the conversations with MSKCC in planning this project and our understanding of Human API, we formed an initial hypothesis that giving access to real time patient health data using Human API may help MSKCC to improve remote communication with patients and to motivate patients to adopt healthy behaviors while recovering at home. In order to give some focus for the research, we initially chose to focus on the recovery process of lung cancer, which is the most deathly and predominant type of cancer. (American Cancer Society 2013) During the later phases, however, we decided that the focus on lung cancer was not critical and generated concepts for cancer recovery in general. The goal was to ultimately empower cancer survivors to proactively adopt a healthy lifestyle, support them to overcome social and psychological challenges, and help MSKCC to support their patients in a holistic perspective. The project plan was four-fold: a) contextual ethnographic research to understand the patient perspective in post-critical treatment issues, b) analysis of research and development of design principles, c) concept generation and prototyping with users for refinement, d) proof-of-concept and video for presentation. In some user interviews, we used a paper prototype of initial concepts to facilitate conversation and used the feedback to refine the concept.

ETHNOGRAPHIC INTERVIEWS: TRANSITIONS TO LIFE AFTER CANCER

The team started contextual ethnographic research by interviewing various stakeholders involved in post-treatment care process including oncologists, a cancer nurse, and psychologist at a cancer center. The purpose of these interviews was to confirm the insights we received from the previous MSKCC New Patient Experience project and to understand current attitudes and behaviors with respect to engaging and connecting with patients after surgery and major treatments. In addition, we spoke with cancer survivors, and caregivers to understand the patient perspective in post-critical treatment issues. As we learned from the previous MSKCC New Patient Experience project, we heard that the current patient experience can be fragmented. For example, an oncologist at a leading Chicago university hospital told us:

> I have a long discussion with the patients in their first visit, but try not to get them too scared. I during the first few visits but there are time constraints for us to address all of their concerns. Most people accept the condition and their chance of survival but some do get depressed from initial diagnosis. The treatments can cause physical changes that cause depression, and we refer them to psychiatrist and medication.

We also heard that once the surgery is done, it is hard for the patients to keep frequent communication with the oncologist that the patient was initially diagnosed by. In fact, cancer surgeons usually have only brief interaction with the patient. A cancer nurse at a leading Chicago university hospital said:

> Surgery is a one-time deal - once they are diagnosed, doctors see them for surgery and one post-operation visit, but rarely see them afterwards. Nurses are the people who help patients when they go through chemotherapy and follow up visits. Because of the economy, not many patients stay in hospital for long time, especially for lung cancer it's mostly outpatient unless they have some complications or right after their surgery.

Even though the onus of interaction is often placed on them, nurses too face significant constraints in consulting for the patients and struggles to help with patients' emotional challenges:

> About 90% of patients are depressed but only about half would seek help for it, we often trick them because they lose appetite and have trouble sleeping, we say we'll give you a little bit of medication (antidepressant) to help you with that.

From these interviews we learned that coping with the emotional burden of having cancer is as much a challenge as the physical hardships and that many cancer survivors suffer

from depression. In fact, for many cancer patients and families, the depression associated with cancer is as big an issue as the disease itself. We also learned that patients are often handed over from critical treatment stage to home recovery stage without clear expectations, and the new life after returning home is full of uncertainty and questions.

Even if a patient had a successful surgery and recovered enough to return home, many cancer survivors experienced fatigue, loss of appetite, brain-fog, bad short-term memory, emotional instability etc. Thus, when the cancer survivors could not function as what they considered 'normal' in their life before cancer, they felt frustrated that they cannot take care of their children, perform as well in their jobs, or get exhausted doing minimal physical activities and felt like a burden to others. From this initial research, we reframed a perspective: cancer recovery is not merely about preventing death and regaining physical ability, but also accepting and adjusting to what we called the "new normal" life.

Moreover, an exceptionally optimistic cancer survivor and his daughter we interviewed separately illustrated challenges in communication within a family. The patient is still active in his career and social life as his physical condition allows. Although his cancer had metastasized and he was relying on various experimental treatments, sometimes he wanted to just live life and go on an anticipated fishing trip with his friend and miss chemotherapy. Or he might eat foods that are not recommended by the doctors. His wife, being a caring, sensitive and detail-oriented person, often got upset that he was not following rules. The story illustrated how, even though the cancer survivor has a very supportive and caring family, misalignment of expectations and communication can cause friction in the life after cancer. The "new normal" is a stressful experience full of uncertainty, and everyone around the cancer survivor has to accept and adjust to the changes. From these insights, we decided the Human API could play a big role in aiding the three main challenges for post-cancer life:

1. Information: acquiring and managing reliable information to set accurate expectations,
2. Communication: lack of easy way to capture and/or retrieve health data and knowing when, who, how they should contact regarding physical or psychological changes,
3. Psychological: fear of appearing helpless and difficulty adjusting to a new life.

ANALYSIS AND DESIGN PRINCIPLES

In order to identify the pain points and opportunities in this "new normal", we initially documented the process of current patient journey based on our interviews with cancer doctors (see Figure 1.) Therefore, this patient journey represents the doctors' view of the cancer recovery process and their touch points with the patient. From this, we discovered that medical team's perspective is often very transactional and does not account for the emotional aspects of a patient during treatment and beyond.

FIGURE 1. ***Doctor's view of post cancer treatment patient journey***

To better represent the holistic experience that captures reality of life after cancer, we created a "new" holistic patient journey that consists of three phases: 1) evaluating the situation: understanding the severity of cancer and what will happen, 2) setting expectations of the 'new normal': accepting the physical and emotional changes and/or limitations after cancer, and 3) 'living life to the fullest': making the most of and focusing on the quality of the new life. (See Figure 2)

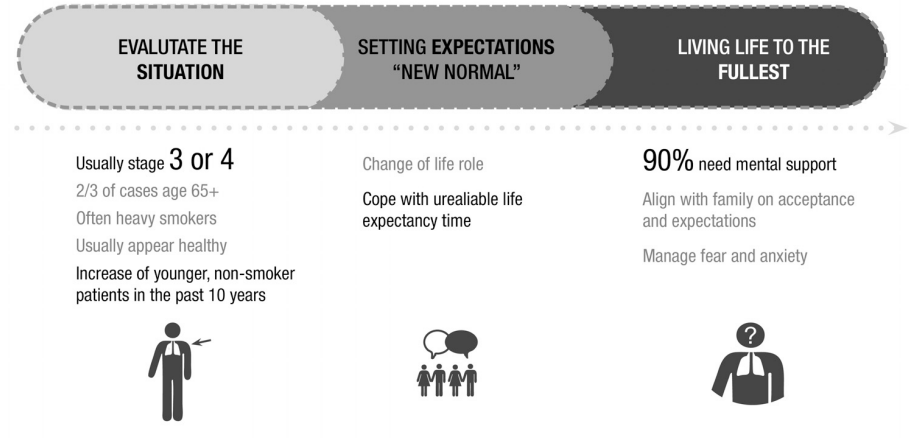

FIGURE 2. ***Holistic Post Cancer Treatment Patient Journey (using lung cancer as an example).***

Furthermore, we illustrated the need for varying emphasis on each phases depending on what stage in the larger process the patient is in Figure 3. We highlight the fact that there should be more emphasis on evaluation when the patient is receiving treatment for the first time, and we saw greater opportunity in shifting the focus to maximize the quality of day-to-day life during on-going follow up visits.

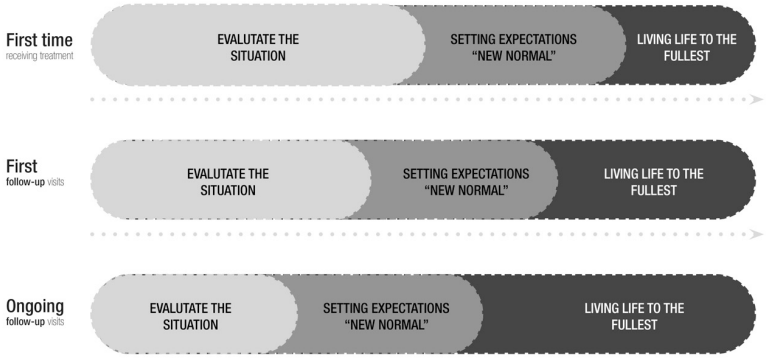

FIGURE 3. ***Varying emphasis on phases of patient journey.***

Interviews with patient and caregivers gave us an empathetic understanding of the patient journey and helped us develop the following design principles to guide our concept design:

1. Help patient's access to reliable data and establish more accurate expectations.
2. Provide a holistic view of patient data to the medical team.
3. Let patients track emotional and physical data.
4. Identify the emotional and physical issues not shared by patients.
5. Help patients set realistic goals and expectations for their "new normal" life. Consider the characteristics of older patients.
6. Provide a supportive network that allows varied levels of involvement.
7. Help patients and family members communicate their emotions effectively.
8. Help patients understand fear and anxiety are normal.

Overall, we saw the opportunity in creating a platform that leverages Human API as an effective source of patient's quantitative and qualitative data in real time, which will help fluid communication and coping with the emotional challenges. All of these findings supported our hypothesis that current experience gives an incomplete view of the patient by only tracking the quantitative information. To move forward into the concept stage, we

questioned how the patient's quantitative and qualitative data affect each other and how they could be useful to the patient and the institution in terms of supporting the post treatment care. In order to understand how the Human API can play a role in the experience, we mapped out what role different types of data can play in a post-treatment cancer patient's life.

DESIGN CONCEPT DEVELOPMENT AND PROTOTYPING

With the design principles, we generated ideas for a new service that will improve the post treatment cancer recovery experience. In order to design for the various aspects of the challenge and the three phases that we identified during the research, we used a grid with one axis being the three main challenge areas: information, communication and psychological; and the other axis as the three phases of holistic patient journey: evaluating situation, setting expectations, and living life to the fullest. Then we clustered the individual ideas into related theme categories such as: gamification, planning tools, navigation and decision-making helper etc. Finally, we mapped theme categories of ideas on the two axes of Physical to Psychological, and Social to Information. This process helped us to organize the partial ideas and use them as building blocks to construct service concepts (see Figure 4).

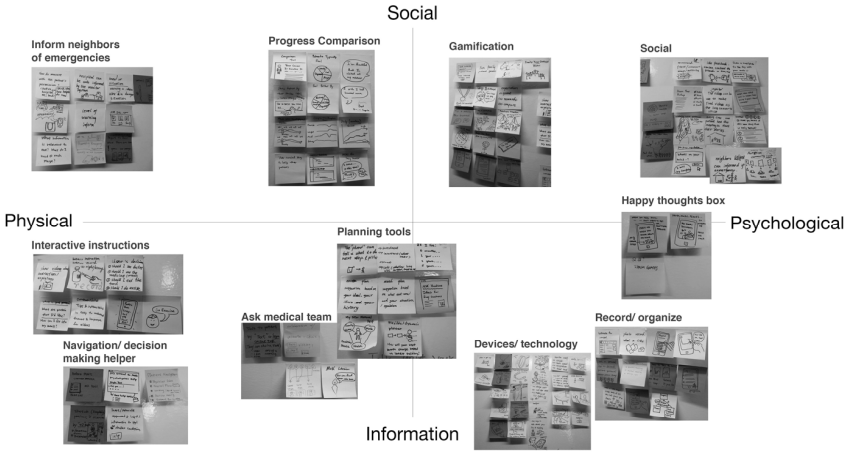

FIGURE 4. ***Idea cluster mapping.***

From these themes we developed several preliminary service concepts. The early stage concepts envisioned were focused on helping patients to easily track their health data, streamline communication with the medical team, and provide visualization, planning, and suggestions to the patient and caregivers. We then roughly sketched these concepts and

sought feedback from patients, caregivers, and MSKCC. While these concepts were perceived as valuable and necessary, we received critiques that they did not align with our objective of addressing social and psychological challenges in cancer care. We also received feedback that the early concepts were utilitarian but did not take full advantage of Human API. From the feedback, we decided that motivating cancer survivors to adopt healthy lifestyle required more than a practical utility solution. We built new concepts that leverage the real-time, nuanced, qualitative data that patients voluntarily feed into the Human API system. The aim was to use the data to create new experiences that will change the cancer recovery behavior over time. We wanted to help cancer survivors to not only track their own health conditions, but more importantly get motivated from social interactions and support from their family and friends. We also referred to B.J. Fogg's Behavior Model (Fogg 2009), which argues that in order to change behaviors, one needs to provide motivation, proper triggers, and abilities.

Later concepts explored the idea of 'healthy points' when being active and social, and tangible rewards when the patient reaches certain goals. The hospital could give suggestions through the platform to stay active, and family and friends can gift points to cheer for the patient. The patient multiplies healthy points when being active with other patients or interacting with friends and family. Here, we leverage widely adopted self-quantification devices such as Nike+ and Fitbit to 'plug-in' the patient's Human API into the platform. We also referenced related work like LifeMash (Bentley and Tollmar 2013), which highlight the importance of contextual awareness in order to paint an accurate picture of the patient's physical and social activities. As a result, we designed a proof-of-concept mobile application that collects the patient's health data through a social gaming interface. Alongside the concept development, we created various paper prototypes and conducted heuristic evaluation and ideation sessions with patients and caregivers. (Figure 5) Using the prototypes to mimic the use of the application helped us to refine the proof-of-concept, and we created a video to present the final concept.

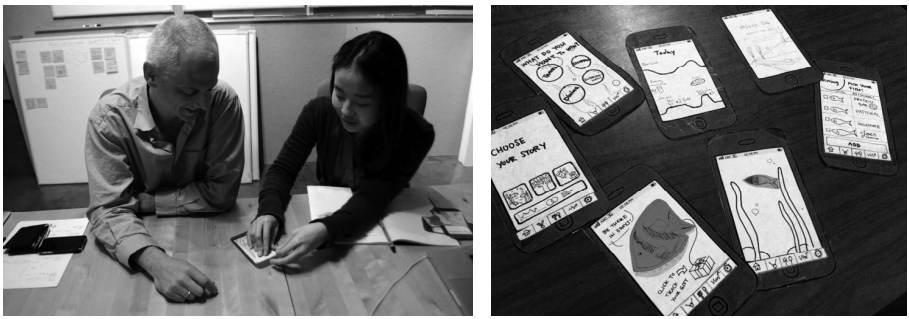

FIGURE 5. ***Prototyping with caregiver to refine concept.***

PROOF OF CONCEPT: UNA – A SOCIAL GAME APPLICATION

Una is a social game and health monitoring service that encourages cancer survivors to lead a healthy lifestyle. Through its always-on, patient-approved data collection, Una also allows the hospital medical team to monitor patient's progress and provide a higher (and personalized) level of care. Una tracks three types of data: physical activity, diet, and social interaction. To portray our concept in an intuitive story, we created a scenario of fictional character Laura, a cancer survivor who is about to leave the hospital and is introduced to Una (see Figure 6):

Before leaving the hospital, Laura is given the Una package which contains a Nike FuelBand and the Una application which works in tandem with Nike+. The nurse at the hospital walks Laura and her primary caregiver through the application and explains its purpose. The hospital, or Laura can send invitations to other caregivers and family members to connect with each other on Una. As she gets home, Laura receives important updates about extended cancer care at home. The application also prompts her to set up goals for each of these care protocols – healthy eating, exercise, periodic medical reviews etc. Laura can also select what kinds of tangible rewards she would like. The rewards are partially sponsored by participating vendors interested in supporting the cause, and Laura sees several rewards that she likes. When Laura's family and friends see the goals, they too can pledge to further motivate Laura to achieve her goals.

Within days after her treatment, Laura starts working towards her goal by being active and earning Nike Fuel Numbers. She also earns points by taking photos of her healthy meals, getting positive feedback from her family, and by hanging out with her friends and family. A clinical team at the hospital tracks Laura's post treatment progress on the Una dashboard. On one occasion, the nurse notices that Laura's activity meter has gone down. He sends a notification to Laura's circle of caregivers through a quick pop up window:

> *Laura could use your support with hitting her fuel goal for exercise today. Want to send her a message?*

Jen, Laura's close friend who has been supporting her recovery sees the notification and invites Laura to talk a walk outside:

> *Hey, the weather's beautiful today. How about a walk in the park?*

Laura accepts the invite and meets Jen at the park. Since they both have Una application installed, a quick bump of their phones can let the system know that Laura is exercising with Jen. She has a great walk in the park with Jen, doubles her Fuel numbers, and works up towards her goals. Since the application automatically tracks Laura's activity using the accelerometer in the phone, the Laura and Jen can enjoy the walk together without further prompts, until she returns home:

> *Great Laura! You've earned 8 points with Jen!*

Through being active, eating healthy, and socializing, Laura earns points, eventually unlocking the reward of a healthy meal voucher at a local sushi restaurant. She enjoys a dinner with her husband, knowing that she is maintaining a healthy lifestyle, aware that her care team at the hospital is monitoring her progress without intruding in her life, and in general spending more time with her family and friends.

FIGURE 6. ***Screenshots from Una concept video.***

HUMAN API IN THE SOCIAL GAME APPLICATION

This proof-of-concept incorporates design principles and frameworks from B.J. Fogg's theory of captology , as well as game theory, and social motivation theories from applications such as Pain Squad. (Berkowitz 2012) The application is based on the concept of a social game where we explored the types of quantitative and qualitative data as meaningful metrics of holistic wellness while easily captured through the patient's Human API. Laura is motivated to use the application because she knows there is a tangible reward for doing so. Moreover she is motivated by the fact that her friends and family can see her progress after cancer. The ability of the clinical team to have constant access to Laura's health data with minimal effort on her part to input the information is also an important aspect of the application.

How would the application work? We envision leveraging existing platforms wherever possible to track the Human API. Over 60% of adults in U.S. now own a smartphone (Nielsen 2013) and there are 11 million users of Nike+. (Laird 2013) Knowing such large population have access and knowledge to use such platforms, we envisioned possibilities of using Evernote Food to document photos of their meals and Nike+ and Fuel Numbers to track physical activity. (see Figure 7) The rewards will reflect the overall aim of encouraging healthy lifestyle, such as discounts for fitness lessons, vouchers for healthy local restaurants, or coupons for athletic shops. We envisioned a 'pledge system' (see Figure 8) similar to that of Kickstarter , so that the friends and family supporting the patient is backing up the health cause and giving a gift when the patient reaches the goals. This concept also appeals to

Corporate Social Responsibility and asks the relevant businesses to offer the rewards at a lower price. The sponsoring businesses will benefit from being featured as a sponsor of cancer cause, while help offset the cost to provide the tangible rewards. We also envisioned the need for a "game master", a doctor or medical professional from the treatment provider who is knowledgeable about the patient to adjust the difficulty level of reaching the goals. Further development of guidelines is needed to change the game depending on diagnosis so that the patient does not feel discouraged or the game becomes too easy.

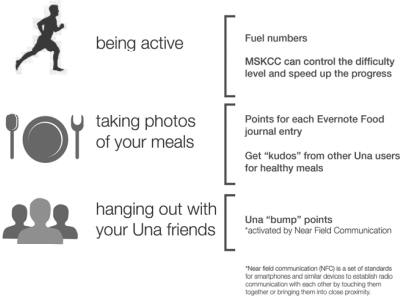

FIGURE 7. ***Three ways to earn points***

FIGURE 8. ***Crowd-funding model.***

Measuring social interaction was enabled through the simple gesture of 'bumping' the phones together that have Una application. Near Field Communication (NFC) technology in new phones can activate a social meter and track the duration of time and movement while the two phones are in close proximity. In the end, the aggregate of all of these measurements (see Figure 7) are used to compose the final concept of Una experience, wherein the Human API aggregates the user's activity level, eating habits, and social activity into a social game that rewards patients and family members for positive behaviors and encouragement. Patients and family members work together to achieve goals displayed on an engaging data visualization platform and earn tangible rewards when successfully completed.

VALUE PROPOSITION

The primary value proposition of Una is that it triggers direct communication and interaction between friends, family, and the patient, while also enabling the health institution to keep track of the patient's wellness. This is beneficial for institutions like MSKCC seeking ways to improve healthcare at lower cost. Because the system is primarily data driven, algorithmic trackers can look for anomalies. This means the medical team can reduce the labor of collecting and processing raw data and spend more time on personal communication with the patient when appropriate, delivering higher quality care. The application will facilitate patient health tracking and looking for anomalies in activity or

behavior that can trigger emergencies, so that medical team can step in to prevent major issues before they happen. Also, important care updates, review questions, periodic messages to the patient and caregivers can all be sent through the application. Family and friends of the patient can feel more connected to the patient by providing words of encouragement and rewarding healthy lifestyle. Finally, various sponsoring companies and local businesses gain awareness as supporters of cancer survivors and their families.

CONCLUSION AND FUTURE IMPLICATIONS

In this paper, we describe a proof-of-concept employing Human API as an effective research source for post treatment cancer care. We chose the concept of Human API because we believe that having access to the real-time, nuanced health data from the patients who opt in to the service presents a strong potential for health institutions to actively respond to patient and caregivers' needs. From the design of our proof-of-concept, we were able to derive a set of guiding principles that can also be used for the development of future Human API applications:

1. Employ an effective metaphor and goals that encourages continued participation and feeling of accomplishment.
2. Keep the interaction and visual representation simple with a clear indication of patient's progress.
3. Choose meaningful quantitative and qualitative data points aligned with the purpose of research and appropriate devices for the patients.
4. Facilitate more offline social interaction between patients and caregivers as the major support network.
5. Help health institutions to see holistic picture of patients' progress rather than as set of metrics.

In conclusion, this research attempts to provide an effective and viable example of applying the concept of Human API with the objective of helping a cancer institution engage and connect with the cancer survivors after their critical treatment is completed. Using Human API as a research source will facilitate collection of valuable quantitative and qualitative patient health data in real time. Furthermore, Human API can help paint a more holistic picture of patients for healthcare organizations when combined with contextual data. Also, such methods have potential to be applied in broader realm of remote health care and/or wide spectrum of remote research that require ethnographic understanding of users.

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REFERENCES CITED

American Cancer Society
2013 "What are the key statistics about lung cancer?" In "Learn About Cancer." Accessed July 15, 2013. http://www.cancer.org/cancer/lungcancer-non-smallcell/detailedguide/non-small-cell-lung-cancer-key-statistics.

Bentley, Frank and Tollmar, Konrad
2013 "The power of mobile notifications to increase wellbeing logging behavior." In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '13)*. Pp 1095-1098. New York: ACM.

Berkowitz, Joe
2012 "'Pain Squad' Mobile App Gamifies Cancer Treatment for Sick Kids." *Fast Company*. Accessed July 15, 2013. http://www.fastcocreate.com/1680653/pain-squad-mobile-app-gamifies-cancer-treatment-for-sick-kids.

Fogg, B.J.
2009 "Creating Persuasive Technologies: An Eight-Step Design Process." In *Proceedings of the 4th International Conference on Persuasive Technology*. Persuasive Technology Lab, Stanford University.

Hammond, Shelby
2012 "Phone App for Adolescent/Young Adult Cancer Survivors." *Cure Search for Children's Cancer*. Accessed July 15, 2013. http://www.curesearch.org/ArticleView2.aspx?id=10091.

Laird, Sam
2013 "Nike+ Users Could Power 6,700 Houses Daily." *Mashable*. Accessed July 15, 2013. http://mashable.com/2013/02/22/nike-fuelband-stats/.

Nielsen
2013 "Mobile Majority: U.S. Smartphone Ownership Tops 60%." *Nielsen Newswire*. Accessed July 15, 2013. http://www.nielsen.com/us/en/newswire/2013/mobile-majority--u-s--smartphone-ownership-tops-60-.html.

Solis, Brian
2013 "Plugging into the Future of Humanity: Exploring the Human API." *Brian Solis Blog.* Accessed July 15, 2013.http://www.briansolis.com/2013/06/plugging-into-the-future-of-humanity-exploring-the-human-api/.

Trump, Rebecca and MSKCC Design Innovation Group
2012 "New Patient Experience." In *Insights from Ethnographic Research.* Memorial Sloan-Kettering Cancer Center.

WEB RESOURCES

Nike
Accessed 15 July 2013. http://nikeplus.nike.com/plus/.

Fitbit
Accessed 15 July 2013. http://www.fitbit.com/home.

Withings
Accessed 15 July 2013. http://www.withings.com.

Human/api
Accessed 15 July 2013. http://humanapi.co.

Kickstarter
Accessed15 July 2013. http://www.kickstarter.com.

Strategic ethnography and reinvigorating Tesco Plc: Leveraging inside/ out bicultural bridging in multicultural teams

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Fiona Moore
Royal Holloway, University of London

Terry Mughan
University of Victoria, British Columbia

This paper focuses on a study of Tesco Plc conducted in 2011, in which we trained a multicultural team of nine Asian managers to become in-house ethnographers of Tesco UK for a 3-month period studying 52 stores in the UK with dual objectives of helping Tesco (1) to understand and evaluate the core practices that comprised the essence of Tesco's home country advantage, and (2) to identify sources of learning from Tesco's foreign subsidiaries to aid in reinvigorating its core in light of increasing competition in its home market. We believe that the strategic and training dimensions of this project constitute a new contribution to the field of organisational ethnography, particularly with regard to the use of a multinational ethnographic team of non-native speakers of English.

INTRODUCTION

This paper is based on a study of, and with, Tesco Plc, conducted from June - October 2011, which the company intended to use as a means of identifying and assessing "the Essence of Tesco", i.e., those aspects of the firm's culture which were distinctive to Tesco and which could be transferred abroad to other parts of the firm's global reach. Unusual among academic studies, the study was done not solely by outside experts, but in collaboration with a multicultural project team of nine managers from the firm's Asian subsidiaries and partners, who we trained in ethnographic techniques, and who conducted the data collection and participated fully in the analysis. This project provides insights into ways in which ethnographic techniques can be effectively used by insiders as well as outsiders to organisation. Our discussion includes how an insider ethnographic team can be very effective in examining the complexities and robustness of a global organisation's culture, the benefits and challenges of engaging in an insider-ethnographic approach to organisational renewal, and also the ways in which international managers operate as "bicultural bridges", that is, people mediating routines, practices, and knowledge across subsidiaries of a multinational organisation.

BACKGROUND

In the spring of 2010, Tesco Plc, Britain's number one private sector employer and the world's third largest food retailer, with stores in 14 countries across Asia, Europe and North America, began to lose its competitiveness in its UK (Tesco Plc financial report, April 2010) home base while still maintaining substantial profit growth worldwide led by its six Asian subsidiaries located in Japan, Korea, China, Malaysia, Thailand and India. Tesco's international operations are diverse with stores in 14 countries across Asia, Europe, and North America, including joint ventures with local partners (e.g., Samsung-Tesco Home Plus in Korea, Tesco Lotus in Thailand), reflecting Tesco's strategy of being locally responsive to host country market opportunities and policies. The challenge for Tesco lay both in identifying the global advantage for foreign subsidiaries of being part of the Tesco group, as well as in learning from them ways in which Tesco could reinvigorate its home country competitive advantage. These challenges first involved identifying the essence of Tesco's home country advantage, assessing its robustness—that is to say, whether the essence of Tesco UK was strong or weakening, and, if the latter, in what areas was there room for improvement. The subsequent challenges included determining criteria for discriminating among practices that were transferable abroad from those that were not, and then capturing and leveraging the learning from positive recontextualizations (Brannen, 2004) of Tesco's practices in the foreign subsidiaries throughout its global footprint.

The result was an innovative project sponsored by Tesco's CEO Asia, David Potts, in which we trained a multicultural team of nine Asian managers (subsequently called the "Project Team") to become in-house ethnographers of Tesco UK for a 3-month period studying 52 stores in the UK with dual objectives of helping Tesco (1) to understand and evaluate the core practices that comprised the essence of Tesco's home country advantage, and (2) to identify sources of learning from Tesco's foreign subsidiaries to aid in reinvigorating its core in light of increasing competition in its home market. In addition to realizing Tesco's immediate goals, the project also provided a research opportunity to operationalize the construct of the "bicultural bridge" touted as essential to delivering on the promise of the multinational company to utilize its global presence for sustainable competitive advantage. From this study, we identify three major skill sets as essential for members of multicultural teams to serve as "bicultural bridges", interpreting and mediating knowledge exchange across borders. To arrive at this finding, we adapted and extended ethnographic method to the operation of teams across geography and global corporate identities.

Our study makes three major contributions. Firstly, it offers a longitudinal field study of an actual multicultural team in practice with a company determined "real world" outcome measure, and, secondly, develops a clear definition of what is meant by "bicultural bridge" with three skill sets that make up the construct that are applied over three organizationally relevant contexts for bicultural bridging, namely cognitive complexity, perceptual acuity and reflexivity. Finally, and most importantly, this study is methodologically innovative in that a team of Asian in-house managers with no prior ethnographic skills executed the study. Our academic team (termed the "A Team" by the Project Team members during the course of the project) acted as advisors, trainers and coaches to the project team at every stage of the

ethnographic process. We designed an initial intensive custom-made training course including instruction in ethnographic research techniques. In addition, we put in place purpose-built group-oriented techniques to collate data gathered by a team of nascent ethnographers with unique tools for the extraction and evaluation of key themes across data from a culturally diverse group.

LITERATURE REVIEW

The literature on cross-cultural management generally recognises that ethnographic techniques are a useful way of gathering rich data on organisations and how their internal cultures develop through the constant interaction of internal and external discourses of identity (Brannen and Salk 2000), and of analysing such data in complex ways (Boyacigiller et al. 1996). In the Journal of International Business Studies Special Issue on qualitative research methodologies, for instance, Westney and van Maanen (2011) argue that international business studies' focus on quantitative methods has led to insufficiently complex images of culture. However, despite this, ethnographic techniques have been used since the 1970s as means of fleshing out and adding depth to more positivistic studies (Hodson 1998), triangulating results (Jick 1979) and explaining complicated social phenomena (van Maanen 1979). Ethnographic studies have been shown to be particularly effective at, for instance, understanding micro-political dynamics in organisations (Sharpe 2006, Barley 1996), ambivalences which affect the operation of cross-border mergers and acquisitions (Moore 2013), and the complexities through which aspects of culture are recontextualised, adapted to different social contexts (Brannen 2004). From a research perspective, then, ethnographic techniques are recognised as providing complex means of gathering and analysing data about organisational culture.

The question remains, however, whether such studies have more practical applications in cross-cultural management, beyond researchers being able to provide managers with reports and recommendations based on ethnographic studies. Some evidence for this is provided by the literature on multicultural team management, and in particular those studies arguing that reflexivity can provide a moderating influence on team dynamics. Pieterse et al., for instance, argue that, as well as the similarity/attraction and information/decision-making perspectives, teams can also be seen from a social-cognition perspective, that is, the team's mental representations of the team and the task at hand (2011: 154). They quote a study by West, Garrod and Carletta to the effect that 'the extent to which group members overtly reflect upon, and communicate about the group's objectives, strategies, and processes, and adapt them to current or anticipated circumstances' (1997, p. 296, quoted in Pieterse et al. 2011: 156) can have a positive effect on diverse teams. Kirkman et al. (2004), similarly, argue that team empowerment has a positive effect on group performance, due to its role in increasing communication and trust among members, factors which might also be developed through reflexivity, and Barinaga (2007) takes as her starting point the idea that team members should be seen as reflexive actors (319, 322). It has thus been argued that the extent to which group members reflect on the task and group relative to themselves can positively affect their performance

This is supported by Schippers et al. (2003)'s study, which actively attempts to measure the effect which reflexivity, as defined by West, Garrod and Carletta, has on diverse teams. They argue that reflexivity helps to prevent the development of routines and 'groupthink' (781), and that reflexivity can mediate relationships, increasing satisfaction and commitment (797). However, they also note that the degree of reflexivity changes over time, with newer, more diverse groups and longer-lived, more homogenous groups both being low in reflexivity compared to newer, more homogenous groups and longer-lived, more diverse groups, suggesting that reflexivity is developed by more diverse groups as a moderating strategy, and that the existence of common goals can work against the development of reflexivity (797). The literature on reflexivity in team management thus suggests that a known ethnographic technique – reflexive analysis – can be used by managers to understand and mediate social relations.

To the extant literature, therefore, our study adds an exploration of the traits which enable managers to mediate different cultural contexts, and of the processes involved in managing organisational culture across borders. More than that, though, it provides a method whereby researchers and managers can collaboratively develop an understanding of the organisation's culture which is complex and dynamic, through training the managers in ethnographic techniques and working with them as they explore and understand the processes through which the organisation's culture is formed and analysed.

RESEARCH DESIGN

The research design of this study, which was termed "The Essence of Tesco," comprised three main phases. As surfacing contextually based implicit (and often tacit) knowledge is difficult to do from within one's own context, and because Tesco's global performance was being led by strong positive performance by its Asian subsidiaries with perhaps the most to offer the home-base in terms of learning, the study began with the formation of a global team of nine managers (called the "project team") chosen from Tesco's Asian operations (in China, Japan, Korea, Malaysia, India and Thailand) to come to the UK, where they would be based for six months.

In this first phase, the academic research team of four scholars skilled in organizational and strategic field-based analysis trained the project team in ethnographic, cultural analysis and grounded theorizing techniques. Training sessions were on topics including observation skills, note-taking methods, analysis of media and documentation, interviewing techniques, and on organizing and making sense of data through techniques of content analysis, coding, triangulation, and the comparative method. In the second phase of the study, the project team conducted fieldwork across the five principal grocery retail formats developed and operationalized in the UK, Tesco Express, Tesco Metro, Tesco Extra, Tesco Direct and Tesco Bank. During this phase, the academic team provided on-going guidance and feedback to the project team as they conducted their fieldwork. Our emphasis during this phase was on the quality of, and routines for, note taking, and on initial and focused coding of data.

The final phase of the project comprised data analysis and recommendations. This began with the project team coding their own field notes and interview transcriptions and

surfacing the major themes that emerged as the underlying practices that were the essence of Tesco in its UK context. We then met as the full research team in order to triangulate across the individually collected data to check for inter-rater reliability, shared understanding of the codes, consolidate related codes as sub-codes, and surface the main themes common across the data collected by the nine project team members. Ten core themes emerged that were salient, robust and common across the individual project team members' data. The ten themes were then were coded using Schein's corporate culture diagnostic (Schein, 1985) to ascertain whether they were robust and congruent across the artefact, value and assumption levels of analysis. We did this in the following way. We color-coded each of the ten thematic sets of consolidated field notes marking phrases and quotes that were indicative of the theme as an artefact—an explicit manifestation of the theme; a value—an espoused manifestation; or an assumption—a tacit expectation. We then looked at the frequency of artefacts, values and assumptions for each theme. Some of the themes were heavy on assumptions and values and lean on artefacts, thus indicating that Tesco does not deliver in these areas. For example, for the theme "opportunity to get on," employees thought that if they joined Tesco, they would have an opportunity to move up the job-levels; however, in actuality many employees complained that they were not given this option. Others were heavy on artefacts but lean on espoused values and basic assumptions, thus indicating that Tesco needs to question whether there is a shared understanding of the purpose and meaning behind these protocols, rituals and behaviours. For example, for the theme "customer is at the heart of everything," whereas there were many slogans, signs, etc. stating that this was so, there were in fact contradictions at the value and assumption levels where employees felt caught on a tightrope having to meet key performance indicators (KPIs) at the expense of customer needs.

This project therefore represented an opportunity for academics to work with an in-house mixed global team, as they identified the "Essence of Tesco" through their application of fieldwork techniques, and as they operated as bicultural bridges between their subsidiary organizational context and the UK home context.

FINDINGS

Fieldwork

Performance in note-taking, coding and analysis using Schein's model – The design of the project generally and the training which comprised the first phase of it was driven by the expressed desired outcomes of Tesco plc. Working within such constraints, as well as those of time, funding and the competences of individual team members, stretched the abilities and experience of the academic team. It had to be recognised that we were not working with conventional students and corners had to be cut with regard to the scope of the syllabus and reading time available on the part of the project team.

In the training phase, all the project team members had difficulty with the absorption of the nature of ethnographic practice, the techniques of observation and judicious participation and the painstaking technique of note taking. Whilst some of these uncertainties were eased when the academic team accompanied the project team members on pilot sessions in local stores, some key uncertainties persisted, such as the border between

'objective' and 'subjective' phenomena and the way in which they should be recorded. In order to help the project team focus their participant observation, we offered a simple rubric—focus on three questions: What is familiar? What is surprising? What do I want to learn more about? We termed these, the F, S, and M's and asked them to mark these in their field notes. Some of the project team members were concerned about how they would be received in the stores and worried about being viewed as "Asian spies." Fortunately, Tesco already had a policy wherein all store managers and Tesco executives must spend one week per year working in the stores so as not to lose touch with the customer. We therefore counselled the project team to use this practice, termed "Tesco Week in Stores" or "TWIST" as a way of helping the Tesco UK store employees understand their presence in the stores and to explain that this was just a new global twist on this standard routine. Some students also struggled with the discipline of writing-up field notes and took more time to construct the personal routine required. Others required remedial sessions to help with decision-making and weaknesses with their English. In order to facilitate this, we devised a template for field note taking and a daily checklist. This included a left-hand column for subjective reflections, a right-hand column for objective notes, and check boxes for F, S, and M's. The team members then sent their weekly field notes to two of the academic advisors who regularly gave feedback and encouraged them to register their subjective opinions regarding their observations as much as possible. This latter point was very important for the project because in order for Tesco to learn from insider-outsider eyes, the project team members needed to register and communicate differences between how things were done in their home context versus in the UK. These differences, termed "recontextualizations" (Brannen, 2004) can be sources of innovation and continuous sustainable improvement for Tesco Plc that could distinguish it from its competitors. Coding posed even more problems for the group. Whilst content that they were, in almost all cases, assembling sufficient field notes, they found it very difficult to stand back from their work and analyse, identify, and highlight relevant sections of text. Again, remedial sessions gave the group confidence to work systematically on their burgeoning file of notes as they gradually covered the majority of the United Kingdom visiting stores and offices.

An important dimension of the project, which represented a particular challenge, is that of language. Although all the project team members came from Asia they had differing native languages. Mandarin, Thai, Hindi, Japanese and several others all figured in the profile of the group and alongside their language identity, each manager had a strong cultural belonging to an individual nation which was further nourished by strong desire to see Tesco in their country excel within the Asian context. In addition, the level of proficiency in English of the project team members was by no means even. In spoken English 4 stood out as having more ability than the others because of residence, study or work experience in English-speaking countries. 3 project team members were noticeably weaker than the rest in spoken English and one of them had never before visited an English-speaking country. Our knowledge of their respective abilities in writing, reading and listening was to be discovered in the course of the induction, training and field work and the gap between the more and less able turned out to be smaller in writing than in speaking. While these issues of language proficiency and use and its relationship with ethnographic skills is not the focus of this paper, it is relevant at this stage to point out some of these key issues as they pertain to

performance generally and more specifically to competence in understanding what they heard and read and their ability to conduct interviews and gather data directly from Tesco employees in a variety of scenarios. Note-taking and analysing data were of course also key tasks in the project, which relied on good command of English. Observations about constraints and performance stemming from the issue of language proficiency will be made in the relevant parts of the following sections.

"The Essence of Tesco": Identification of themes

As the aim of the project, as far as the company and multicultural management team were concerned, was to distil what was the "essence" of Tesco, what part of that essence might lend itself to global integration and what was more vulnerable to local recontextualization (Brannen 2004) and hence an opportunity for learning and reinvigorating Tesco UK. In addition to this overarching aim, we were asked to focus on the following three areas: 1) people and culture, 2) brand management, 3) operational excellence. The identification of key themes that made up the essence of Tesco UK was achieved by adapting traditional ethnographic coding techniques to a team process. This was not an easy feat given the diverse cultural and linguistic challenges posed by a multicultural team of this sort. Each of the nine project team members were asked to code their own field notes first by using open coding considering their data in minute detail while developing initial categories, then to surface recurring themes by using selective coding around core concepts. We then pooled all of the themes that were surfaced by the nine team members. This came to an initial thirty-four themes which we then discussed, defined, and sorted integrating themes and subthemes until we refined the list into ten overall themes:

1. Customer at the heart of everything
2. Leadership DNA
3. Opportunity to get on
4. Teamwork and collaboration (Intangibles)
5. Work environment (tangibles)
6. Embracing and implementing change
7. 7."It's my business"
8. Operational efficiency
9. Trusted brand
10. Respect for facts and insights

On the surface, these themes might appear to be quite generic strategic initiatives for any business. Rather, out of a plethora of initiatives generated by Tesco management, these are the ones that surfaced from the project team's field notes as being relevant and present on the shop floor. This is an important aspect of the methodology that distinguishes itself from the rather more superficial readings of organizations generated by consulting firms that are unable to leverage insider perspectives on the phenomena under study. These ten themes were derived from complex, deep bodies of in-vivo text generated by a bottom-up inductive process rather than having been given to the project team members in a top-down

communication from Tesco executives. Taken in isolation by their titles the themes do not convey the full depth and meaning that the project team members were able to understand through their research. For example, the theme "Opportunity to Get On" may appear to be a key theme in any company, but in the retailing sector, especially in the UK, one of Tesco's competitive advantages in recruiting and developing staff is seen by employees as a key differentiator from other shops on the high street.

Further, after initially identifying each theme, the project team members carefully and collectively defined and clarified what comprised their essence using in-vivo quotes. For instance, the following was the descriptive essence of the theme, "Opportunity to Get On":

- Variety of jobs and levels for everybody
- Staff morale (also pay)
- An interesting job
- Career development and personal development
- Talking about how to develop people in a fair way
- Long-term service – employees working at Tesco for a long time (lifetime)
- Personal development as well as career development
- Powerful message around people development
- Leadership by coaching and inclusivity
- Our ability to change lives

The process of developing these themes was significant to the subsequent analysis. When listening to induction speeches by Tesco UK management and in subsequent follow-up interviews with various UK managers, during the initial training period, the project team developed an idea of the official version of the company's values and identity. However, they also often noted that the British managers seemed to rely heavily upon Tesco's tools and rhetoric without actually engaging their teams or enacting effective people-management skills. The reflexive skills that the project team members had learned to employ in their roles as strategic ethnographers enabled them to go beyond considering the corporate values unproblematically to further analyse, triangulate, and critique them. They were thus able to consider how their reactions to the different Tesco UK managers' presentations affected how they received their opinions: for example, that they would pay more attention to the presenters with whom they felt a rapport either because of a shared functional identity or point of view, and thus prioritised these managers' version of events. The process of coming up with the themes was also subject to power relations internal to the project team, as some wanted to see the corporate values reflected in the themes, while others, having formulated different opinions during the training process, were more ambivalent. This process of discussion and debate made for a more complex image of corporate culture, and, more importantly, one incorporating contradictory discourses. Furthermore, they were able to consider the managers' views in another context – how these values were experienced at the shop level. For instance, one researcher critiqued the concept of efficiency by saying:

> *I began putting some labels on products, as I wanted to experience the process for myself. The system was slow for the time given to change the labels and it can be quite frustrating when you do not find the product to match the label.*

The project team members thus did not simply develop a managerial image of Tesco, but were able to conduct holistic ethnography (see Moore 2011) to obtain perspectives on the firm from different levels of the organisation.

Ethnography, culture and nuance: Analysing the themes

One significant outcome of the methodological choice was that in identifying the themes, the project team members were able to incorporate critiques, even outright contradictions, of the themes in their analysis. For instance, under "Opportunity to Get On", the project team members noted that the examples cited to them were generally of people who had risen in the company through taking their own initiative, rather than people who had been helped by the company to success. Therefore, while it was certainly true that the company was seen as a place where people could "get on" in their careers, and that the opportunity was provided, the company generally did not help employees to meet this goal.

The project team thus identified a gap between Tesco's espoused values and practices. For instance, they noted that Tesco has an official value of being a "great place to work", and yet also noted employees saying, "What's special about Tesco? Nothing much. They pay me and that's all". One of the focal espoused values of Tesco, and indeed one of their overall themes, is 'customers at the heart of everything we do', meaning that the company tries to effectively manage the conflict between performance KPIs and customers' needs. An analysis of the ethnographers' field notes demonstrates that this essence is, indeed, robust at all three of Schein's levels. However, with 453 affirmative and 263 contradictory field observations, the analysis also indicates that Tesco currently has conflicting values in place around trying to achieve performance KPIs, such as sales targets, while concurrently keeping customers at the heart of the organization. In the process of placing heavy emphasis upon trying to meet and exceed performance goals, at the store level, managers and front line staff have forgotten what it means to truly place customers first. Consider the following:

> *I could not believe they would have a staff meeting on the shopping floor. Although it is a wide corridor, it is disturbing for customers. It is a huge store and they should find another place to meet.*

By exploring the espoused values, and the lived experience of being members of the company, the project team members were able to acknowledge the company's self-identification, but also the ambivalences, contradictions and variations embodied in these themes, rather than taking the statements as a simple, objective and unproblematic truth about the company. The use of the ethnographic method thus allowed for a complex and dynamic analysis and understanding of the firm's culture by its managers.

Reflexivity and comparison: The analytic process

Another significant factor in the process of generating and analysing the data was the diversity of the team. Tesco's international operations are diverse, including joint ventures with local partners (e.g., Samsung-Tesco Home Plus in Korea, Tesco Lotus in Thailand), reflecting Tesco's strategy of being locally responsive to host country market opportunities and policies, and the project team members therefore came not just from different countries, but from firms which had a quite different relationship to the parent company. Some of the participants were employees of companies which were joint ventures between Tesco and a failing or weak local partner, whereas in other cases, for instance the Korean operation, the power balance between Tesco and the local partner was more equal, leading to power struggles over whose values would dominate. As ethnography is inevitably a comparative act (see Ellis & Bochner, 2000), implicitly if not explicitly, there was always an element of comparison with the project team members' home situation: for instance, one observer critiqued a store's front-of-house display by saying that it is not what she would have expected in her home country, leading her to reflect on why the differences were present. Again, the diverse backgrounds and power relations of the project team members conducting the study led to a dynamic view of the corporations' culture.

For the academic team, there was also a substantial opportunity for reflexivity both in regards to the research process around training and working with insider ethnographers as well as theory development regarding the evolution of corporate culture in global organizations. The academic team was charged to facilitate the Asian project team to carry out a number of tasks including observing the operations and behaviour of people in a selection of Tesco stores across the UK, interviewing store staff, office staff and suppliers, and reviewing past reports conducted in-house or by consultancies, but not to conduct the actual in-store ethnographic research ourselves, providing opportunities to reflect on our own research practice and its strengths and weaknesses. The process did certainly, as noted, generate a more complex image of corporate culture and one which could include the ambivalences and contradictions found in organisations (as noted in Martin 1992). However, as Burawoy (2013) notes in his critique of ethnographic methodology, it is also the case that researchers can miss important things they are not looking for; the British class system, for instance, appeared not to be very significant to the team of managerial researchers, yet this subject would feature prominently in most lectures or courses on the subject of organisations in British life.

This study also had to overcome numerous challenges to both the academic and business viability of the project posed by language differences between headquarters and the Asian project team and indeed with the project team itself. Traditional expectations are that if the working language is English and everyone is speaking it, non-native speakers will usually be competent and motivated enough to get the job done despite native English speakers often being unaware of the difficulties they are encountering (CILT, 2005). Other research (Neeley 2013) has indicated that fluency in the lingua franca of the organisation does not necessarily determine status or performance. This project gave rise to findings that rather expand our understanding of this important language dynamic in multicultural

teamwork. In fact, language competence does matter, but not necessarily in the way you would expect it to. In this project team, the three best performers (as assessed by the academic co-leads and triangulated by the project team lead from Tesco Asia) over the entire project on all levels were the ones who had the weakest spoken English yet had the longest tenure in Tesco in their native country. This indicates that familiarity with company language and identification with the organization is a key component of communicative efficacy in global organizations. We also uncovered a significant lack of correlation between ability in spoken English and written English across the whole team, with several project team members producing field notes of much higher quality than expected based on their speaking ability. A significant attenuating factor here may be the language 'strategy' of Tesco as a company which holds that simplicity and clarity with the needs of the customer (and the interlocutor) are key elements of development and behaviour at all levels of the organisation.

These findings draw into questions some key tenets of internationally distributed research projects which do not build in control mechanisms to combat these unreliable assumptions about language competence Kubota (2011) labels under the term 'linguistic instrumentalism'. They also suggest that international companies which adopt a developmental approach to language in all its forms and functions may as a result obtain advantage through better, deeper communication and the production of more unifying codes which work across borders. Language policy consists of much than selection and imposition of a lingua franca (Harzing et al. 2011).

CONTRIBUTIONS OF THE STUDY

The utility of ethnographic techniques beyond research

This study's first main contribution is in developing the uses of ethnographic techniques in international business beyond their established role as a means by which academics and others can study organisations. In this case, ethnographic methods were essential to obtaining a complex picture of the organisation: The need for research methods that facilitate the understanding of complex, micro level cultural phenomena is especially essential in international business research where the research settings are rife with multilevel cultural interactions based on diverging organizational and national cultural assumptions brought together in real time by the merging of various national cultural groups across distance and differentiated contexts.

Another, equally important reason why ethnographic methodology is particularly useful to international business research is that much of the organizational phenomena under study are emergent and relatively new. The domain of international business is characterized by the on-going evolution of institutional contexts, country borders, organizational forms and even workplace demographics—witness the surge of biculturals and people of mixed cultural identities entering the global workplace (Brannen and Thomas 2010). New techniques are needed such as those which have been shown in other fields to be crucial to understanding identity-based and complex phenomena. As ethnography has been shown to be useful in studying transnational phenomena such as diaspora (Cohen 1997) and identity construction

(Eriksen 1993), so it can be useful for understanding emergent phenomena in international business.

Crucially, the ethnography was enacted by the company's own managers, traditionally the objects of study rather than its agents. As such, the study was able to obtain complex emic as well as etic perspectives, and also to add value to the study for the organisation by enabling its managers to develop critical, reflexive views of the organisation. Furthermore, the experience encouraged the ethnographers to reflect critically on our own role in the development of corporate identity and native categories in business (see Buckley and Chapman 1997); academic work does not take place in a vacuum, but as part of an on-going process.

The question could be raised, consequently, of the extent to which the study can legitimately said to be "ethnographic", given the limited training, group method, and corporate brief of the researchers. This, however, ties in with long-standing anthropological debates on what constitutes "legitimate ethnography" and whether it should be restricted to academic research. Pratt (1986), for instance, questions where the boundaries lie between ethnography, autobiography and journalism, as indeed does Marcus (1986). Furthermore, if anthropologists may draw upon memoirs, diaries and reports by persons not trained in ethnographic techniques in order to elucidate a particular historical context (for instance Johnson 1993, Ardener 2002), then the observations of present-day insiders may also have value, particularly when included with the observations of more experienced researchers. As regards the applied nature of the study, applied anthropology is nonetheless viewed as legitimate (see, for instance, www.sfaa.net) in, for instance, the context of development projects, community work, or more unusual contexts, such as MacDonald's study of the European Union's political institutions, done at the request of the EU itself (2000). A project such as this one then can be seen to have much to contribute to current discussions in applied anthropology. This study expands the boundaries of what can be considered "ethnography" in the present day, and the uses to which it may be put. In the future, then, there needs to be more engagement with the channels which exist between academic research and professional practice, and that research does not take place in a vacuum.

Bicultural Bridging – This study also allowed the identification of key skill sets which aid individuals to act as "bicultural bridges". The bridging aspect of biculturalism was noted by Brannen and Thomas (2010): they note, for instance, that while biculturals mediate between cultures through cultural frame-shifting, there is significant variation in how this process occurs, depending on the way in which each individual manifests and experiences their biculturality. They further argue that the process of managing multiple identities allows individuals to develop the skill sets required to mediate between cultures on a wider level:

> Today, global business success depends increasingly not only on being effective in understanding and bridging between different national cultures, but also on being interculturally effective by integrating diverse cultural knowledge. Because of their unique skills, bicultural individuals may be particularly well equipped to provide the type of integration and mediation required. They may excel as boundary spanners in

> multicultural teams, bridge among organizational unites in culturally different contexts, or be catalysts for creativity and innovation because of their cognitive complexity (Brannen and Thomas, 2010: 14)

In the case of Tesco, despite the conventional wisdom that the managers with the most international experience would perform the best at bridging cultures, the best performers did not particularly have extensive international experience, but were those who understood the company culture and possessed certain skills:

Cognitive Complexity – A psychological characteristic or psychological variable that indicates how complex or simple is the frame and perceptual abilities of a person. A person who is measured high on cognitive complexity tends to perceive nuances and subtle differences which a person with a lower measure, indicating a less complex cognitive structure for the task or activity, does not. This kind of a person sees the forest as well as the trees.

Perceptual Acuit – This refers to one's ability to be 'attentive to verbal and non-verbal behaviour' as well as to be 'sensitive to the feelings of others and to the effect they have on others' (Kelley & Meyers, 1995). As the definition reveals, this dimension contains aspects of both extraversion and openness to experience.

Reflexivity – The ability to reflect on one's own sensemaking and relate this back to context-specific, situated, tentative understanding. This suggests that the most useful attribute for managers in a cultural bridging role is not a cosmopolitan ease with other cultures, but a set of intrinsic and developed skills, related to observation and analysis of situations. Significantly, these are also connected with the ethnographic process, indicating that processes of cross-cultural management and knowledge transfer incorporate similar skill sets to ethnography, providing further evidence for the positive value of teaching ethnographic skills to cross-cultural managers.

Areas for further development

A further study to ascertain the extent to which the project team members had imbibed the practice of ethnographic method or may have struggled with separating their experience of Tesco from their expectations about UK culture in its various dimensions may be an interesting option to pursue. The academic team was struck by the ability of the Project team on the whole to focus on Tesco and extract valuable data and interpret it broadly within the strategic mission of the company. Ethnographic practice was not so divorced from their own experience as managers that the project appeared in any way unfeasible. This is not to belie the significant cognitive challenge the project represented to them and the multiple levels on which they were managing feelings, motivation and personal resources. Another key area for further development is to see whether this process could have wider implementations, and whether it can be successfully applied to other companies, and other problems, than just Tesco and their interest in defining "the Essence of Tesco". More studies on other

companies with other issues are therefore encouraged. Further research is also needed into the connection between ethnographic skills, bicultural bridging, and the practice of cross-cultural management, and it might also be worth re-analysing older studies in light of the new concepts which the study has developed. Our study adds to the literature an exploration of the processes involved in evaluating and reinvigorating organisational culture across borders and the traits which enable multicultural team members to use ethnographic method as insider/outsiders and achieve an outcome of strategic importance to the company, which therefore can be developed further to be of use in other areas, academic and practical.

CONCLUSIONS

This paper set out to ask whether ethnographic practice carried out by insider/outsiders in a time-constrained and strategically important project could successfully be executed by a global company to re-assess and reinvigorate the global company, in particular understanding between headquarters and its Asian companies. Notwithstanding the methodological, temporal and linguistic challenges, we have demonstrated that the Project Team was able to absorb and deploy ethnographic methods to the point where they generated coherent sufficient meaningful data to provide the fresh insights and perspectives on the organisation that the Board of the company had commissioned.

This paper has therefore contributed to both academic and practical areas of the anthropology of organisations, through training internal observers in ethnographic techniques and then considering the ways in which they applied these new skills to their own organisation. This provides a new idea for applied anthropology, and a new application of well-known fieldwork techniques to issues of practical concerns for managers. The results pose many interesting questions about how managers can be trained to be ethnographers and the attendant issues of time, method and language. From an academic perspective, they invite reflection on research practice, the relationship between researchers and practitioners, how organisations are defined and how our understanding of business is formulated.

The strategic dimension of this project was perhaps the most innovative of all. That a large multinational enterprise should choose to use internal resources to cast a critical eye on its own operations and culture and that it should use ethnographic method to do so is potentially very meaningful for the fields of anthropology and management. The outcomes of this project were integrated into a comprehensive review of strategy led by Philip Clarke, the new Chief Executive. Responding to the many changes in global retailing brought about by the recession and digital technology, he outlined Tesco's new competitive strategy, which bears hallmarks of the Essence of Tesco project:

> Our vision is for Tesco to be most highly valued by the customers we serve, the communities in which we operate, our loyal and committed staff and our shareholders; to be a growth company; a modern and innovative company and winning locally, applying our skills globally. In May 2011, we launched our four-part vision for the future of the business. We would like Tesco to be seen as the most highly valued business in the world. Valued not only by our customers, but also by the communities we serve, our staff and our shareholders.

> We are, and we will remain a growth company. We will continue to pursue growth in all parts of the business – in the UK, internationally, in services and across general merchandise, clothing and electricals. We will be a modern and innovative company. We'll stay ahead of the curve, anticipating changes and adapting for the sake of our customers and staff. We will win locally by applying our skills globally. The key word here is 'locally' – all retailing is local. But increasingly we are utilising the skill and scale of the Group to benefit the performance and competitiveness of each of our businesses around the world.
> (Tesco Plc Vision and Strategy statement http://www.tescoplc.com/ Annual Review 2013).

This nuanced interpretation of headquarters/subsidiary relationships and stakeholder strategy is distinctive in its blend of respect for internal culture and external complexity. We have yet to see how well this fares in a period of continuing global downturn but Tesco remains a unique player in the retailing sector and will find its own solutions to future challenges.

Organisational change of this kind classically is based on quantitative method and executive-level consultation managed between the board and external consultants where insiders to the organisation are the source of data at best and very rarely the channel of it. In using insider-outsiders for this purpose, Tesco Plc sought to capture and own insights into Tesco UK obtained by managers spanning its Asian operations in a way which reflected its own core strategy of clear communication and human resource development and brought that strategy to the international domain. The method developed for this purpose, whilst customised and unique, is rooted in ethnographic theory and practice and may be transferable to other organisations with a similar mission and culture. This paper further proposed that the Essence of Tesco project, in yielding data on the Asian managers (insider-outsiders) themselves and their experience, also contributes to current literature on multicultural teams and skills in the domain of bicultural bridging.

REFERENCES CITED

Anonymous
2005 *Talking to the World*. London: CILT (Centre for Information on Language Teaching).

Ardener, S. and K. Knutson
2002 *Swedish Ventures in the Cameroon 1883-1923*. Oxford: Berghahn Books.

Barinaga, E.
2007 "'Cultural Diversity' At Work: 'National Culture' As A Discourse Organizing An International Project Group." *Human Relations* 60: 315-340.

Barley, S.
1996 "Technicians in the workplace: Ethnographic evidence for bringing work into organization studies." *Administrative Science Quarterly* 41: 404-441.

Boyacigiller, N., J. Kleinberg, M. E. Phillips, and S. Sackmann
1996 "Conceptualizing Culture." In *Handbook for International Management Research*. B.J. Punnett and O. Shenkar, eds. Pp 157-208. Cambridge, MA: Blackwell Publishers.

Brannen, M.Y.
2004 "When Mickey Loses Face: Recontextualization, Semantic Fit, and the Semiotics of Foreignness." *Academy of Management Review* 29: 593-616.

Brannen, M.Y. and J. Salk
2000. "Partnering across borders: negotiating organizational culture in a German-Japanese joint venture." *Human Relations* 53: 451-487.

Brannen, M.Y. and D.C. Thomas
2010 "Bicultural Individuals in Organizations: Implications and Opportunity."*International Journal of HRM* 10 (1): 5-16.

Buckley, P. J. and M. Chapman
1997 "The Use of Native Categories in Management Research." *British Journal of Management* 8: 283-300.

Cohen, R.
1997 *Global Diasporas: An Introduction.* London: UCL Press.

Eriksen, T.H.
1993 *Ethnicity and Nationalism: Anthropological Perspectives.* London: Pluto Press.

Harzing, A.W., K. Köster, and U. Magner
2011 "Babel in Business: The language barrier and its solutions in the HQ-subsidiary relationship." *Journal of World Business* 46 (3): 279-287.
Hodson, R.
1998 "Organizational Ethnographies: An Underutilized Resource in the Sociology of Work." *Social Forces* 76 (4):173-208.

Jick, T. D.
1979 "Mixing qualitative and quantitative methods: Triangulation in action." *Administrative Science Quarterly* 24: 602-611.

Johnson, D., ed.
1993 *Governing the Nuer: Documents by Percy Coriat on Nuer History and Ethnography, 1922-1931.* Oxford: JASO.

Kelley, C. and J. Meyers
1995 *The Cross-Cultural Adaptability Inventory Manual.* Minneapolis, MN: National Computer Systems.

Kirkman, B. L., P. E. Tesluk, and B. Rosen
2004 "The impact of demographic heterogeneity and team leader–team member demographic fit on team empowerment and effectiveness." *Group and Organization Management* 29 (3): 334–68.

Kubota, R.
2011 "Questioning Linguistic Instrumentalism: English, Neoliberalism, and Language Tests in Japan." *Linguistics and Education* 22: 248-260.

MacDonald, M.
2000 "Anthropology, Accountability and the European Commission." In *Audit Cultures: Anthropological Studies in Accountability, Ethics and The Academy*. M. Strathern, ed. London and New York: Routledge.

Marcus, G.E.
1986 "Contemporary Problems of Ethnography in the Modern World System." In
Martin, J.
1992 *Cultures in organizations: Three perspectives*. Oxford University Press.

Moore, F.
2011 "Holistic Ethnography: Studying the Impact of Multiple National Identities on Post-Acquisition Organizations." *Journal of International Business Studies* 42 (5): 654-671.
2013 "Ambivalent Perspectives: An Ethnographic Case Study of Ambivalence in Postacquisition Integration." *Thunderbird International Business Review* 55 (4): 453-467.

Neeley, T. B.
2013 "Language Matters: Status Loss and Achieved Status Distinctions in Global Organisations." *Organization Science* 24 (2): 476-497.

Pieterse, A.N., D. van Knippenberg, , and W. P. van Ginkel
2011 "Diversity in Goal Orientation, Team Reflexivity, and Team Performance." *Organizational Behavior and Human Decision Processes* 114: 153–164.

Pratt, M.L.
1986 "Fieldwork in Common Places." In *Writing Culture: the Poetics and Politics of Ethnography*. J. Clifford and G.E. Marcus, eds. Pp 27-50. Berkeley: University of California Press.

Schein, E.
1985 *Organizational Culture and Leadership: A Dynamic View*. San Francisco: Jossey-Bass.

Schippers, M. C., D. N. Den Hartog, P. L. Koopman, and J. A..Wienk
2003 "Diversity and Team Outcomes: The Moderating Effects of Outcome Interdependence and Group Longevity and the Mediating Effect of Reflexivity." *Journal ofOrganizational Behavior* 24: 779–802.

Sharpe, Diana
2006 "Shopfloor practices under changing forms of managerial control: A comparative ethnographic study of micro-politics, control and resistance within a Japanese multinational." *Journal of International Management* 12: 318-339.
Westney, D. E. and J. van Maanen
2011 "The Casual Ethnography of the Executive Suite." *Journal ofInternational Business Studies* 42 (5): 602-607.

van Maanen, J.
1979 "Reclaiming qualitative methods for organizational research: A preface." *Administrative Science Quarterly* 24 (4): 520-526.
Zhou, W. and X. Shi
2011 "Culture in Groups And Teams: A Review Of Three Decades Of Research." Special Review Article*International Journal of Cross-Cultural Management* 4 (1): 5-34.

WEB RESOURCES

Society for Applied Anthropology
Accessed 1 August 2013. www.sfaa.net..

Tesco
2013 *Annual Review*. Accessed August 2013. www.tescoplc.com.

Ethnography and the "Age Wave": Knowledge capture for succession planning

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The "age wave," or aging of the population and concurrent increase in retirees, is creating a loss of knowledge unlike that experienced in the American work force to date. Since many Baby Boomers are loyal employees who have worked for the same employer for several decades, the knowledge, both tacit and explicit, contained within this single generation is vast and integral to the continued success of many organizations and industries. While Knowledge Management (KM) has become a priority for many organizations, several studies have shown that current KM methods and technologies have not proven effective as a means of transferring knowledge between workers. Ethnography offers some advantages as a technique to capture, record, and transfer tacit and explicit knowledge. This paper uses two case studies to examine how ethnography and a co-creative method can b e utilized to assist with knowledge management and succession planning.

INTRODUCTION

Referred to as the "age wave," the aging of the population is creating both opportunities and struggles within industry and government circles (Dychtwald and Flower 1990). With the retirement of the Baby Boomers, the workforce is currently experiencing a loss of knowledge greater than ever before. David DeLong, author of *Lost Knowledge: Confronting the Threat of an Aging Workforce*, notes that such a widespread retirement of experienced workers could lead to an unprecedented loss of expertise in the work force (2004). Furthermore, the type of knowledge this generation of retirees holds is unlike that seen in the past and is difficult to replace or train for in the future. Baby Boomers are a generation characterized by loyal employees who often spent numerous years working for a specific company. Moreover, experts estimate that 90% of knowledge in an organization is situated within peoples' heads rather than being recorded in a formal mechanism (Wah 1999; Bonner 2000; Lee 2000). The knowledge, both tacit and explicit, contained within this single generation is vast and important to the future of many industries.

Ethnography offers an exciting opportunity to capture some of that knowledge in a way that has not been fully explored in business. This paper examines the use of ethnography as a method of knowledge capture for "seasoned experts" who are nearing the end of their time as working employees. In addition, rather than simply capturing and storing knowledge, it is crucial that a co-creative method is employed to use the captured knowledge to create training programs that are innovative, inspiring, and effective. Two examples of this approach are presented and examined from both the education and aviation industries.

TECHNOLOGICAL APPROACHES TO KNOWLEDGE CAPTURE

Many organizations discuss the importance of knowledge management for their continued success. Because of the growing concern regarding the loss of knowledge, many different methods of knowledge management have been developed (Beazley, et. al. 2002, Hertoz et. al. 2000). Knowledge management (KM) has been defined as:

> …a systemic and organizationally specified process for acquiring, organizing and communicating both tacit and explicit knowledge of employees so that other employees may make use of it to be more effective and productive in their work (Alavi and Leidner 1999:6).

Traditional approaches to KM include using the employee to train his/her replacement. An alternative method involves re-hiring the employee as a contractor or part-time employee to maintain his/her knowledge but reduce costs. More recently, technological approaches to knowledge management have been developed such as web-based databases, multi-media presentations, and web-based communities or forums to exchange information (Lampl 2004:5). While there are several technological approaches available for knowledge management, several studies have documented the difficulties of using these approaches (Nycyk 2011, Lampl et. al. 2004).

While KM is a priority in many organizations, there are difficulties using technology for KM (Nycyk 2004, Lampl et al. 2004). One of the problems identified by Nycyk is that people are reluctant to use such technology, which ends up being viewed as "repositories and are often ignored by project staff" (2004:6). Another problem identified with KM technology is usability. If the system is not easy to use where people can readily find information they need, they will not use it. Nycyk concludes that most knowledge is received orally and committed to memory as tacit knowledge, making codifying into a technological system very difficult (2004:9). Styhre and Gluch (2010) made a similar observation based on KM in Scandinavian construction companies. They stated that formal procedures have been created to maximize KM; however, most sharing tends to take place more informally through personal communications. Lampl also notes the difficulty in recording tacit knowledge in technology-based forms of KM (2004:6). The difficulty in recording and transferring knowledge means that few organizations have managed to successfully share explicit and tacit knowledge (Bonner 2000).

THE BENEFITS OF ETHNOGRAPHY IN KNOWLEDGE CAPTURE

The benefits of an ethnographic approach as one component of the knowledge capture process are many. First, Lampl et al. (2004) note, formal mechanisms for knowledge capture are not likely to record the tacit knowledge, or how things are *really* done, within an organization. Whether it is a simple short-cut that saves time or a habitual way of working, employees are often not fully aware of the steps they take or the amount of "know-how" they have that is informal (Lampl et al. 2004). However, when someone is observed while working, the ethnographer is capable of capturing tacit knowledge whether it is through

video recording, observation, or discussing what the ethnographer has observed. Compared to more traditional methods of knowledge capture, ethnography allows a much richer understanding of tacit knowledge.

An ethnographic approach is also crucial for uncovering the consistencies and inconsistencies between what one says they do and what one actually does. Again, ethnography is able to get at the tacit knowledge that may mean the difference between formal policies and the successful implementation of those policies. Ethnography allows one to uncover the instances where formal policy may not be followed exactly to the letter.

Using ethnography in an organization or industry also helps to personalize techniques, methods, or work styles that might typically be taught in a more theoretical manner. For instance, as one of these case studies will show, using ethnography to capture knowledge from successful teachers resulted in videotaped examples and descriptions of teachers implementing theories, techniques, and methods that teachers have likely been exposed to previously. However, ethnography offers the opportunity to see how these elements come to life in a particular school and with specific teachers.

Observing, recording, and analyzing the work of high performing individuals has many benefits. However, the output or deliverable of the ethnographic process must be useable by others or it will have the same drawbacks as other technological forms of KM. This is why we are utilizing a co-creative process to develop a training program to share the knowledge, techniques, and experiences of high performing individuals with their peers or successors.

CO-CREATING TRAINING PROGRAMS

As several authors discuss in this volume (and has been pointed out in past EPIC papers), it is important for ethnographers to move beyond simply recording and documenting, to developing new methods to assist with transitions currently taking place in the work force (Messervy and Werner 2012). Messervy and Werner argue that we can be most effective by working with our clients through the research phase and into the implementation process. Co-creation, "or the approach of actively involving all relevant stakeholders in the creative process," takes ethnography to the next level. Since stakeholders are the true experts and will be the people who decide when and how to implement the recommendations developed from ethnographic research, it is important to work with them to create a successful implementation project (Messervy and Werner 2012).

The co-creation approach is utilized in this project in the planning phase, the ethnographic process, and particularly in the development of a training program based on research findings. I developed the initial research plan, but it was discussed, reviewed, and revised based on comments from the rest of the team, which included the project managers for both clients and my firm. During the ethnographic research process, I (an ethnographer and anthropologist) worked with the participants, project managers in both organizations, and the creative team. Most of the teamwork conducted during the ethnographic process had to do with scheduling and coordinating times for shadowing and observing the teachers. Then I analyzed the data gathered and developed outlines for the training programs based

on the findings. The teams are reviewing the training outlines and will work together to develop the final trainings.

CASE STUDIES

Two ethnographic projects are explored in this paper. The first is an "Inspiring Teacher" program that documents the work of four highly skilled and successful teachers and administrators at a private school in Texas. The second focuses on a high performing manager in an international aviation organization. In each of these instances, clients were concerned about the loss of highly successful employees and their knowledge. A program was developed that included participant observation primarily through shadowing, as well as, semi-structured interviews as a method of capturing knowledge. Video recording was utilized to capture some of the interviews and observations. The data was then analyzed using a thematic approach to develop training programs that will be utilized to preserve the high performers in their work settings and train future teachers and managers. The remainder of this paper focuses on the process utilized, the problems experienced along the way, and offers advice for using ethnography as a component of succession planning and knowledge capture.

Both of the organizations for which this method was utilized were ongoing clients of my firm, Yaffe Deutser. The firm has worked with these organizations for several years in a variety of capacities. It came to our attention that both were concerned (as are many of our clients) with the impending retirements of several of their key employees. Based on our in-depth knowledge of each of these organizations, including their KM and succession planning practices, the firm suggested utilizing ethnography as a method of knowledge capture. The agreed upon deliverable for both clients was a training program that included a video component. The organizations include an elite private school in Texas and an aviation company that works in both the energy and medical industries.

Case study #1: Elite, private school in Texas

There is a concern that the school is loosing many of its talented teachers because of impending retirements. The school had several top faculty members and administrators retire in May after more than thirty years of service, and they expect to have many more retirees in the coming years. Many of these teachers have taught current students as well as their parents and are viewed as an integral part of the school. We were hired to use ethnography to capture insights and expertise from four teachers before they retired this year, and we plan to repeat the process with 2-3 teachers each year for several years. Thanks to a generous donation from an alumnus and current parent, the school received funds for this project.

The project group consisted of myself as the only researcher/ethnographer, our videographers, our graphic designers, the project manager, our liaison with the school, school administrators, and the teachers and administrators who were the focus of the project. The team worked conjointly to determine who would be interviewed. I conducted the main observations and interviews with the primary teachers. We are in the process of

developing the training program, and the team will work together to ensure the training program is relevant without duplicating existing training efforts.

Case study #2: International aviation company

The aviation company has many leaders who have been with the company for 30-40 years. There is a great deal of concern about impending retirements that will lead to a loss of senior personnel. Because of the structure of the company (They have numerous bases throughout the United States and elsewhere in the world.), many of the senior leaders do not office in the same location and are not fully aware of exactly what the others do. There is a sense that they are all very good at their jobs and because they each take care of their responsibilities, they do not worry about what the others do in their day-to-day work. This creates problems when thinking about retirement and succession planning. The project group consists of myself, my firm's project managers, our contact on the client side who is serving as project manager, and the participants.

THE RESEARCH PLAN

For both organizations, I designed a research plan that included interviewing people who could discuss the work of the subjects of the research, shadowing the primary subjects, and interviewing the primary subjects, in that order. My thought was that it would be helpful to hear what others felt about these individuals and what made them different. Then I would observe the individuals while they were working. According to the initial research plans, the ethnographic research was to be conducted first, then the data would be analyzed and presented in a report format that would outline potential themes for the training. Video recording was to be used secondarily to capture footage to be used in developing training curricula. Each organization was supposed to provide us with three individuals who would be the focus of the initial pilot program, with the goal of repeating the process with other individuals in future years.

The initial research plan was not implemented quite the way I envisioned it in each of these cases. This is where working in a group, particularly one that included a mediator between the people who were the focus of the research and myself became problematic. There were several changes made to the original research plan as we moved from the development of the plan through the ethnographic research process. These changes included the timeframe of the research, the number and type of participants, the support interviews that were conducted, and the timing of the video recording. In hindsight, one of the biggest difficulties seemed to be a lack of understanding by many people involved in the project as to what exactly ethnography entails. This lack of understanding seemed to negatively impact the timeframe, attempts to schedule time with the research participants, the relationship with research participants, and the outcome of the project.

Ethnography in the School

For the school project, my initial plan included interviews with other teachers who could talk about the primary subjects as well as parents of students in the focus teachers' classes. In discussing the plan with the rest of the team, we initially added interviewing alumni and students. I pointed out ethical concerns of interviewing current students, so we agreed to limit the student participation to former students who were in their senior year. However, at least partly as a result of time constraints, we ended up only interviewing the focus teachers and some of their peers who could talk about their work.

The timing of the project also became an issue. The project was first discussed at the beginning of the school year with the understanding that the research phase would take place over several months. However, because of the busy schedules of all whose input was necessary to begin the project, both internally and on the client side, the start date moved further and further back until it was finally scheduled at the very end of the school year. Then, we were limited in the amount of time we could spend shadowing, interviewing, and videoing. We would have seen some different behaviors had we conducted the research earlier in the school year, and we would have had more time to conduct the research.

In addition, by the time the research started, the school had decided to change from focusing on three high performing teachers to two teachers, one principle who also taught one class, and the school's headmaster. Because of the nature of the work of the administrators, the shadowing portion became more difficult with them than was originally envisioned.

As I worked with our school contact to set up a schedule for conducting research, it became evident that the primary concern and focus on his end was on scheduling the videotaping. In addition, our initial plans of interviewing a wide variety of people who could talk about the focus teachers was cut down to only interviewing a few peer teachers. The plan to conduct all shadowing and interviewing first and then later come back for video recording became condensed to the point that it was all intermixed and the interviews with peer teachers were only video recorded. I had to repeatedly ask for more time for shadowing and interviewing without being video recorded so as to actually conduct ethnographic research and build rapport with the focus teachers before videoing, which I was eventually granted. However, the shadowing time was more condensed than was outlined in the research plan.

Then, when I met the teachers and administrators with whom I was to shadow and interview, it was evident that they knew very little about the project. In fact, when I showed up for the first observation day, the teachers were not expecting me. They had been told about the video recording day that was a few days later, but they were not aware that I would be sitting in on their classes. Even after explaining my role as an ethnographer, I still received puzzled and bewildered looks as if they were wondering what my real goal was. The teachers expressed disbelief that there was anything I could learn from watching them do their job, aside from learning the content they were teaching. Several joked that I would be given a quiz over the material covered that day. In hindsight, I should have spent more time explaining ethnography to all involved at the beginning of the project. It would have been

helpful to have an initial meeting with the teachers before observing them in the classroom to explain the ethnographic process.

Ethnography in the Aviation Industry – The experience with the aviation organization was similar in that the initial research plan was not followed exactly as outlined and agreed upon in the planning stage. Changes included the number of participants, the use of phone versus in-person interviews, and the length of time needed to conduct the research.

The research plan for the aviation company included interviews with people who work around the high performers, including those who they report to, co-workers, and people whose work they oversee. The plan specifically stated that these interviews were to be conducted in-person. During the project development phase, it was suggested by others that we simply conduct an online 360-degree feedback that is part of a standard review process used at many companies. I explained that I did not feel that would be as helpful as conducting individual interviews, and the team agreed.

The first problem with the aviation project was that the company decided they wanted us to conduct a pilot study with one senior manager as opposed to the three initially agreed upon. I was concerned that focusing on a single individual rather than a few individuals would make this project more difficult in terms of gleaning information that can be used in a training program that is general enough to apply to many people in the organization.

Moreover, the manager the client selected as the "test case" works primarily out of his pick up truck and his home and has a very sporadic schedule depending on the needs of the company that vary from day-to-day. I deemed this manager to be a very poor choice to test out the program since he did not have an office, and we were both reluctant to have the shadowing occur at his home. Moreover, he was reluctant to participate in general. He is very reserved and did not feel he had much to offer to the project. He was also not happy about having a "shadow." After my first meeting with him, via videoconferencing, I wrote in my notes, "He is a horrible choice as our test case!" based on his reluctance and the lack of an office space where the shadowing could occur. I encouraged the client to choose a different person as our test case, but I was told that he would be the most willing participant of any of the employees on their list to include in later stages of the project. They also felt very strongly that it was important to capture as much as they could about this individual since he is so highly regarded.

The reluctance of this manager and his schedule made it difficult for us to get together for the shadowing. At one point the client suggested I tell the manager, "I just need to meet with you for a few hours and then I will never bother you again." However, I pointed out that this was impossible since I needed to spend several days shadowing him and then we would be back to videotape at a later date. There seemed to be a lack of understanding of the time that would be necessary for this to truly be an ethnographic research project.

Again, the lack of understanding of what ethnography is became an issue as the manager did not want me to shadow him and kept telling me that he felt sorry for me because my job was clearly very boring since I had to watch him. This project has progressed much slower than expected since it is difficult to arrange times to shadow this individual; however, I have had the opportunity to shadow him on several different occasions over a three month period.

Similar to the school project, the interviews with others changed a bit from the initial research plan too. I had to repeatedly ask for the names of other participants, and then because they all work in different locations, I ended up conducting phone interviews rather than meeting in-person with the other interviewees. While I had to keep reminding the client of the need to interview others in addition to the main subject of the project, I was able to conduct most of the interviews before my first meeting with the manager.

Unlike with the school project, I have been able to conduct the research for this project without any video taping to date. At this time, I have concluded the observation and interview period, and I am working on a project report that includes suggested topics for the training curriculum. I will work with the client and the rest of my internal team to make sure the topics are areas they would like to reinforce with their workforce. We will work with the client to develop the next phase of this project.

Negotiating the Deliverables

The projects are on-going and are at different stage, but it is worth reviewing how the team approach impacted not only the research process but the final deliverables. For the school, the initial research plan stated that findings would be presented in a written report and that a training program would be developed that included a video component. As the project evolved, the deliverables expanded to include a video highlighting each teacher that would be housed on a separate landing page that will be linked to the school's website. This expansion seemed organic, and I cannot recall exactly how this happened, but it was not included in our initial proposal or scope of work.

In addition, my firm has produced a 10-minute video to be shown to teachers on their first day back to school. I do recall how this came about, as I was surprised at the request since it was never discussed. One day I received an email from my liaison at the school telling me that we had 10 minutes to show a video at the back to school meeting between the teachers and administration. Until I received that email, I had been working under the understanding that I was to develop a training program to be used during the teacher workdays in August. Since the 10-minute video was not initially part of the research plan, I had to adjust priorities for this project and re-evaluate to determine what this video would entail. I decided to have this video be a teaser that introduced the main themes I expect to include in the training program. I drafted a script for the video that was edited and revised by our project manager. I then sent the script to one of our designers who created a storyboard for the video. At this stage, we sent the storyboard to the client for their feedback. While they approved the video and the themes it introduced as a whole, they had a few minor edits in terms of the specific clips I pulled from some of the teachers.

Basically, they asked us to take out clips they felt were "too strong" or were "not the right message" for the video. For instance, one of the clips we took out was from a teacher who said, "Some people think you have to love kids. I don't. You have to like them, of course, but you have to love your subject." We thought this was a great, honest quote that very clearly reflected the personality of this particular teacher. However, we had to edit it out of the video.

In terms of the content of the video, I was pleased that the script was based on the findings of the research. However, the fact that we are creating this video while the training, which I believe is the main piece of the project, remains on hold, illustrates the competing priorities where the client is more interested in a video that can be shown to teachers and administrators (and now they want to show to parents and students too) than they are in the training program that I believe is at the heart of the knowledge transfer process.

The focus on this short video in addition to work for our other clients has resulted in a pause in development of the training program. I plan to review the themes of the training program with people at the school who are involved with teacher training to make sure our efforts are not duplicated in other training programs they use. This will be a co-creative process to make sure that the training program I develop is something that will be helpful to the school. I must also work with the school to develop a program that they will be able to utilize within the constraints and timeframe they have available in their school calendar for professional development. In addition, when we develop the videos that highlight each teacher and the landing page, I will work with the creative department at my firm as well as our counterparts and the new headmaster at the school.

For the aviation organization we are at the very early stages of beginning to work on deliverables. I have developed a training outline and have meetings scheduled to review findings thus far and discuss next steps. At this point, the expected deliverables have not yet changed. This client is very focused on the training program, so I do not expect that deliverable to change much from the initial plans.

Tacit vs. explicit knowledge

One of the selling points of using ethnography to capture knowledge of high performers is that it should allow one to be able to capture and record tacit knowledge and then translate that into something more tangible that can be used to train other employees. In thinking about the research findings to date, it is helpful to consider the extent to which this has occurred in these projects. One of the difficulties with this project is trying to capture intangibles that allow certain employees to excel at their jobs and translate that to a tangible output that can be useful for training other employees.

A related concern that has been raised by academics has to do with the potential of ethnography to lead to the codification of information that would lend itself to automation of tasks previously performed by humans. While this can certainly occur in some industries (see Brun-Cotton 2010), the case studies focused on for this paper highlight the aspects that make certain employees high performers. The "human" elements that make them different from their peers, more successful, and more valuable to their company are things that cannot be easily automated. They are more related to soft skills that are not easy to develop via traditional methods of training.

For the school, some of the themes that are covered in the initial video (and will presumably be covered in the training) could be classified as tacit knowledge and while we can state that great teachers have these characteristics (for instance, the desire to share their

knowledge with others), we cannot design a plan to replicate that desire in a person who does not already have that trait. While these themes are not necessarily themes that will be new to the faculty members, I feel that having examples from their former colleagues, who were very influential and well respected at the school, will help make the training unique and focused specifically to the needs of this particular school. These video examples will also help make this tacit knowledge more explicit. It may also help teachers recognize the characteristics or qualities that they already have and need to develop further. I believe the training will be inspiring for current teachers who will want to continue the legacy of these excellent teachers. This in turn will be beneficial for the school since one of its hallmarks is its excellent teaching.

While the aviation project has not progressed as far as the school project, it has also yielded some interesting results, even at this early stage. The manager, who was a reluctant participant, has some attributes, behaviors, and tasks that he performs that are not the norm for his peers. One of the primary characteristics that makes this manager successful is that he takes the time to meet in-person with those he manages. This means going to tour their bases and talking with his employees. While there are electronic means to do these things, part of his strength lies in the fact that he takes the time to do this in person and really gets to know the people whose work he oversees.

The training program I have proposed focuses on management skills, techniques, behaviors, and processes that are currently not taught in this organization. The training program for this client will also be developed using a co-creative process, but since the organization does not currently have a management-training program that focuses on management skills specifically, we are less concerned about duplicating efforts. For this client, the main concern with developing a training program is to create something that will be engaging and effective in an environment where the managers already feel they are pressed to their limits in terms of training and job responsibilities.

CONCLUSION

At this stage, I believe that an ethnographic approach has allowed a deeper understanding of high performers in each organization and that the use of video will help to store and transfer that knowledge to others in the organizations. While I do not feel that this ethnographic approach would be suitable on its own for knowledge management or transfer, I do believe that it will help ease some of the concerns and difficulties regarding this transition period for many of our clients and can be an important tool in succession planning. I am also hopeful that the format of the deliverable as a co-created training program will prove to be a very useful format that can be used indefinitely for these clients.

It is my contention that this method can be replicated with other clients in similar and different industries. However, I do not feel that ethnography can stand alone as a KM strategy. It is probably best reserved for gathering knowledge and techniques from particularly high performing individuals. Its usefulness for recording and transferring very detailed aspects of an occupation or organization remains to be seen. However, as a tool for gathering tips and techniques from high performers, based on the two case studies to date,

we believe the ethnographic process has yielded rich results that will be very beneficial for our clients.

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REFERENCES CITED

Alavi, Maryam and Dorothy E. Leidner
1999 "Knowledge Management Systems: Issues, Challenges, and Benefits." *Cmmunications of the Association for Information Systems* 1 (7): 1-37.

Beazley, Hamilton, Jeremiah Boenisch, and David Harden
2002 *Continuity Management: Preserving Corporate Knowledge and Productivity when Employees Leave*. Hoboken, NJ: John Wiley & Sons.

Bonner, D.
2000 "Knowledge: From Theory to Practice to Golden Opportunity." *American Society for Training & Development* Sept-Oct:12-13.

2000b "The Knowledge Management Challenge: New Roles and Responsibilities for Chief Knowledge Officers and Chief Learning Officers." In *Leading Knowledge Management and Learning*. J.J Phillips and D.Bonner, eds. Pp. 12-13. Alexandria, VA: American Society for Training & Development.

DeLong, David W.
2004 *Lost Knowledge: Confronting the Threat of an Aging Workforce*. New York: Oxford University Press.

Dychtwald, Ken and Joe Flowers
1990 *Age Wave: How the Most Important Trend of Our Time Will Change Your Future*.Bantam Books: New York.

Hertog, Den, J. Friso, and Edward Huizenga
2000 *The Knowledge Enterprise: Implementation of Intelligent Business Strategies*. London: Imperial College Press.

Issacs, Ellen
2013 "The Value of Rapid Ethnography." In *Advancing Ethnography in Corporate Environments: Challenges and Emerging Opportunities*. Brigitte Jordan, ed. Pp 92-107. Walnut Creek, CA: Left Coast Press..

Lampl, Linda L., Susan E. Squires, and Cris Johnsrud
2004 *Ethnographic-Based Approaches to Knowledge Capture*. Paper presented at IAMOT 2004, Washington, DC.

Lee, J.
2000 "Knowledge Management: The Intellectual Revolution." *IIE Solutions* 32 (10): 34-37.

Messervy, Lindsey and Beth Werner
2012 "Opting Out of Stasis: Using Integrated Techniques to Create Sustainable Change and Renewal in Healthcare Organizations." *In EPIC 2012 Proceedings*. Pp. 177-184. American Anthropological Association.

Nycyk, Michael
2011 "Knowledge Management Practices on Large-Scale Construction Projects in an Australian Company: An Ethnographic Study." *Journal of Knowledge Management Practice*12 (4).

Styhre, A. and P. Gluch
2010 "Managing Knowledge in Platforms: Boundary Objects and Stocks and Flows of Knowledge." *Construction Management and Economics* 28: 589-599.

Wah, L.
1999 "Making Knowledge Stick." *Management Review* 88 (5): 24-29.

Session 5: The state of our union: Reflections and projections on ethnography and ethnographers

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The last session reflects on EPIC's communal growth from interactions -- some serendipitous others purposeful -- with other disciplines. This session examines where practitioners are on this maturity trajectory: what it is like, as a community of practioners, to be where we are now, and where we are likely going.

EPIC is in its 9th glorious year. Throughout the brief yet robust history of this annual community gathering we've been on a trajectory that charts our growing maturity as a group of professionals. We started with pangs of identity (Who are we? Who is one of us? Who is not?), which we thankfully discarded after a year or so and moved on to discussions of our relevance within the businesses we hope to impact. And as we grow and find new and exciting collaborators (Big data! Social enterprise! Business schools!), topics at EPIC shift to expanding that impact and understanding what these collaborations mean for the continued development of our praxis. As we've grown, we've made mistakes, but have learned from them. As we've grown, we've benefited from serendipitous interactions with other disciplines, but we have worked to make these interactions more purposeful. After all, that's what maturity is all about! This paper session is about examining where we are on this maturity trajectory: reflections on what it is like, as a community of practioners, to be where we are now. Asking what can we learn when we examine where we are now? And what this might mean for where we are going?

Co-opetition as the new path to innovation? Negotiating strategic change through user-centred design approaches:

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This essay analyses how consensus was reached in a co-opetitive setting by looking at two, consecutive but related projects spanning from 14 to 18 months in length. The projects took place in Paris, France, between 2009 and 2013, and involved key players from the banking and insurance industry. FiDJi, short for Finance, Design et Joie d'Innover, was meant to test a new innovation method based on a design thinking approach. FAIR, short for Finance, Assurance & Innovation Responsable, was conceived as a sequel to FiDJi but had the more ambitious goal to develop a new methodology that, while using a design thinking approach as a starting mode, would provide an independent set of guidelines with respect to sustainable, responsible innovation. Consequently, the dynamic of each project varied, as did the end goals. Both projects took design thinking as a starting point but while FiDJi produced a new innovation methodology based on a user-centred design approach, FAIR had the more ambitious goal to develop a set of guidelines and a method for responsible innovation specific to the banking and insurance industry.

The essay builds on a previous essay that analysed the dynamics proper to the FiDJi project in order to explore how anthropologists and designers are increasingly called upon to enable change (Peinado et al. 2011). It seeks to further expand on the role of anthropologists and designers as not merely enablers but enactors of change in multi-disciplinary, team based, co-opetitive contexts. Moving beyond an understanding of anthropologists and designers as providing discipline specific knowledge and skills to an understanding of their role as consultants, this essay will argue that as professionals anthropologists and designers need to be able to both contextualise their role and translate it so as to create value for their clients, users and themselves. This is consonant with repeated calls within the EPIC community to move beyond discipline specific definitions in order to understand the role we currently play and we could play in the future within industry-based contexts. We will argue that both anthropologists and designers are particularly apt at this since they can understand organisational contexts and provide insights into the nature of transformation.

INTRODUCTION

Innovation is often understood to be radical, technology-driven change. According to the OECD, however, innovation is both more modest and all encompassing. In addition to "the implementation of a new or significantly improved product (good or service)," it also comprises "a new marketing method, or a new organisational method in business practices, workplace organisation or external relations" (OECD 2005). Innovation is not only about tangible things but also about the processes enabling us to create them. Recent debates have focused on the increasingly complex nature of innovation and the importance of developing new approaches that place users at the core of the innovation process (Boland and Collopy 2004; Brown 2009; Roger 2009). In particular, Boland and Collopy write that management is facing a crisis and argue that: "exotic methods of financial analysis do not create value. Only inventing and delivering new products, processes, and services that serve human needs can do that" (Boland and Collopy 2004:7). This has placed both anthropologists and designers in key positions for enabling and enacting change within design-powered firms and beyond. Describing the anthropologist's perspective, Chang and Lipson argue that: "practicing ethnographic research in industry finds us at a particular moment in time. We have seen qualitative research of our 'persuasion' establishing a foothold across corporations and across the world" (Chang and Lipson 2008:192). Anthropologists are "moving closer and closer to business development and strategy" (Ibid). Similarly, over the past decade, design has been identified and increasingly spoken about within business as "the next competitive advantage" (Martin 2009). Design emerges as a process based, iterative approach to innovation whereby firms "engage in the task of continuously redesigning their business" (Ibid:7). An understanding of what design is and how it functions is currently extending beyond traditional design-based firms to encompass business ventures at large. The design process, with its search for understanding, ideas and solutions, is being adopted at increasingly higher managerial levels as an answer to increasingly complex (and often wicked) problems.

While a concern with end users – who they are, how they think and act – is behind most of the recent interest in design-based and anthropology-powered approaches in business, user-based or "design thinking" methodologies constitute an entry point to address strategic issues over and above user-centric, qualitative research and design based solutions. Anthropology and design have a lot to offer through their systemic, holistic understanding of companies and the context they operate in over and above strictly user-based solutions. This calls for a recasting of these disciplines' roles within business - especially with respect to the level at which they might operate. Increasingly, whether anthropology or design based or both, consultants in these fields are proposing their services as experts within innovation projects or outright lead innovation strategies. Reflecting on the changing role of design consultants today, Beckwith recently argued that:

> Depending on whether the client hopes to strengthen customer relationships, refine a design, or achieve true innovation, design firms activities are sometimes barely distinguishable from those of some PR firms and communication and

> marketing firms: strategic planning, for example, or brand identity strategies or creating experience for customers (Beckwith 2011:56).

As anthropological expertise emerges as a valuable asset within corporate contexts, anthropologists have to re-assess the role they play within business as well. For Schwarz et al ,

> A growing strategic demand from clients for ethnographic consultants is to engage with them more thoroughly and deeply during projects, rather than remaining purely external professionals who hand over insights and recommendations at the end of projects – as if from the protected laboratory (Schwarz et al. 2009:29).

Like designers, anthropologists today are crossing the boundaries of a strictly research based practice to engage in the role of strategy consultant. Schwarz et all argue that they can contribute to real change by operating with companies to enact change from within (Ibid). By doing so, they are extending the limits of ethnography to address more holistic problems within companies to provide strategic solutions.

This essay addresses the role of anthropologists and designers as enablers as well as *enactors* of change within multidisciplinary, co-opetitive contexts. It argues that enabling and enacting change calls for the capacity to act as a mediator and developed negotiation skills as well as a good understanding of the context in which we evolve. This goes hand in hand with the ability to navigate troubled waters while indicating possible solutions to occurring or re-occurring problems through an advisory role. Indeed, this essay argues that anthropologists and designers can play a strategic role when and where allowed to integrate corporate lead projects as full players. By analysing two different case studies based on two projects, it will show how this might be possible. FiDJi, for *Finance, Design et Joie d'Innover* and FAIR, for *Finance, Assurance & Innovation Responsable*, were experiments in user-centred design conducted by several bank and insurance companies through a co-opetitive approach between 2009 and 2013 in Paris, France. They were multi-disciplinary in character with co-opetitors working together with experts from business, design and anthropology as well as academics[1]. Each participant brought a different set of expectations and constraints to the table on both a personal and institutional level – each had an agenda to fulfil and a more or less clear vision of what he/she wanted to accomplish as well as complementary knowledge and skills with respect to other participants. As a result, the projects were not exempt from conflict due to differences inherent to each participant's needs, wants and perceptions of the end-goal to be achieved and how to achieve it. In both cases, the anthropologists and designers on the team were directly involved, from the very start, in the formulation of the brief, the identification of the problems to be addressed and the methods to be

[1] FiDJi brought together three banks (BNP-Paribas, Société Générale, Crédit Agricole), two insurance companies (Groupama, Générali) and a consulting company (Altran). FAIR comprised four banks (BNP-Paribas, Crédit Agricole, La Poste, BPCE), one insurance company (Humanis-Novalis) and a consulting company (Altran).

implemented. In the end, it would be fair to say, that they were considered stakeholders in the projects whose points of view and recommendations were highly valued.

The anthropologists and designers engaged in FiDJi and/or FAIR functioned as part of a multi-disciplinary team, which included the projects' sponsors as well as various consultants and academics from a variety of fields[2]. The projects were, from the start, collaborative, participatory endeavours. The variety of experts involved gave them a multi-dimensional nature and required the implementation of a highly collaborative approach. FiDJi members, as noted in a previous essay, were neophytes at user-centred design and grappled with the anxiety of having to test and assess a new methodology with unclear results (Peinado et al. 2010). Having weathered through FiDJi, FAIR members were mostly convinced supporters of a user-centred approach with only a few neophytes joining the adventure. By and large, they had more ambitious expectations to fulfil. The anthropologists and designers involved played the role of mediators, negotiators and often moderators within a charged context. When negotiating the projects' scopes and soliciting consensus, they were seconded by other key actors identified as leaders or facilitators within the group of co-opetitors. This was particularly true of FAIR, where co-opetitors had a clearer understanding of the processes to be enacted, were already convinced of the validity of the approach and as a result turned out to be quite engaged and supportive. Overall, a collaborative spirit fuelled by the understanding that all participants were part of a joint, exploratory adventure prevailed.

This essay argues that whether working as freelancers or as part of a team of experts, anthropologists and designers often navigate between conflicting interests and end goals. In co-opetitive settings such as the ones described here, they have an additional task, that of creating consensus within potentially divergent constituencies extending beyond the single organisation. However, unlike for more traditional settings, they are also part of the consensus building -- beyond being merely mediators, they are also full-blown actors due to the very nature of co-opetition. Concretely, for the projects analysed this meant that, at different points in time and over distinct issues, the anthropologists and designers were instrumental in defining the brief and the process engaged in alongside the projects' co-opetitors and the other participants. The co-opetitive endeavour was lived as an adventure where each actor, whether sponsor or not, had a truly participatory role. While this was to a given extent proper to the exploratory nature of the projects, it will be argued that the co-opetitive element made it easier to integrate all players fully as none could assume prevalence over the others.

Co-opetitive contexts emerge here as a new tactic to change corporate strategy through mutualistic efforts involving multiple actors. Below, we'll explore first the nature of co-opetitive approaches to then explain how FiDJi and FAIR used co-opetition as a strategic lever to push new innovation strategies. The essay will focus especially on FAIR's initial research phase to demonstrate how the anthropologists and designers on the team were instrumental in setting the project's scope through a collaborative approach. By pulling

[2] At its apex, the project comprised eight co-opetitors – with some institutions being represented by more than one member -, two academics, two anthropologists, three designers, a linguist, and two creativity experts.

resources, knowledge and skills, co-opetitors seek to sustain complex innovation initiatives that require both a certain level of resources and a shared understanding of the problems to be addressed. Sharing is not only about reducing costs, but also about mutually supporting each other in the exploration of new innovation methods in a traditional corporate context. Co-opetition thus emerges as a new strategic approach that aims at changing the organisation by moving beyond it to seek support among like-minded individuals in key positions within competing corporations. In traditional, change averse contexts, like the banking and insurance industry, it may represent a new means whereby to enact change. However, this essay argues that it also creates new opportunities for anthropologists and designers to drive change from the centre.

DEFINING CO-OPETITION

New forms of cooperation have emerged over the past decade involving collaboration between competing organisations (Bengtsonn et al. 2010:19). Increasingly, according to Bengtsonn et al., the term "co-opetition" has been used to refer to collaborative practices that competitors engage in at different inter or intra-organisational levels with the understanding that co-opetition entails the parallel existence of a competitive relationship. However, a brief review of the literature on the subject reveals that the practice is not very well attested to or theorised. Rather, it is often "vaguely defined" (Ibid:20). In a recent essay, Bengtsson et al., argue that:

> Co-opetition has often been studied on an inter-organizational level with a focus on mutual relationships between two or more organizations, where all organizations are involved simultaneously in cooperation and competition.... At the relational level, the drivers for co-opetition vary but tend to focus on structural conditions and the need to pool resources and competences for innovation, production, and distribution (Ibid:28-29).

Co-opetition emerges as a new structural field separate from though linked to competition on the one hand, and cooperation on the other hand (Yami et al. 2010). Indeed, it would seem that "co-opetition is neither an extension of competition theory nor an extension of cooperation theory. It is in fact a specific distinctive research object, which calls for theory, method and managerial practice" (Ibid:1).

Looking at co-opetition in business networks, Bengtsson and Kock found that companies successfully compete and cooperate simultaneously at different levels (Bengtsson and Kock 2000). Typically, co-opetitive relationships seem to emerge far from the customer base within areas that might not be visible to an actual or potential client. The examples cited by Bengtsson and Kock range from sharing R&D facilities and knowledge to setting up joint distribution or recycling systems. Co-opetitors pull resources there were cooperation seems most beneficial. In one particular instance, co-opetitors cooperate at the research stage working not simply together but jointly harnessing the support of academic institutions and publishing in academic journals (Ibid:419). The co-opetitive relationship ends at the moment that "development processes approach product related development" (Ibid). We

have here a split between cooperative practices among "individuals at the material developments department" and competitive ones where "marketing and product development" are concerned (Ibid). Paradoxically, this is a strategic move to increase the co-opetitors' competitive value.

In this essay, co-opetition emerges as a strategy engaged by competing firms with respect to very specific projects aimed at introducing innovative methodologies. The firms engaged in the projects analysed are competitors from the banking and insurance sector pulling resources in order to develop new innovation insights and strategies. The end results of the projects described here are not marketable products or services, but methodologies and "demonstrators" aimed at showing the validity of the innovation methods being pursued. The co-opetiting organisations, or to be more explicit the specific divisions within organisations involved in either FiDJi or FAIR, feel that pulling resources will better enable them to demonstrate the well-funded nature of their innovative approaches[3]. In so doing they are both pulling resources and sharing the risk inherent to such practices within their sector(s) of activity. They also hope to gain their respective firms to the new methods engaged in because of the shared, pulled nature of their efforts. This is particularly true of design thinking, user-centred approaches, but also of innovation approaches aimed at developing sustainable products or services often negatively perceived as hampering rather than fostering creativity.

Co-opetition emerges as a strategic move to pull resources with the understanding that such endeavours are circumscribed in purpose and time. For all the co-opetitors involved, this is an extension of and concomitant to concurrent efforts towards engaged conversations and knowledge sharing within the industry. All the co-opetitors engaged in FiDJi and/or FAIR are also members of the Club Innovation Banque Finance Assurance created in December 2009 at the initiative of Altran France. However, the Club not only brings together Directors of Innovation from leading bank and insurance companies, but also academic leaders and experts in order to explore problems related to innovation in the bank and insurance sectors. To date, the Club has spearheaded the two projects analysed here and is engaged in a third project, Alter@ge, that is planned to start current September 2013. Considering "the innovation market to be astonishingly young in the banking and insurance sector", the Club primarily seeks to alert the industry to new innovation methods that will enable them to be closer to their clients (Strauss nd). By pulling knowledge, expertise and resources, the Club members have selectively sought to test as well as develop methodologies that will enable them to address key issues in the banking and insurance industry: relatively stagnant offers; the lack of trust in the finance sector following the subprime scandals; distant relationship with clients; the changing social context (Ibid).

FiDJi & FAIR: Two examples of co-opetition

FiDJi and FAIR were conceived as experiments to explore, adapt, develop and spread information about new innovation methodologies. As noted above, the two projects

[3] Both FiDJi and FAIR co-opetitors were typically Heads of Innovation and/or Marketing within their respective companies.

brought together competitors, academic experts, anthropologists and designers with the goal to apply a distinct user-centred design approach. FiDJi's aim, as a first experiment in co-opetition, was to explore and test whether design thinking was an appropriate innovation approach for the banking and insurance industry. The project was extensively described and analysed in an earlier article (Peinado et al. 2011). The various participants in the project, including the sponsors, academic experts, anthropologists and designers,

> were initially unsure as to what they had embarked upon. The fact that the project was fully considered as an endeavor in co-creativity entailed that no clear brief existed beyond the development of a new user-centered design methodology that would make the design process explicit. Learning about design and how it could potentially play a strategic role within the sponsors' various organizations was part of the process (Ibid:260).

These initial misgivings were finally dissipated when the project fully demonstrated the potential inherent to a design thinking methodology. Qualitative research coupled with an iterative, workshop based creative method lead to the identification of a number of issues and the development of a set of concepts deemed breakthrough for the industry. The incorporation of users' perspectives throughout the creative stages of the project, in addition to the inductive research phase, was particularly innovative in this context. In the end, many issues identified during the project's research and creativity stages were subsequently adapted and/or adopted in various communications, products and services by the various co-opetitors participating in the project – but also validated via wider attempts in the industry to address these issues.

FAIR capitalised on the FiDJi experience. However, while it based itself on and improved the design thinking methodology established by FiDJi, it simultaneously sought to develop a self-standing sustainable innovation approach to be used either in conjunction with user-centred or alongside more traditional innovation approaches. Consequently, from the beginning, the projects' various participants were confronted with a quandary: how to marry the user-centred, inductive approach proper to a design thinking methodology with a normative sustainable approach integrating a deductive scientific knowledge base. The co-opetitors who sponsored the project had chosen to focus on responsibility as the integrating problematic to be addressed. Over and above developing and testing a new methodology, FAIR was born of the co-opetitors concrete will to develop tools that would support responsible innovation within the bank and insurance sector. The notion of "responsibility" had emerged as a key issue in FiDJi's qualitative research stage – the responsibility of bankers being a recurrent theme brought up by interviewees after the subprime scandal - but had been left out of the concept development process because deemed too ambitious to address within the scope of that project. FAIR picked up on this to explore the direct and indirect impacts of innovation so as to develop a real understanding of how to develop and implement truly responsible products and services within the bank and insurance sector from a sustainability perspective.

RESEARCHING RESPONSIBILITY

The question of trust between bank and insurance companies and their clients was one of the major axes identified in the qualitative research stage carried out in FiDJi. In the aftermath of the subprime scandals, unsurprisingly this was linked in people's minds to notions concerning the responsibility of banks with respect to the economy and society in general and their clients in particular. Insurance companies had also emerged as being "untrustworthy" from FiDJi's qualitative research stage. The insurance business was judged opaque and was little understood by clients who felt that insurance companies took one's money, were seldom really needed and often failed to pay up in times of distress. This raised the issue of the responsibility of insurance companies with respect to their clients. Given these findings, the projects' co-opetitors felt that the following were major issues that needed to be urgently dealt with: how to build (or rebuild) trust, develop responsible products and services, adopt a sustainable attitude overall. This was consonant with the co-opetitors strong personal commitment to ethics in business and their desire to develop a set of tools that would enable their companies to innovate responsibly. However, it soon became clear that the co-opetitors, designers, anthropologists and academics involved in the project differed as to how to tackle and indeed conceptualise "responsibility" per se. Unsurprisingly, responsibility was not a neutral term – its definition or, indeed, declination, varied from individual to individual and across institutional contexts not to mention within institutions.

FAIR's initial brief was vague. It left to participants the task of defining the scope and end-goals of both the project as a whole and the initial research that would lead to the creative workshops' stage. An internal document stated:

> FAIR's goal is to decline the meta-methodology developed during the FiDJi project so as to create a methodology adapted to a new problematic: responsibility in innovation within bank and insurance companies. This methodology should be applicable each time that questions related to responsibility are addressed in future innovative projects[4].

Two definitions of responsibility were to be identified and incorporated: "a first, contextualised definition of responsibility" identifying a set of responsible innovation criteria for the bank and insurance industry, and of key importance "the results of the ethnographic phase" identifying how people perceive and judge the attitude of banks with respect to responsibility[5]. The first contextualised definition would lead to a set of objective criteria proper to sustainability appropriate for the bank and insurance industry. The second ethnographic based approach was meant to identify users' perceptions, experiences and needs so as to integrate the users' point of view in the overall innovation process and better adapt future products and services to their expectations. It was unclear how these divergent approaches would subsequently come together. The prestigious business school ESSEC was chosen to be the project's academic partner. A leading academic from ESSEC was to lead

[4] FAIR Internal Document : « Description de Livrables Attendus de FAIR »
[5] FAIR Internal Document : Synthèse Après Midi Café Inno-Philo

the team in charge of identifying responsible innovation criteria due to his research on sustainability in business. Two anthropologists, experts in user-centred design and who had been part of the original FiDj team, were asked to carry out the ethnographic research phase. Altran Prime, a design firm specialising in design management in industry and services, was given the responsibility of the design process. The overall project was under the leadership of ESSEC who managed logistical, administrative and especially financial matters.

The project's kick off occurred when all participants were convened to a Café Inno-Philo in the Fall 2011 to discuss the nature of responsibility and to further develop the project's scope and timetable. The event took place under the aegis of ESSEC on their campus at La Defense in Paris. For the occasion, everyone was asked to read a number of documents on responsibility ranging from philosophical to more practical, business oriented texts[6]. The event included a conference on responsible innovation that fuelled the discussion on the subject throughout the morning. In the afternoon, participants convened to identify FAIR's key ideas, dominant themes and linked problems as well as a timetable for the project's completion. The afternoon session served, among other things, to define the research stage: interviewees' profiles; set of relevant questions; "forbidden" or "unproductive" issues to be avoided during the research phase. The event was meant to progress from outlying a more general philosophical approach to responsibility to actually determine who is responsible with respect to whom and for what.

Concretely, through joint discussions and exercises, participants were able to identify the several issues to be addressed during the interviews as well as begin to determine interviewee profiles. In a truly co-creative attempt, all participants in the project, whether sponsors, designers, anthropologists or academics, participated in this effort. While for FiDJI interviewees were chosen taking in consideration different lifecycle situations, with the primary responsibility of this choice attributed to the anthropologists in the team, for FAIR participants set up lists of different sets of people who could, either because of their position and/or situation, have valuable insights on responsibility. They then went about identifying those they considered to be the most important profiles and the key questions to be asked. This was done in a collaborative, team spirit through a set of creative exercises. The anthropologists in the team were asked to take the exercises' results in consideration when setting up the potential interviewees' list and during the recruitment stage - and to develop a loose guideline for questions on the basis of the issues participants had identified together. At this stage, the designers' role was to enable creative solutions to emerge, while the anthropologists were more cautious about reframing emergent ideas according to concrete, possible actions. However, neither intervened in the creative process allowing for all participants, including themselves, to engage in open discussions. The only constraint was brought in towards the end of the day, in order to classify and order the various ideas in an effort to converge.

[6] FAIR Internal Document: « Revue de Presse - Innovation Responsable. Dossier Preparatoire à la Réflexion du Café Inno-Philo animé par Xavier Pavie le 26 octobre 2011. »

FIGURE 1. ***A Co-opetitor and Prime designer exchanging at the Café Inno***

Not all participants agreed with the workshop's results. While most enjoyed the exercise, as with creativity sessions in general some did not see the scope of the endeavour. While most of the co-opetitors, the designers and the anthropologists expected this, none actually anticipated some of the reactions that ensued and the divergent ideas regarding how the project should be carried on in subsequent meetings. With hindsight, most of the conflicts proper to this stage of the project were due to divergent expectations as to what the project was supposed to accomplish during the research phase. From a user-centred perspective, both the designers and the anthropologists considered that nobody could state a-priori what the results of the research would be – exploratory and open-ended in nature this could only lead to an understanding of people's ideas about responsibility once the interview and observation stage would be over with. From a management and sustainability based point of view, it was clear that some of the participants had clear ideas as to the responsibility criteria that should be taken in consideration within the projected methodology and found the user-centred approach at best skewed, at worst not pertinent in this context and generally speaking lacking in rigour when addressing research. Differences between "academic" and "professional" research approaches were conjured which made clear that the term "research" itself evoked different practices. For example, the academics were concerned that the anthropologists on the team were not submitting a literature review of the anthropological findings on both responsibility and innovation as a basis for the ethnographic research phase. This was consonant to a design thinking process where no fundamental, in depth research is required, but quite unusual still for some of the academics who felt very uncomfortable with what they felt was a lack of scientific rigour. These approaches were by no means incompatible, but the proponents of the various points of

view had to be brought to see their complementarity and agree to work together. If this would not happen, the project threatened implosion.

Diffusing conflict through constructive problem solving

As with FiDJi, the anthropologists and designers had to negotiate consensus throughout the various stages of the FAIR project. However, whilst in FiDJi potential conflict stemmed primarily from the open-ended nature of the design thinking process per se, in FAIR the problems encountered were of a different nature. While everybody understood that the process itself would be open-ended, fuzzy and unclear as to its results, very early on it became clear that intense negotiations would have to be engaged regarding the nature and scope of the research to be carried out by the anthropologists on the team. Three major issues emerged following the Café Inno: the basis upon which the anthropologists were going to identify the interviewees' profiles, the set of questions they would ask and the theoretical framework they were going to apply to analyse the data. Theoretically motivated questions were of particular concern to the academics on the team. However, the anthropologists and the designers were able to argue that the research carried out in this context could not be equated to fundamental research. Neither the time framework nor the scope of the project allowed for this. As for the identification of interviewees' profiles and the questions to be asked, as noted above, this was a collective endeavour carried out during the afternoon of the Café Inno. The anthropologists initially based themselves on the profiles that had emerged during the afternoon of the Café Inno as possible people to interview. The aim was to interview a set of distinct individuals "in order to gather a variety of very different discourses and points of view" on responsibility[7]. In view of the discussions in the aftermath of the Café Inno, it was clear that these needed to be rethought.

An internal document provided a synthesis of the Café Inno debates and creative exercises, and defined the overall aims of the project. It specifically reminded all participants of the overall goal of the project as stipulated by the 7 stages of the meta-methodology developed through FiDJi:

1. Express a general problematic (brief)
2. Understand the point of view of the user
3. Identify the problems to be solved
4. Organise the co-creation workshops
5. Choose the most interesting innovation paths
6. Materialise the results via a design approach
7. Measure the results [8]

The document reiterated that the goal of the ethnographic research was "to identify how people, in general, perceive or judge a bank's or an insurance's attitude responsible" (Ibid). This information was to be confronted to a "contextualised definition" of

[7] FAIR Internal Document : Synthèse Après Midi Café Inno-Philo
[8] Ibid.

responsibility to be independently developed by the ESSEC academics (Ibid). The synthesis itself contained a set of remarks that could serve as material for the development of a contextualised definition that would take in consideration innovation concerns proper to the bank and insurance industry and that had emerged during the afternoon exchanges. It became progressively apparent, that points 1 to 3 of the mega-methodology were difficult to implement because there was no consensus on the brief or on the profiles of the users to be interviewed. Tension within the team was quite high at this point. A solution had to be found as to how the project was to progress.

The project's double approach to responsibility, contextualised and ethnographic, was problematic from the start. Many discussions revolved around the primary goal of the qualitative research phase. This was to be interviewed based with observations in key sites if possible. Negotiations ensued following the Café Inno and in spite of what had been agreed then as to who should be interviewed and why – as well as to the validity of the research methodology and its scope. Some of the participants in the project argued that responsibility criteria should be assessed independently of what people think or want. Others argued that it was of primary importance to identify what it is that people judge responsible and what would they define as responsible actions on the part of a bank or insurance company. It was believed that, independently from any definition of responsibility, such an approach would help identify key concepts to be developed and tested via the FiDJi/FAIR methodology. Others still focused on innovation and called for an ethnography of innovation practices that would identify the functional context within which innovation experts function. "What is innovation, when should it be deemed responsible and what people understood as being responsible?" These were issues to be initially explored through parallel paths that would converge naturally in the creative workshops set up for that purpose. However, by early December 2011 it was clear that this would be extremely difficult if not impossible to achieve within the project's framework.

While misunderstandings of this type are not uncommon, in both FiDJi's and FAIR's case the co-opetitive nature of the projects and the fact that no co-opetitor could prevail over the others to have his/her point of view imposed complicated the situation. Consensus had to be reached in order for the projects to progress successfully. For FiDJi, the designers on the team had to individually meet with all co-opetitors in order to ascertain that the demonstrator they were developing met their expectations. "The problem the designers faced" in FiDJi,

> was linked to the richness of the research data. Nothing in the methodology being applied allowed for a data selection stage or process. In most projects, this happens naturally as clients choose from the data what they want to focus on. Here, the project's sponsors lacked a unified view given their backgrounds as well as their multiple company affiliations. Hence, at this particular stage of the design process, the designers felt that they had to ask sponsors to take a stance and clearly define what their expectations were (Peinado, Jarvin and Damoisel 2011:271).

For FAIR, consensus was more difficult to achieve. The co-opetitive nature of the project, and the assumption that all participants whether sponsors or consultants had equal say as to its plan, complicated the decision making process. All participants had to review the initial project brief and reformulate it. This is where the anthropologists and designers in the team became not simply enablers but enactors of change by engaging in a fully participatory decision making process.

An intermediate meeting was called on December 2nd to solve the problem. It brought together two co-opetitors on the team with the ESSEC academics, Altran Prime designers and the two anthropologists. Intense exchanges went on informally between the different participants before the meeting. The meeting itself was meant "to bring together all the necessary conditions so that the project could progress towards its goals by mobilising everybody's know how, 'collaborative' spirit and trust"[9]. A power point presentation visualising how FiDJi's meta-methodology was to be adapted to FAIR and delineating the different approaches proposed by the various participants introduced the main problematic. The presentation also addressed governance issues and the responsibility of each participant within the project. This was to be shared, with each participant contributing according to his/her expertise. During the preliminary exchanges leading up to the meeting, the anthropologists on the team had sought to clarify the project's end-goal. Their definition was integrated in the document and stated that

> On June 30th, 2012, we will have established a grid that will enable actors from the bank and insurance sector to evaluate their innovation's responsibility and we will have identified a set of pertinent means whereby to communicate about these innovations – with the final objective of regaining the public's confidence[10].

This was a starting point for open discussions. Three partly conflicting conceptions of the FAIR process where confronted in the hope that we could all arrive at an agreement as to how they could converge. As expected, these corresponded to different understandings of the research phase, what the anthropologists, academics and designers would be expected to contribute, and how this would articulate with the remaining phases axed on creative workshops. They also related to different ideas as to what a user-centric approach might be – with some participants seeing the research as user driven as opposed to user centred. A major question revolved around whether end users should at all be consulted. At the end of the meeting, the anthropologists were able to retain the user-centred research approach as their primary method and thus explore end users' perceptions of responsibility, but with the understanding that they would enlarge their problematic to include responsible innovation as a research subject. As noted above, no specific theoretical framework was retained or literature review required of them. This was a result of negotiations carried out with the academic members of the team who agreed to provide the theoretical background proper to responsible innovation as well as focus on identifying objective criteria proper to sustainability applicable to the bank and insurance context. The designers solved the final

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[9] Internal Document : Préparation de la Réunion du 2 Décembre.
[10] Ibid:6.

problem of how to bring together the two approaches. They visualised the overall process as a set of workshops that, starting with a very wide and diffuse approach taking in consideration both the theoretical, deductive view of responsibility and its practical, inductive perceptions identified in the ethnographic research phase, would eventually lead to a specific responsible innovation approach at the end. The methodology itself would emerge overtime through the design process.

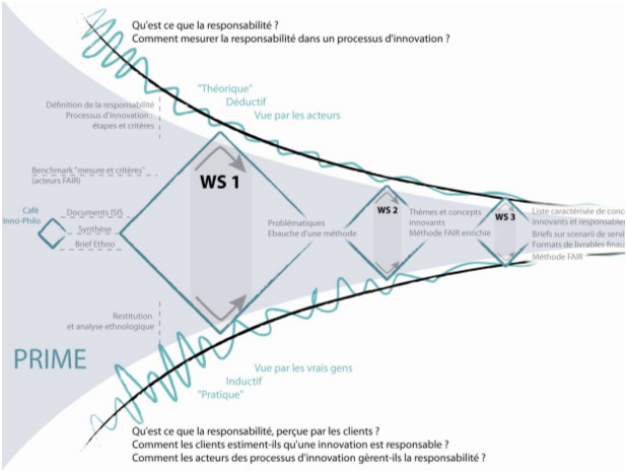

Figure 2. ***Visualisation of the FAIR Process with the WS 1 convergence stage bringing together the theoretical deductive and practice based inductive approaches to responsibility.***

Defining the "real" user

Prior to the December 2nd meeting, the anthropologists had identified 21 profiles "on the basis of the individuals spontaneously cited at the end of the Café Inno"[11]. These had been classified according to the choices made during the afternoon creative exercises and placed into three different categories -- with the greater number of interviewees corresponding to the "real people" category, and a lesser number equally spread between people coming from non-profit or institutional organisations, and bank and insurance professionals. As noted above, it was at this point that the academics found that the research was lacking in depth because it did not incorporate questions related to innovation and responsibility – questions that had been deliberately left out during the Café Inno creative exercises' phase. They also considered the focus of the research as totally skewed towards

[11] Internal Document : Projet FAIR –Eléments du Cadrage du Projet Ethnographique.

"real" people and not enough focused on innovation professionals. While this was markedly different to what had initially been agreed upon, it raised the issue of who the final user of the intended methodology was to be and hence the relevance of addressing the point of view of bank and insurance clients in general as opposed to innovation professionals in particular. The initial 21 interviewees' profiles were revised, amended and added to. The meeting made possible to

> reformulate the project's tracks in order to introduce several points that had not been retained during the Caffé Inno. The question related to innovation, implicit in the project, was not to appear in the interview guide. The meeting lead us to reintroduce it, by clarifying it in the process, and made us question the interviewees' profiles agreed upon during the Café Inno[12].

The interview questions were also revised in order to incorporate the new problematic to be investigated. People were asked to comment on what is responsibility, how does it manifest itself (or not) in real life situations, and how do people engage responsibly in everyday personal as well as professional contexts. The anthropologists sought to identify the definitions of responsibility corresponding to different spatiotemporal scales: individual, family, and social versus short, medium and long term. They specifically sought to discover the various realms associated with responsibility in general, while specific questions addressed responsibility with respect to the bank and insurance sector in particular. Finally, the question of what constitutes responsible behaviour within the bank and insurance sector was to be asked of bank and insurance personnel with specific questions addressing the issue of responsible innovation. In the end, interviewees fell under three categories: the first set comprised "real people" facing different types of difficulties proper to responsible or ethical situations; a second set comprised individuals holding what the were identified as jobs that put them in positions of responsibility with respect to others; a third set was devoted to actors from the bank and insurance industry with different levels of responsibility to whom were added several experts in innovation. Altogether, 23 individuals were interviewed. Unfortunately, no observations of innovation teams could be carried out because of logistic and time constraints. A request to this end had been formulated, but access to innovation teams turned out to be very complicated to put in place.

With hindsight, the project had two different types of users – people in general and the innovation professionals within bank and insurance companies. This quandary was never fully identified in the project's initial stages and, if addressed, would have probably lead to a finer tuning of the ethnographic phase that would have taken in consideration the double character of the project's "end-user". Most user-centred approaches still focus on actual "clients" or consumers overlooking the multiple, internal actors involved in management and business contexts. In a recent work entitled Intersections, Milan Guenther develops a design-based approach that takes in consideration a business's multiple stakeholders (Guenther 2013). More specifically, it addresses the difficulties businesses face today when operating in evermore flexible and changing contexts. Guenther argues that design lead

[12] Ibid.

approaches can help identify and solve problems related to businesses' ecosystems including "the agility of people involved in their activities" (Ibid:23). FAIR could have adopted such a perspective by addressing the functional context in which innovation activities occur. Instead, the project's co-opetitors and consultants choose to take a different road and to address primarily customers' aspirations and needs rather than those of innovation teams. As noted above, this was in part due to the difficulty, as a co-opetitive project, to harness the internal, business specific support needed to do such research, but also to a narrow application of the user-centred approach developed via FiDJi.

Responsibility Defined

The qualitative research stage identified several issues. No absolute definition of responsibility emerged from the study, but only relative, ephemeral and abstract depictions. People spoke of their personal attitude, in terms of lived experiences and values, while they considered responsibility as a "must-do" when addressing the role it should play in business. In addition, nobody had asked him/herself the question of whether he/she was a responsible individual or engaged in responsible actions. Only when asked specifically, did people reflect about whether they act responsibly or not. However, responsibility emerged as a given: everybody is responsible or wants to be perceived as such. For bankers and insurers, acting in their professional capacity, it was a fact that responsibility was integral to their company's DNA.

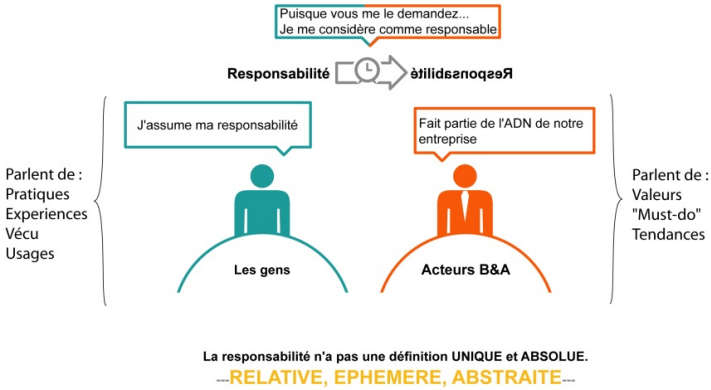

Figure 3. ***General perceptions of responsibility***

Responsibility was differentially perceived when towards oneself, others, the planet as a whole or a social system in particular. A distance effect operated at this level: one feels and

acts responsibly to a different extent with respect to issues closer to oneself than issues that are more abstract and upon which one feels one has a more diffuse impact. People saw responsibility as either innate and/or acquired – one is born responsible, learns to be responsible via various situations, may become increasingly responsible throughout one's life. Often, at different life stages and situations corresponded a heightened (or different) sense of responsibility due to one's engagements.

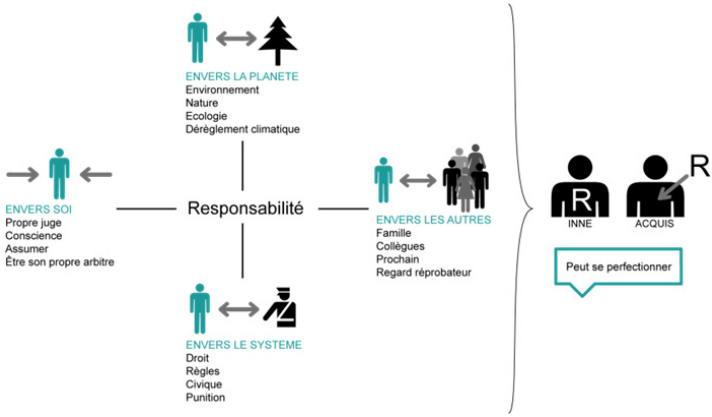

Figure 4. ***Responsibility from the "real people" perspective***

Bank and insurance experts, in addition to subscribing on a personal basis to similar understandings of responsibility, commented on the role they played within their respective companies and the extent to which they saw their contribution as responsible. They commented on their responsibility beyond what is required by the company, the responsibility to the different stakeholders, including employees and clients, and finally responsibility with respect to the planet. In spite of the limited number of experts interviewed, these were unanimous in stating that they had very few means to measure whether innovative products and services were responsible. Such questions often emerged from personal commitments and were not, in a general way, integrated in checklists or "do and don't" considerations not to mention long-term innovation processes. The bank and insurance sector emerged from the qualitative research phase as lacking concrete tools to judge its own performance in the area of responsible innovation, even if all companies had CSR departments and definitely sought to adapt at the very least environmentally safe practices with respect to a number of behaviours.

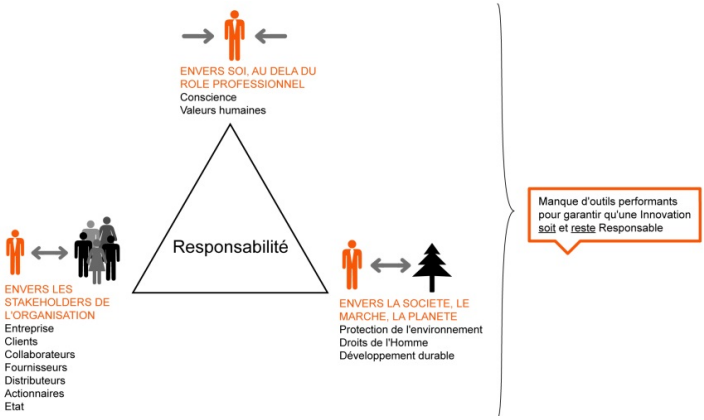

Figure 5. ***Responsibility from the actors' perspective***

FROM THE RESEARCH TO THE WORKSHOP PHASE

Responsibility emerged from the ethnographic research phase as a complex field where, as was expected, different variables and dynamics interact both at the individual and at the group level. On the one hand responsibility is something everyone aspires to. On the other hand, it represents an on-going necessity with which individuals engage through concrete practices. However, what is responsible for one might not be for the other. The term is relative rather than absolute. Consequently, the results begged the question of how to implement responsible innovation practices in the bank and insurance sector. When asked how a bank or an insurance company could act responsibly, interviewees answered: "by doing their job correctly". At a very basic level, for interviewees this implied that bank and insurance companies had to (1) understand their clients' individual situation and respect them; (2) help them develop saving habits and (3) educate them with respect to money; (4) communicate clearly and (5) stop the marketing jargon; (6) engage their agents locally at the community level and, finally, (7) remunerate clients with a record of good practice.

These findings provided a transition to the project's workshop phase were the ethnographic data was to be gradually integrated with the objective set of criteria developed by the ESSEC academic team. A future essay will analyse in detail FAIR's subsequent phases, as space does not allow us to develop them in detail. Unfortunately, only a brief overview of the overall process can be given here. Four workshops followed the project's research phase. Workshop 1 sought to bring together the user-centred, inductive approach with the theoretical, deductive set of criteria identified by the academics. Workshops 2 and 3 focused on identifying and developing innovative concepts through a traditional user-centred approach, while integrating an increasingly complex grid delineating objective criteria for responsible innovation. Two different sets of users were involved in the workshops:

"real people" and bank and insurance innovation professionals. In the last workshop the project's various participants tested the innovative concepts that had emerged from the previous workshops, against a final version of the responsible innovation grid. The process was not exempt from strife, but each participant found his/her place within the multi-disciplinary context that characterised the project throughout. Even down to the very last day, each and everyone participated in the creative process, the refining stages, and contributed to the final outcome. Even though the tensions within the team were never again as high as in the beginning phase, the process entailed on-going mediation and negotiation in order to ensure that the final deliverables would be up to everyone's expectations. In the end, the project gave birth to a making of and a demonstrator in the form of two videos. A bilingual publication in English and French is being finalised and should be up for sale starting October 2013, explaining and outlining each step of FAIR responsible innovation methodology.

CONCLUSION

Innovation and uncertainty are intimately tied together. Enabling change implies embracing uncertainty in order to innovate. However, innovation itself implies enacting, that is bringing about real and lasting change. FAIR was not an easy project to weather through. In many respects this is because it was a very ambitious project as it aimed, through a user-centred approach, to develop a new methodology for responsible innovation. In and of itself, this was (and still is) a very innovative endeavour within the bank and insurance sector. As a result, the stakes were from the beginning quite high, while the research phase was unclear, the process ambiguous and the context complicated to say the least. Each participant had to find his/her place and develop an understanding of the project as a whole as well as its assumed goal. The anthropologists and the designers on the team actively contributed to defining the project's overall process and end-goal in close collaboration with the project's co-opetitors and other participants. As explained in the essay, this was not without tensions. As Barab and all argue about critical design contexts, "issues of ownership, voice and intentionality become problematic when the ethnographer is not simply writing about a culture of another but actually advocates a change agenda" (Barab et al. 2004:256). The anthropologists and the designers involved in FAIR where not simply providing support but actually co-constructing the project with its various actors – by contributing actively to setting the scope and developing the deliverables. Their position was not neutral. In contexts where anthropologists and designers are designing for change, they are no longer positioned "outside" the organisation. Rather, "the role of change agent positions (them) inside the organisation" (Ibid:257). This implies "active membership" (Ibid).

This essay argues that co-opetitive, experimental projects like FiDJi and FAIR allow anthropologists and designers to develop strategic insights and lead innovation. This is because these co-opetitive contexts allow for highly collaborative, consensus driven multi-disciplinary settings where participants, including anthropologists and designers, can equally interact as stakeholders. Such settings enable anthropologists and designers to use their skills as mediators and negotiators, develop an understanding of group dynamics and cultivate strategic insights into how to enact change. In FAIR, this became quite clear when

the initial research phase had to be re-defined and negotiated by creating consensus among all the project's participants. Beyond identifying interviewees' profiles or setting the questions' guidelines, the anthropologists and designers defended a user-centric approach that strategically placed users' voices on responsibility at the same level as the theoretically defined, objective criteria of responsibility. This was not to say that users always "know best". Rather, it simply lead anthropologists and designers to point to the fact that users need to be taken in consideration when developing new products, services or processes – and that users are not necessarily who we think they are. In the end, as FAIR progressed, it became clear that there were multiple stakeholders with respect to the methodology being developed. The end users were not only the bank and insurance companies' clients. They were not only the innovation professionals within those bank and insurance companies. They were also the co-opetitors among us, who needed to demonstrate to their colleagues within their respective firms that the methodologies they had developed through FiDJi and FAIR are effective. As a result, FiDJi and FAIR responded to multiple needs, wants and perspectives, which had to be taken in consideration via strategic design consideration in order to successfully accomplish what they had set out to do in a co-opetitive manner.

REFERENCES CITED

Barab, Sasha A., Michael K. Thomas, Tyler Dodge, Kurt Squire and Markeda Newell
2004 "Critical Design Ethnography: Designing for Change." *Anthropology and Education Quarterly* 35(2): 254-268.

Beckwith, Deanne
2011 "Consulting in Changing Times and New Cultural Contexts." *Design Management Review* 22(3): 54-60.

Bengtsson, Maria and Sören Kock
2000 "Coopetition' in Business Networks – to Cooperate and Compete Simultaneously." *Industrial Marketing Management* 29: 411-426.

Bengtsson, Maria, Jessica Eriksson and Joakim Wincent
2010 "Coopetition: New Ideas for a New Paradigm." In Saïd Yami ed., *Coopetition: Winning Strategies for the 21st Century*. Edward Elgar Publishing.

Bezaitis, Maria
2009 "Practice, Products and the Future of Ethnographic Works." *EPIC 2009*:151-161.

Boland Jr., Richard J. and Fred Collopy,eds.
2004 *Managing as Designing*. Stanford: Stanford Business Books.

Borja de Mozota , Brigitte
2008 "Design Management as Core Competency: From 'Design you can see' to 'Design you can't see.'" *The Journal of Design Strategies* 4 (1): 94.

Brown, Tim
2009 *Change by Design.* New York: Harper & Collins.

Cefkin, Melissa, ed.
2009 *Ethnography and the Corporate Encounter: Reflections on Research in and of Corporations.* New York: Berghahn Books.

Flynn, Donna K. and Tracey Lovejoy
2008 "Tracing the Arc of Ethnographic Impact: Succes and (In)visibility of Our Work and Identities." *EPIC* 2008: 238-250.

Guenther, Milan
2013 *Intersections : How Enterprise Design Bridges the Gap Between Business, Technology and People.* London : Morgan Kauffman.

OECD
2005 *Oslo Manual: Guidelines for Interpreting and Collecting Innovation Data.* 3rd Edition. Luxembourg : OECD - Statistical Office of the European Commission.

Peinado, Alice, Magdalena Jarvin and Juliette Damoisel
2011 "What Happens When You Mix Bankers, Insurers, Consultants, Anthropologists and Designers: The Saga of Project FIDJi in France." *EPIC 2011*: 256-276.

Roger, Martin
2009 *The Design of Business: Why Design Thinking is the Next Competitive Advantage.* Cambridge: Harvard Business Press.

Strauss, Jean-Luc
Nd "Altran Expert Focus." http://www.altran.fr/innovation/le-club-innovation-banque-finance-assurance.html Accessed 23rd June 2013.

Yami, Saïd, Sandro Castaldo, Giovanni Battista Dagnino, Frédéric Le Roy and Wojciech Czakon
2011 "Introduction: Co-opetition Strategies: Towards a New Form of Inter-Organisational Dynamics?" In Saïd Yami ed., *Coopetition: Winning Strategies for the 21st Century.* Edward Elgar Publishing.

Reflections on Positionality: Pros, cons and workarounds from an intense fieldwork

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MARCELO FAGUNDES
Insitum

During a project an ethnography team immersed itself in the lifestyle of lower socio-economic class women. From the different worldviews between these groups, we discuss positionality and access to data, i.e. the ways characteristics such as socio-economic, education, social status, and gender influence the research. The idea is not to set 'rights' and 'wrongs', but to ponder on how successful (or not) were our attempts and reflect on unforeseen effects of our own work.

INTRODUCTION

During a project in Brazil an ethnography team immersed itself in the lifestyle of lower socioeconomic class women who work as independent sales representatives for a direct sales cosmetic company. Taking into consideration the difference in worldviews among the ethnographers, participants and the client, we present this case study and discuss positionality, methodology and access to data, i.e. the ways characteristics such as socio-economic, education and gender helped or harmed the research. During the project we received some surprisingly and involuntary reactions, feedbacks and responses from the participants with whom we ran the ethnography. Some personal stories (one such story was about a woman who got a divorce during the course of the project) and some well known ethnography guidelines we had to ignore due to the circumstances (such as disclosing that the client was present at the interviews) made us ponder on who we are and where we are headed as a community of ethnography practitioners.

The initial perceptions regarding this fieldwork framed notions of positionality which are the basis of the reflection aimed by this paper. Firstly, we present the project scope and briefly discuss the specificities which pushed us to reflect on positionality. Secondly, after a summary of the anthropology literature on positionality and its implications, we go through the three main areas from which we draw our reflections: ethnography and the client during the fieldwork, ethnography and gender, and ethnography and different social status. Finally, we debate positionality implications into ethnography practice (whether it is academic- or private-sector driven). The idea is not to set rights and wrongs but to ponder on how successful (or not) were our attempts and reflect on unforeseen effects of our own work.

PROJECT SCOPE AND HOW WE GOT INTO THINKING ABOUT POSITIONALITY

The source of the debate discussed in this paper has been a five month project at a Latin American innovation consultancy which was conducted in 2012 for a Brazilian cosmetic direct sales corporation. The objective of this project was to provide strategic basis for an internal project the client was conceiving: a new digital learning platform for an ongoing online training support about cosmetic sales. The development of this online system should be focused on the needs of different profiles of the independent sales representative all over Brazil, therefore the methods adopted were intense in ethnographic research,[1] focusing on understanding the lifestyle, needs and motivations of those independent sales representatives. We got in touch with more than 60 people while traveling to 17 cities, including the 5 geographic macro regions of the country, ranging from small towns (28,000 inhabitants) to the main Brazilian capitals (11 million inhabitants).

The interactions were guided by in-depth semi-structured interviews and by immersion in the lifestyle and typical venues of our participant routines (their houses, their workplaces, the venues where they gather for training which was conducted by this direct sales company etc.). During these interactions we also had the chance to get in touch with other people close to them, such as their relatives, close friends, colleagues, etc. The fieldwork was conducted by a four people team, which was split in two pairs (in order to be able to work simultaneously in two different areas). Each one of these pairs was composed by one male and one female researcher and most of the time someone from our client team (always a woman) followed us.

The fieldwork was divided in two phases. Firstly we ran a more exploratory research in which the focus were house-visits and individual interviews aiming at identifying lifestyle, learning related needs and technological profiles of the participants. The second phase involved a more generative research in which we opted for group activities – usually asking key participants to invite friends over (other independent sale representatives of the same corporation) – exploring their routines and habits related to their professional activities and proposing projective exercises which sought to validate a hypothesis and to create design principles for the development of the platform.

Due to the characteristics of this cosmetic business in Brazil, this ethnographic research was conducted mostly with women, as they are the vast majority of the independent sales representatives our client has. We interacted with people from different socioeconomic levels, however the women from the lower classes were the ones who motivated us to reflect about our experience and to write this paper. Although they were the poorest from our sample, the financial issue was not at the core of our differences, i.e. at the core of the situations that pushed us to think about who we are, who they are and how complex is to do the ethnographic interactions from the point of view of these assumptions. From Bourdieu

[1] We opted for the generic 'ethnography', but we are assuming – from the scope of the paper and from the EPIC context – it is a corporate ethnography project: a private-sector project in which "ethnographers must adapt academic theory, method and timelines to suit their research needs" (Ladner 2013:9).

(1979) we can consider that each one of us (researchers and participants) had different life paths and through them we have been internalizing different values and aspirations. From these different paths, and in spite of an overall low level of education and instruction, it is noteworthy that these women from the lower socioeconomic levels clearly have traces of entrepreneurship. And although their socioeconomic condition has always been an issue for them, they have found direct sales as an opportunity to be more independent, not only economically, but also in the sense of achieving freedom in a wider sense. This is important because historically in Brazil those women were dependent and faced restraints under a sexist environment dominated by men, sometimes including domestic violence by their husbands. All that configures a scenario where our participation as researchers ought to be carefully planned regarding thinking about how to best access the data (while still of course respecting the ethical nature of our professional activity).

Finally, it is important to note that we returned to some participants from the first phase during the second phase of the project (as key participants[2]) and thus it was possible to observe and analyze the influence the researchers may have had on the participants' lives. Thus, it was possible to draw a set of reflections regarding the role of the ethnographer in terms of positionality related to client presence, gender and social position.

POSITIONALITY AND THE ANTHROPOLOGICAL LITERATURE

As briefly mentioned before, the objective of this paper assumes that our own position during the fieldwork as researchers has had influence over the access to data. In our case, we are pondering on how our personal characteristics, our personal path and our methodological strategies helped or made it more difficult to be accepted in our participant households, to promote rapport and to make the fieldwork experience a rich source of data.

The origin of the idea of an ethnographic enterprise is not to directly question people about the topics the researcher is interested in, but to experience their culture, lifestyles, routines, and to talk directly and in-depth with them in order to gather enough experience in that community to be able to infer about the ways that this culture operates. As Brewer (2000:11, emphasis in the original) suggests, ethnography is a specific method of data collection, which differs itself by its objective and approach, respectively: "to understand the social *meanings* and activities of people in a given 'field' or setting" requires "close association with, and often participation in, this setting", involving "intimate familiarity with day-by-day practice". On that topic, Malinowski (1922:9-10) states:

> Though we cannot ask a native about abstract, general rules, we can always enquire how a given case would be treated. Thus for instance, in asking how they would treat crime, or punish it, it would be vain to put to a native a sweeping question such as, "How do you treat and punish a criminal" for even words could not be found to express it in native, or in pidgin. But an imaginary case, or still better, a real occurrence, will stimulate a native to express his opinion and to supply plentiful information. A real case indeed will start the natives on a wave of

[2] Key participants were the ones in charge of inviting friends to compose the group session.

> discussion, evoke expressions of indignation, show them taking sides – all of which talk will probably contain a wealth of definite views, of moral censures, as well as reveal the social mechanism set in motion by the crime committed.

This passage highlights the importance of the interaction between the ethnographer and the people involved in the fieldwork. From the 1920s until today a lot of methodological debates suggest interviewing techniques and other fieldwork guidelines to empower this interaction and to promote rapport[3] – and, moreover, learn from the difficulties emerged from that challenge, considering it as a part of your findings (Harrington, 2002). Nevertheless positionality proposes a different approach to that same issue: the ethnographer is a person with a background, with certain characteristics that unavoidably say something about her on the first glance – such as age, gender or ethnicity etc. – and, therefore, the ethnographer may have some influence over the fieldwork and how data is accessed.

Considering Malinowski's example about setting a conversation around crime punishment, if the imagined crime is a case based on racial issues, any difference in terms of ethnicity of the interviewer and of the interviewee might be crucial to understand and interpret what is said during this conversation. From the 1960s, with the emergence of the postmodern critiques to the epistemology of knowledge, which questions the existence and accessibility of a 'reality' to be uncovered by science, ethnographers started to question their own methods:

> [Postmodern] ethnographers question the ability of any method to represent 'reality' accurately on three grounds: there is no one fixed 'reality' in the postmodern understanding of nature to capture 'accurately'; all methods are cultural and personal constructs, collecting partial and selective knowledge; and since all knowledge is selective, research can offer only a socially constructed account of the world (Brewer, 2000:22-23).

This reflexive approach is widely discussed within the anthropology literature during the last decades, assuming that "ethnographic fieldwork characteristically invokes a conception of knowledge modeled on subjective vision" (Asad, 1994:57). This subjective vision embraces the notion that the one who writes about ethnography is not a generic or a neutral scientist – i.e. it advocates the rejection of the concept of the ethnographer as the subject in charge of discovering the truth about her or his research objects through the fieldwork. As Chiseri-Strater (1996:119-120) argues "while there is no formula for locating oneself within this delicate ethnographic terrain, I would suggest that we take no more risk in adopting subjective and reflexive roles as researchers than we would in presenting ourselves as objective and detached, a stance that most postmodernist fieldworkers would reject". Back (1993:217) adds feminism to this epistemological and methodological change: for him, "the feminist criticism has resulted in the death of an academic discourse which has viewed male

[3] See, for example, Kvale and Brinkman (2009).

accounts of society as generic"; consequently "the male ethnographer has been made visible".

Indeed, the feminist approach is one of the boldest within the positionality debate, offering a rich literature about it. For example, Ganesh's reflections about her experience within the Kottai Pillaimar community detail the difficulties and successes in accessing the community members, and, moreover, compare the ways she was treated with the ways other women around were treated: "A lone ('unprotected') upper-caste woman with the appropriate behavior is more likely to be treated by men with respect. Women from the bottom of the hierarchy would doubly have to prove their 'goodness' and even so might be open to rough treatment" (Ganesh, 1993:134).

Hence, the objective is to look back on the project having in mind that "the growth of postmodern and reflexive anthropology constitutes a significant diversion for those who are serious about developing a sensitivity to the gender-loaded context in which fieldwork takes place" (Back, 1993:217). We suggest that gender is just one issue among others which constituted the differences between the research teams and the people we got in touch with and we argue that these differences influenced the results of the ethnography. As Chiseri-Strater (1996:119) suggests, we must write about these topics as part of our ethnography: "turning in upon ourselves as researchers makes us look subjectively and reflexively at how we are positioned" – and, we would add, how this position influence our work.

ETHNOGRAPHY AND THE CLIENT

The first point we would like to discuss is the client's presence during the fieldwork. It is a kind of common sense within most of innovation consultancies which use private-sector ethnography that the client's presence during the whole process benefits the project.[4] For instance, it could reduce the client's anxieties and align the project progress and partial results by avoiding gaps in the analysis and creative phases. It could also help the client to be more comfortable and confident with the final results. Nevertheless, it is also recommended not to disclose the name of the client during the corporate ethnography practice, making the presence of clients during the research confidential to participants. By these means we aim at minimizing the risk of any influence on the research results. This is more critical in research for which there exists some kind of validation or hypothesis test, but in general it is recommended for exploratory activities, as well.

As mentioned, the ethnography teams were composed of three people: two researchers and one client. The members from our client team who joined us for the fieldwork had not had any previous experience with ethnographic research. In spite of our recommendations they did not want to hide their identities as member of our client team – they argued that it was not aligned with the ethical principles of the company they work for. Thus their ethical restriction and their inflexibility to change their approach generated concerns for the research team: as we would talk about the relation between the direct sales company and the

[4] For example, see the presentation from gravitytank at IDSA 2012 Midwest Design Dialogue Conference – even if their subject in that talk is focus groups, most of the arguments are still valid for ethnographic methods (Schiffman and Civelekoglu, 2012).

participants of the research (independent sellers of this company) and we considered it risky. If the client's presence was revealed, participants could feel constrained to freely talk about how they perceive this relation (and understanding this relation in-depth was crucial to the results of the project).

In order to address this complexity we reached an agreement with our client: the name of the company would be revealed in the beginning of the in-depth interviews and their identity as company employees would be revealed only if it was explicitly asked by participants. Otherwise, they would be presented as 'part of the project team' (which was not a complete lie, but neither was the whole truth). From that, we would like to delve into two aspects of this experience: awareness about client presence and awareness about the client company.

Awareness about client presence

The first disclosure about the client presence to participants during the interactions happened at the third in-depth interview, when a participant directly asked if anyone of us was from our client company. As we had previously agreed, we had no choice but to properly introduce the member from the client-side. To our surprise, the disclosure of this information actually helped the participant to open up with us, apparently because she felt valued, since someone from the company that she 'works for' wants to listen what she had to say. Obviously we cannot state with absolute certainty that this did not inhibit the participant during the fieldwork, but comparing this interview with the previous ones we did not perceive any trace of inhibition on the participant behavior. From that, we decided together with our client that henceforth we would reveal their identity in the beginning of the in-depth interviews in order to align ourselves with their ethical principles – and observe how the participants respond to that.

In the subsequent interviews what we perceived was no inhibition at all; on the contrary, our guess was reinforced: we had more access to the participants since they felt themselves valued by their company. A story that clearly illustrates it is the one about a woman from a small city (214,000 inhabitants) in Southeast Brazil. We had scheduled and arranged to meet her in plenty of time, but when we arrived at her place to the interview she decided not to participate in the research anymore. She argued that her friends had warned that it could be a scam. After unfruitful dialogues explaining that we were professional researchers behind an international consultancy, our client decided to reveal her professional identity, showing (with ID badges) the company she worked for. Unlike the innovation consultancy identification we had used in our favor a few minutes earlier, our client was a very well-known company for the participant, and this approach allowed us to have access to this woman. We realized that she was very suspicious of people she does not know, and that it was very common in Brazilian small towns. As we felt that we could face these same issues in the next interactions we repeated the technique in several other interactions. That was very helpful not only to (literally) 'open doors', but also to make participants more confident (e.g. about inviting us in and about freely talking to us).

Awareness about the client company

The awareness regarding the client by the participants initially generated insecurity in the research team since we were afraid that it could inhibit participants to talk about important issues about their relationship within the company – and that was extremely relevant to the project research objectives, as mentioned before. In spite of these worries, we noticed after a few in-depth interviews that in our case, things were different: once the participants knew who was the client, they immediately expressed their feelings and anxieties they have towards the company as if they wanted to change and improve the reality they face on the day-to-day of direct selling. Even if they were unsatisfied with certain proceedings or policies stipulated by the company, they still had a strong sense of 'being part of' it, what pushed them to openly criticize, intimately feeling that this critique would be heard and taken into consideration by the company. They felt we could be a shortcut to the formalized relation they had in their selling activities and to the institutionalized phone and internet support channel they had.

Disclosing the client name granted us a better access within the ethnography, it encouraged participants to talk more, more passionately, and more in-depth about the exact topics we were aiming at. We believe this behavior occurred due to a strong relationship and clinging that the different direct seller profiles had with the client's brand, which led them open up once they knew for whom the project was. In addition, as they knew who we were working for, they assumed we knew our client structure and jargon, which helped them to express themselves in a detailed way, pointing out specific pain points, positive aspects and relating them to the whole process they were involved in.

ETHNOGRAPHY AND GENDER

The second issue we discuss in this paper is gender and how it could influence the fieldwork dynamics and the research results. Gender became a relevant issue as some of the ethnography team members were men while the participants were mainly women talking about their personal life and beauty products. Moreover these women, as mentioned, were from the lower socioeconomic levels, a profile that in Brazil often faced restraints under a sexist environment dominated by men, which leads them to be more closed and to struggle to open up with strangers.

The first concern was about the research theme itself: despite the increasing consumption of cosmetics by men, it is still seen as a "woman thing". Cosmetics and beauty is a common theme for discussion and concern among women and it is not commonly discussed between women and men in Brazil. In this context, research team was uneasy since because we believed that the participants would not go into details that we would like to access during the research; we were afraid they were not used to talk about that subject with men, and probably they would not be comfortable in doing so. At the same time, this theme was not a something that the two male researchers were familiar with. Thus, to minimize these risks we used their lifestyle as a subject to begin the interview and, consequently, as a structure for the whole interactions, immersing deeper in the cosmetic, beauty and intimate

themes only when we realized that the participant was feeling comfortable during the conversation.

The second concern was about the gender difference in the context of the lower socioeconomic level participants: since they live in an environment where they were usually economic dependent on men (husband, son etc.), they could not feel confident to talk about intimate topics in the presence of a man. This topic puts on the agenda the different roles and powers regulating the relationship among relatives living together – and that was important for us, since the independent seller position these women had can restructure this setting within a household. As men, we were afraid to harm the access to data simply by being present in the interaction. Due to the historical background about restraints and domestic violence, talking to an unknown man could pose a threat not only for their husbands, but for themselves due to the tension of their relationship with men. This scenario would lead them to distrust or (at least) not to feel comfortable enough during our interaction. Therefore, not only was difficult talk to them with a man on the team but talking about intimate matters was an even bigger problem.

Consequently, we decided that the female researchers of each fieldwork team would conduct all the interviews, while the male researcher would assume secondary roles – e.g. taking notes, helping with support material, taking pictures and anything else that was secondary in nature. Furthermore, we also improvised some alternative scenarios in our effort to minimize possible harms on the data. For example, the male researcher could pretend to be more feminine than we truly are[5] so as to make them feel more comfortable to talk about intimate feminine issues and thereby reducing the barriers that they might have to talk about it with us.

Although the alternatives and strategies used by us to minimize barriers more or less were successful, our positionality as male researchers may have already been enough to influence the research with these women. However, since the project results strongly suggest that we succeeded in our aims then we believe that gender was a minor issue. Perhaps our worries and workarounds were useful but it turned out that during the fieldwork we faced some other situations in terms of positionality that subsequent reflections on them suggest that they were more meaningful in terms of access to data and this is discussed in what follows.

ETHNOGRAPHY AND SOCIAL POSITIONS

The previous sections described a set of methodological issues we were worried prior to the fieldwork or during the first interactions. From the literature (whether it is academically or private-sector driven) we had our reasons to believe that disclosing the client, or going to fieldwork with a man on the team to talk about beauty products could be a problem: maybe our participants would not be confident enough to criticize our client, maybe they would not

[5] The idea was not to pretend to be gay as it would require acting skills we probably lack and, moreover, it would raise further ethical issues. However we avoided being explicitly masculine (perhaps making the participant wonder if we were gay or not, or at least to make it clear to her that we do not produce or support any kind of sexist behavior).

feel free to talk about certain issues with a man around (such as their relation with their husbands), maybe we (the men on the team) would not understand some female issues (such as how women deal with beauty). As mentioned, these issues were not as important as we thought. In addition to what we pondered in the previous pages, there were issues we were not able to foresee that were pretty helpful to the success of the project. And that is what this session is about.

We identified two different sources within our reflections on positionality that were important to understand how we could promote rapport and build rich ethnographic interactions. The first one is related to the way participants perceived us within society in a wider sense. The second one is related to the way they perceived the purpose of our visits, i.e. to really understand them, to listen to them, to really get into their lifestyles. Both of them were completely unimagined scenarios. We had a lot of theoretical preparation to take the best of this fieldwork, however if we succeeded the reasons were not the ones we had thought of beforehand, but contingencies that appeared on the way and that we understood them after reflecting on why that project had touched us so deeply.

Status differences

The suspicious way we were received in some households (mainly in small towns), as described in the *Awareness about client presence* session, recalls the literature about positionality and our differences: ethnicity (all of us, including the client members, were basically Caucasian), the fact that we come from the richest part of Brazil, that we had access to high quality education, etc. When we consider the people we focused on this paper, i.e. women of the lower socioeconomic levels, we felt compelled to reflect on our differences and use the theories and experience to try to work around these differences in order to better understand what is it to live like they do. Basically, what we did was to follow the basic guidelines of ethnography, such as trying to adapt our language to theirs, not to judge them, to understand and join any kind of habit, ritual, or way of living they had in their houses etc. – just as we can find in any ethnography reader.[6] However, even if these basic techniques were as useful as important, there are some issues that are just impossible to dismiss, they were there: the research team was Caucasian, some of us were males and some women we were talking to were victims of domestic violence with their husbands being the aggressor.

Fortunately, despite our worries about these differences, we were caught by surprise. The fact that we had a completely different path throughout our lives was not an obstacle in approaching these participants: even the ones who were victims of domestic violence were seeing the male researchers in a completely different way. These researchers were considered completely different people, in a positive way, in a manner that made them engage in the interaction and share any kind of thoughts. In different opportunities we got statements such as "my son was shot due to his involvement with drugs, with dealers… but you, you don't have this problem, you studied, you have a job, you should get married." The idea underneath these comments was that they disapprove of drunk and violent husbands, drug addicted sons and so on and they believed us to be 'decent' men, extremely different from

[6] For example, see Brewer (2000).

their closest male relatives – and this was perhaps what drove them to trust us even if they hardly ever trust other men in their daily lives.

Similarly the same happened with the female researchers and clients: while our participants were struggling to avoid the kind of men and sons we used as example above, they encouraged the girls from the project team to take different attitudes towards their own lives. They usually used statements such as: "you shouldn't be so attached to any boyfriend, you have a college degree, you have a good job, you're a an independent woman!" They pictured the female researchers as definitely independent from any man, while they (the participants) felt they could not get a divorce, could not live without depending on the money their husbands (or sons) bring home, etc. Hence, the differences inherent to the research teams also – and surprisingly – worked as positive aspect in terms of positionality and access our participants.

To have someone truly listening to you

Ganesh's research includes a passage representing a similar situation to what we felt in most of the interactions we had. As she narrates (1993:136), at a first glance the participants of her fieldwork would question what was her purpose in getting so deep into their lifestyle. However, after a while, reciprocity emerged from their relation and the interaction was empowered:

> The KP [Kottai Pillaimar] women also wondered what I was getting out of the whole exercise. 'Well, at least a Ph.D.,' I would joke, but they were not convinced. Why should anyone leave family and city comforts to spend weeks at a stretch wandering around the KP villages? Nonetheless, once they had got the drift of the questions I asked, their responses were quick. They felt that I was genuinely interested in what they had to say, I remembered the smallest things they told me and followed up next time. We were soon locked jointly in the enterprise of discovering their history. Reciprocity was not an issue any more.

We clearly felt that in the beginning of each interaction: participants were suspicious about what was going on. Some of the subjective looks and manners they used to welcome us were clear in demonstrating that they were not sure about whether to trust or not the new visitors. A short story from a woman from a very poor neighborhood of a 220,000 inhabitants in a city in the Northeast can summarize it. She ended up being one of our best informants, bringing interesting insights to understand how it is to be an independent seller in her context. But for a while we suspected that she would cancel the interview: she refused to meet us at her home and ask us to wait for her in a grocery store nearby. We could notice that she was a talkative person, but she was not comfortable, mostly producing short sentences as a response to whatever she was asked.

Once we got to talk with her, with almost no formality, just asking about her neighborhood, for how long she was living there, and paying attention to every detail, she started to realize that our group was really interested in her. We met her again during the second phase of the project when, whereas it is quite subjective, we could interpret her look

and the way she started to talk (not exactly what she was saying, but the tone, the subjective signs of what she was feeling from our conversation): we were someone who asked 'hey, how are you?' and who were really interested in the answer. We infer from her context – i.e. a poor neighborhood, a tough lifestyle with money issues, violent husband, depression background (including three suicide attempts), a son living 2000km away from her, taking the responsibility of looking after her niece, depending on a lot of social security policies and initiatives from the state and an endless list of difficulties she had to face – that this was a rare event in her life: she was not used to have anyone truly listening (and enjoying to listen) what she had to say. And she felt extremely valued when she realized that three complete strangers had taken a plane, flew across Brazil, knocked on her door just to listen to her.

It is similar to what we suggest in the *Awareness about client presence*, but it is deeper and perhaps more personal. It is not only that a certain company had never listened to her before; nobody had done in her life lately. That kind of reaction happened a lot in several other interviews with women from the lower socioeconomic levels. We can suggest that their life does not offer a meaningful opportunity for them to be listened. That woman is just a remarkable example, as she changed from a suspicious behavior towards us to a completely open and talkative profile, engaging herself in very intimate sessions, with crying taking place a lot during our interaction, with warm goodbye hugs and invitations to get back soon (she offered us a sightseeing tour of the wonderful nature Northeast Brazil offers – unfortunately, we did not have free time during our fieldwork). She shared her life experiences in a way that deeply touched us. And we understand that we just got that level of access to someone's life because visiting her was something unique for her, was something that had the potential to value her – and she felt that.

To complement this session, there is an important issue we must comment on. When we got back to certain women during the second phase of the project we noticed that our first meeting had touched our participants as well. The most meaningful example of change is about a woman, victim of domestic violence, who clearly stated during the interview when she was asked about divorce "that's not how it works here, if we broke up, he'll beat me, even threaten me with a machete or something". She said that in hopeless and voice. A couple of weeks later, when we met for the second phase interaction, we received some unexpected news surprised: she was divorced, her once sad eyes were now shining under a beautiful make-up, her face that was always looking down was marked by a contagious smile, she was well dressed and proud of our meeting. And she was also thankful; literally saying 'thank you' to us several times. Of course we were surprised and we also consider that to be good news: she took the risk to reaffirm herself and she successfully did it, with no violence, with no downside at all – just taking advantage of the confidence she got after being listened to by us, the stranger researchers who traveled across the country just to talk to her. The outcome of our ethnography, for her, was that she felt stimulated to deeply reflect about her own life, something that probably she would not do in her everyday life. We said nothing special to her and we never acted as a 'psychologists' but the very fact of being there listening to her was enough to change the way she perceives herself.

ETHNOGRAPHY AND SOCIAL POSITIONS

When thinking about the woman who get divorced between (and, at least partially, as a consequence of) the first and second phases of the project it seems that there are a lot to be considered. It is not only that we were surprised by her change but this incident was also a strong reminder about the responsibility we have in our everyday work. We were there to study her lifestyle. Since she opted to change drastically change parts of her life, to adopt a different point of view, she was not the woman we met in the first place. Only by doing our job, we had an influence over the people we were talking to; we actually changed our source. This leads us to reflect on the influence that our practice has on the research object and on the research results – and all the ethical issues involved in that.

Therefore, the debate suggested here considers three different spheres. The first one is to invite every ethnographer to rethink and reconsider every methodological issue we face: the peculiarities and contingencies of each fieldwork can challenge the rules, as well as, its effects. We are not saying that studying methodology is useless, but to walk the line and sometimes misstep can be fruitful if you can understand what is going on. As De Vaus suggests[7] (2002:7) methodological guidelines "are like signpost or a map to provide some direction and give us clues as to where to go when we get lost", and "you should not try to follow each step slavishly. Use the method: do not let it use you". The second sphere is to question to what extent it is possible to consider that we got to know the lifestyle of our participants, since now they could be different people from what they were before, and since the very fact of doing the research with them was the catalyst of that change. And finally, the third sphere is to ponder if we have the right to get into someone else's life and, without notice, drive them to make changes in their live as was the case in this project. All those are unavoidable consequences of the work we do – and we cannot afford to do it without reflecting on them.

REFERENCES CITED

Asad, T.
1994 "Ethnographic, Representation, Statistics, and Modern Power." *Social Research*61 (1).

Back, L.
1993 "Gendered Participation: Masculinity and Fieldwork in a South London Adolescent Community." In *Gendered Fields. Women, Men and Ethnography*. D. Bell, P Caplan, and W. Karim, eds. London: Routledge.

Bourdieu, P.
1979 *La distinction: Critique sociale du jugement*. Paris: Éditions de Minuit.

[7] Even if he is introducing a quantitative method book, the arguments still valid for our case.

Brewer, J. D.
2000 *Ethnography*. Buckingham: Open University Press.

Chiseri-Strater, E.
1996 "Turning in Upon Ourselves. Positinality, Subjectivity and Reflexivity." In *Ethics and Representation in Qualitative Studies*. P. Mortensen, and G. Kirsch, eds.Urbana: National Council of Teachers of English.

De Vaus, D.
2002 *Surveys in Social Research*. 5th edition. London: Routledge.

Ganesh, K.
1993 "Breaching the Wall of Difference: Fieldwork and a Personal Journey to Srivaikuntam, Tamilnadu." In *Gendered Fields: Women, Men and Ethnography*. D. Bell, P. Caplan, and W. Karim, eds. London: Routledge.

Harrington, B.
2002 "Obtrusiveness as Strategy in Ethnographic Research." *Qualitative Sociology*, 25 (1).

Kvale, S. and S. Brinkman
2009 *Interviews: Learning the Craft of Qualitative Research Interviewing*. London: Sage.

Ladner, S.
Forthcoming *Practical Ethnography: A Guide to Doing Ethnography in the Private Sector*. (Sample chapters shared by the author as a work-in-progress).

Malinowski, B.
1922 *Argonauts of the Western Pacific: An Account of Native Enterprise and Adventure in the Archipelagos of Melanesian New Guinea*. London: Routledge.

WEB RESOURCES

Schiffman, J. and D. Civelekoglu
2012 "The Refocus Group." Vimeo video, from the IDSA 2012 Midwest Design Dialogue Conference May 18, 2012. http://vimeo.com/42413053.

People and Energy: A design-led approach to understanding everyday energy use behaviour

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Reducing home energy use is a major societal challenge, involving behaviour change alongside infrastructure improvements. However, many approaches lump 'energy demand' together as something homogeneous, addressable primarily through quantitative feedback, rather than basing interventions on an understanding of why people use energy as they do. Our contention is that people don't set out to 'use energy': its use is a side effect of solving everyday problems, meeting needs for comfort, light, cooking, cleaning, entertainment, and so on.

Design researchers at the Royal College of Art have been carrying out ethnographic research with a diverse range of householders, investigating nuances of daily interactions with heating and lighting, meters and appliances—alongside people's understanding of energy and how their actions affect its use. Insights, integrated with household monitoring data, will inform the co-design of prototype products and services to help people reduce their energy use while meeting needs.

> "...those of us who call ourselves energy analysts have made a mistake... we have analysed energy. We should have analysed human behaviour."
> Lee Schipper, Precourt Energy Efficiency Center, Stanford, quoted in Cherfas (1991).

WHAT WE TALK ABOUT WHEN WE TALK ABOUT ENERGY USE

While Schipper's quote (frequently cited in work on reducing energy use) is refreshing in its call for analysis of human behaviour, there is a good argument that the concept of

'behaviour'—at least as commonly expressed in the current 'behaviour change' discourse—is itself still too far abstracted from *really* understanding energy use (Wilhite et al, 2003).

Programmes framed as being about behaviour change, such as the UK government's mandated smart meter rollout (Department of Energy & Climate Change, 2013) make many assumptions about the homogeneity of energy-related behaviour, particularly around householder responses to feedback on pricing changes for electricity and gas. Even the more psychologically informed approach of the Behavioural Insights Team's work on energy (Cabinet Office, 2011) nevertheless focuses mainly on applying behavioural economics effects to frame costs and social norms differently, rather than attempting to address the intricacies of energy-related decision-making in everyday life.

Contextual insights

This work has its place, but largely fails to benefit from the contextual insights that an ethnographic approach can bring. What are people *doing* when they are 'using energy'? They are rarely, if ever, setting out with that intent. 'Demand' is not 'people demanding energy': it is a side effect of people, in all their diversity, meeting family and household needs, solving everyday problems, and enacting social practices (Shove, 2003), often with emotional contexts attached. It is people trying to make their homes comfortable in different ways, having a cup of tea with a friend, cooking meals for their family, putting the light on to read a book, leaving the light on because the switch is difficult to reach, running a bath to relax after a difficult day, turning up grandma's heating because they worry about her, and even people putting the radio on to keep their pets company. Much of this is eminently discoverable through ethnography, and all of it has consequences for energy use.

People use energy differently—the UK's highest 10% of gas users use four times as much as the lowest 10%—yet purely quantitative modelling based on income and property characteristics explains less than 40% of the variation (Department of Energy & Climate Change, 2012). Understanding people's daily routines with energy-using products and services potentially offers answers to both understanding variation and helping to address it in ways which are appropriate to different needs (Fell & King, 2012).

Design details

Many approaches to this area also understate the importance of the *details* of the designed systems which people use in everyday life. For example, as Froehlich et al (2010) note in a review of research on 'eco-feedback' systems, even in environmental psychology research specifically focused on trialling energy feedback interfaces, few authors make any reference to research in interaction design. Only half of the psychology papers in their sample even included an image of the feedback device or interface, despite it being the primary way in which participants would be receiving the information on which the trials were predicated.

Figure 1 shows a common model of household electricity monitor real-time display in use in the UK, often provided by a householder's electricity supplier—a monochrome LCD showing numerical data about power, cumulative energy use, and other information.

FIGURE 1. ***An example of an OWL electricity real-time display in use by two of our participants, Jerry and Amy. The device shows real-time and cumulative electricity use (in kW and kWh), time, air temperature and can also show costs and carbon footprint in kg CO_2 equivalent.***

It is not simply visual or aesthetic design details that are important. The design of products and services influences how they are used. For example, with heating controls, Combe et al (2010) found that 66% of occupants of an award-winning 'low energy' housing development could not programme their heating controls due to interface complexities, including both physical and cognitive issues.

Aside from social and environmental benefits, there are commercial design opportunities arising from better understanding people's interactions with energy-using systems, and developing new products and services taking account of these insights. Some early market entrants (e.g. the Nest thermostat) are already focusing on a design- and user experience-led approach, and sound research can help define and grow the market. We believe that a design-led ethnographic investigation of everyday energy use, paying attention to details of interaction with systems such as heating and lighting, meters and household appliances, will provide insights which are of direct use in the design and development of new products and services to help people reduce their energy use while still meeting everyday needs.

Understanding understanding

Another significant area which ethnographic research (with an eye on design) can explore is people's *understanding* of the systems and concepts which they encounter and interact with in relation to energy—particularly where that understanding may relate to the actual ways in which systems are used. *Units* are a major area of potential confusion; according to a 2010 OnePoll survey of 2,000 people in the UK:

> "1 in 5 people don't know what kWh (kilowatt hour) stands for—some thought it was a make of Japanese car, a type of heavy goods vehicle or even a boy band." (E.ON, undated)

Van Dam et al (2010) also make similar observations about householders' understanding of the use of m^3 (cubic metres) for gas, while Kidd & Williams (2008) include a variety of quotes from participants in an energy display study about their understandings of units. While an understanding of units may not necessarily be vital for reducing one's energy use, design choices of how quantities are represented on interfaces and displays need to be made in a way that is informed by public understanding, particularly if the assumption is that people will behave differently as a result of such quantitative feedback.

Research on *mental models* of concepts such as electricity (Gentner & Gentner, 1983) and heating systems (Revell & Stanton, 2013) also reveals a rich seam of different kinds of understanding and interaction, at least some of which (e.g. Kempton, 1986) can be directly connected to household energy use. There is clearly an opportunity for energy-related interface design which seeks either to *match* existing mental models—designing systems that work like people *think* they work—or helping to *shift* them (Burns & Hajdukiewicz, 2004), for example via a series of analogies bridging two models (Clement, 1991), or by increasing the repertoire of different kinds of models people have available to them in other ways (Papert, 1980). Understanding of systems could be revealed more concretely through qualitative investigation of the self-imposed 'rules' or *heuristics* which people may use when interacting with systems (e.g. Lockton et al, 2013)—especially useful where there are obvious links to relevant design techniques.

More abstractly than mental models, there is an ethnographic opportunity to investigate aspects of mental imagery and conceptualisation of energy, including the use of metaphors (Lakoff & Johnson, 1980) and symbolism. Again, this is particularly relevant where it might link to design implications, e.g. making use of different kinds of (non-numerical) imagery to represent energy on a display.

THE PROJECT CONTEXT: SUSLABNWE

At the Royal College of Art, the Helen Hamlyn Centre for Design and SustainRCA are partners in SusLabNWE (2012-15), an INTERREG-funded European collaboration between research organisations in the Netherlands, Sweden, Germany and UK. The overall theme of the project is reducing domestic energy use through behaviour change, via developing and testing new products, services and interfaces — a theme which covers quite a broad scope of

work and expertise, including environmental scientists, civil engineers and architects alongside design researchers.

The project benefits from 'Living Lab' instrumented houses in each country, which will provide a platform (albeit artificial) for demonstrating and trialling the interventions developed, before they are deployed in people's homes across north-west Europe for larger field trials. In London, our Lab will be a modern three-storey townhouse being built by the Institute for Sustainability in the London Sustainable Industries Park, in Dagenham, Essex, with monitoring equipment installed by partners at Imperial College London.

Integrating qualitative and quantitative research

One goal of the project potentially of particular interest to the ethnographic community is an attempt to integrate qualitative and quantitative research usefully. Energy use is an area where there is a lot of 'Big Data' being collected around resource use, temperatures, household occupancy—even down to the level of sensors on windows and doors, potentially affording something like Anderson et al's (2009) *ethno-mining*—but much less which takes account of context and meaning, the 'Thick Data' called for by Wang (2013). We know *what* energy is being used, but we don't necessarily know *why,* on a human level.

Some qualitative ethnographic work has focused on particular aspects of energy use, e.g. battery charging practices (van Dijk, 2010), but ideally, qualitative and quantitative insights need to be integrated, exploiting opportunities afforded by energy monitoring and sensors to link the data with insights from ethnography. The final section of this paper returns to these questions.

A qualitative methods toolkit for energy use research

Central to the project is the development of people-centred research methods that can provide insights to other partners about the contexts of energy use, and be adapted and adopted in other sustainability-related research where qualitative methods have historically played less of a role. The RCA has led, with contributions from researchers in Sweden, the Netherlands and Germany, on the development of a common methods toolkit (Greene et al, 2013)—including observational and self-reporting techniques, and product and service prototyping. This has been disseminated to all project partners to inform their research, and a revised version will be published publicly later in the project.

ENERGY & EVERYDAY LIFE: INTERVIEWS

In the first phase of our research in London, we have been carrying out home visits and interviews with householders (Figure 2), followed by a probe/logbook study. Following established research methodologies, developed in the context of inclusive design (Helen Hamlyn Centre for Design, 2010), in this work we are focusing on lead users in one form or another—people who have particular needs around, or interest in, energy use at home, and who are indeed often self-described 'edge cases'.

In our initial group of nine participating households (Table 1), of a range of ages, backgrounds and family situations, we have: social housing tenants on limited incomes, some already part of existing programmes aimed at saving energy (via home energy displays and online monitoring), and some who have taken it upon themselves to cut their energy use without using any kind of display; people with medical needs which mean they use higher than average amounts of gas for heating; people with environmental motivations and people much more focused on cost; and people from the Internet of Things and Quantified Self communities, who have set up their own home energy monitoring systems for their own interest, and have incorporated using the systems into their everyday routines.The table below outlines some basic details of our nine participating households:

Name	Location	Housing type	Energy monitoring	'Lead user' notes
James	Poplar, East London	Social housing, housing assoc'n, urban	Participant in housing assoc'n monitoring scheme	Retired, married
Edith	Bethnal Green, East London	Social housing, housing assoc'n, urban	Uses electricity monitor provided in council scheme	Retired, lives alone
Fiona	Bow, East London	Social housing, housing assoc'n, urban	Participant in housing assoc'n monitoring scheme	Member of local community ecology groups
Debbie	King's Cross, North London	Social housing, council-owned, urban	Not monitored	Uses wheelchair; uses heating to alleviate pain from medical condition
Ron	King's Cross, North London	Social housing, council-owned, urban	Not monitored	On very low income; aiming for self-sufficiency
Alice	Cambridgeshire, eastern England	Owner-occupied, rural	Uses own energy monitors	Interested in technical challenges of monitoring
Jerry & Amy	Brixton, South London	Privately rented, urban	Uses own energy monitors	Interested in reducing their energy use for financial reasons
Jonathan	Peckham, South London	Owner-occupied, urban	Uses own energy monitors	Monitors appliance use as part of own research project
Tamanna	Poplar, East London	Social housing, housing assoc'n, urban	Participant in housing assoc'n smart home scheme	Interested in reducing family energy use for religious reasons

FIGURE 2. ***Dan and Flora interview Debbie, who uses heating all year round to alleviate her pain from a medical condition. Photo: Karolina Raczynska.***

Some of our 'early adopter' lead users could be in the vanguard of coming trends around technology use at home, but equally, trends also represented in the group—such as ageing populations and more people living alone—will have other effects on energy use.

The idea is that through learning from these interested users—understanding their routines, their motivations, their interactions with technology (and in most cases having quantitative data about their actual energy use to integrate with the qualitative insights) we can identify design opportunities for interventions that take account of the real contexts of everyday energy use.

The interviews

In initial interviews lasting around 90 minutes each, we visited participants at home and asked them a range of questions about everyday routines, use of appliances, the strategies used for managing and paying for energy (electricity and gas for all participants), and how people understand energy. The home environment enabled participants to show us things—appliances, routines—*in situ*.

To understand everyday routines better, we asked participants to take us through a 'typical' day—or to talk about the differences between days—via filling in a timeline (Figure 3) which afforded us the opportunity to ask in more detail about particular aspects or details.

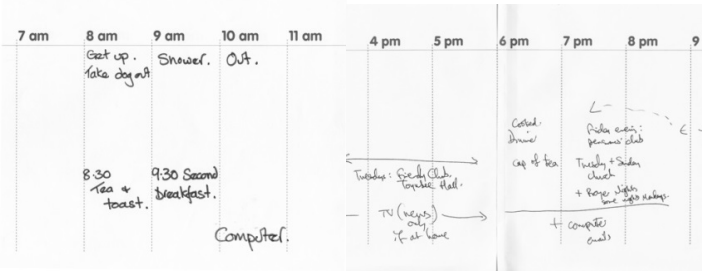

FIGURE 3. ***Details from Fiona and Edith's timelines reveal the contexts of energy use, e.g. Edith leaves her TV on, on a news channel, almost all the time when she is at home on her own, "to feel connected to the world".***

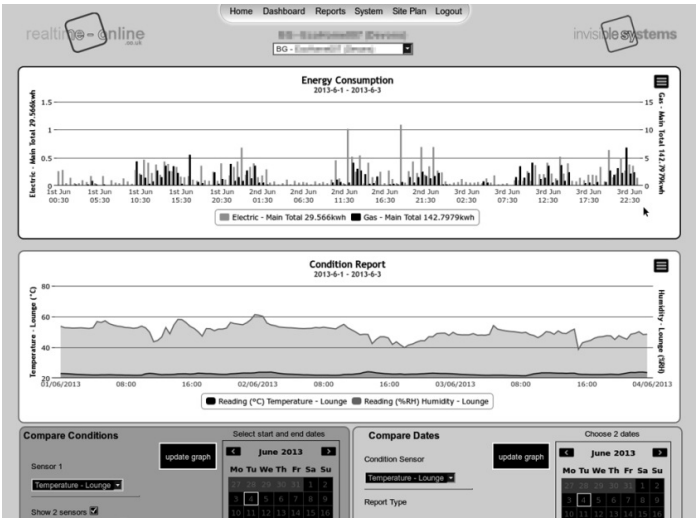

FIGURE 4. ***The kind of energy and temperature timeline data available for some of our participants who are part of existing monitoring schemes, via a tablet or online interface.***

Where participants are already using some form of energy monitor, or are part of monitoring schemes (e.g. Figure 4) we asked more about this—in particular asking them to show us how they use it, where it fits into their lives, whether they believe it has made a difference to their behaviour, why they got it in the first place, and what they would change about it. We also introduced a series of 'provocations'—flashcards with possible new

products or interfaces for visualising energy use in different ways, or for enabling householders to access energy, or exert more control over their energy use (Figure 5).

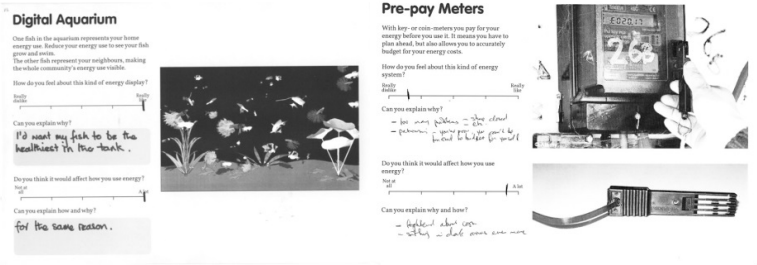

FIGURE 5. ***Examples of provocation flashcards. Fiona likes the social 'digital aquarium' energy display (inspired by a prototype by our project partners at TU Delft). Ron dislikes pre-pay meters because they are inconvenient and "patronising", but nevertheless believes they would affect his energy use by making him "frightened about the cost".***

The idea was to get participants' reactions as to both whether they 'liked' the products (and why), and whether they believed that they would change the way they used energy if they were introduced (and why). These also served as a starting point for discussions around behaviour change, and what participants believed would 'work' for them, and for other people.

Next stages: probes and co-creation

Each householder was subsequently given and introduced to a 'logbook', together with a disposable camera, as part of probe studies (Gaver et al 1999), which are ongoing at the time of writing. The logbook activities build on the interviews, exploring aspects of everyday routines, social influence on energy use and householders' understanding and mental imagery around energy in more depth. The probe studies are being followed up with second, 'debrief' home visits and interviews, enabling further exploration and elaboration.

Participants will then be invited to take part in a co-creation 'hackday' this autumn, bringing them together with the energy monitoring and 'maker' community of designers, developers and researchers. The hackday, and follow-up development, will translate insights from our ethnographic work into co-created prototype interventions (which could be new products, services or interfaces, designed to help people reduce their energy use), which will be trialled in the Living Lab house in Dagenham, as well as in participants' homes themselves during 2014.

Selected insights so far

What we've learned so far has already given us much deeper insights into phenomena such as the everyday strategies people have around energy use, how they categorise and separate activities, self-imposed rules, payment schedules, household 'policies', unexpected use-cases for energy displays, and some intriguing conceptions of 'what energy looks like', which are being followed up via the logbooks.

In particular, insights have emerged in the following areas, some of which start to suggest a range of ways of framing 'energy use' problems from a design perspective:

Payment strategies – In Great Britain[1] prepayment key and card meters for electricity and gas are often associated with customers who have run up large debts in paying for their energy use, forced into having one by their supplier (Lunn, 2013). The majority require 'topping up' at a participating shop, which reduce their convenience. Given the estimated 3-4 million UK households in fuel poverty (Hills, 2012), the issue is politically sensitive.

However, both Fiona and Edith had *voluntarily* chosen to have prepay gas meters installed, to manage their payments according to their own strategies. In Edith's case, a dispute with her previous gas supplier led her to switch to a system over which she had full control: paying, in advance, to put money on her gas card, and then only being able to spend that. Fiona told us that she in fact usually overpays, paying an *equal amount* each month to top up her gas key, 'storing up' credit to ensure that even in the coldest winter her gas never runs out. If the winter is less severe, then she might have a 'bonus' month where she doesn't need to pay. It's worth noting that Fiona has an Android tablet with a near-real-time display for gas and electricity use, but this does not enter into her gas management strategy at all.

These insights call into question the presumptions that *all* householders will pay attention to pricing information on real-time displays and 'adjust their demand' in response to feedback: there is possibly even potential for a service based around a fixed fee for energy.

Different use-cases for displays – Where participants had energy displays, they were making use of them in quite different ways. Jerry and Amy described using theirs as part of a kind of 'detective' process of going round the house, trying to achieve as low an electricity use as possible. It sat in a prominent shelf in their kitchen. Alice has hers sitting on the arm of her living-room sofa. Debbie, who had an electricity display which had been disconnected by workmen, had previously used it primarily to "tell off" carers and neighbourhood children who visited and left the lights on—not for monitoring *her own* electricity use, but other people's. Fiona admitted to using the tablet provided for her energy display mainly to play 'Angry Birds', and could not actually show us the energy graphs.

Edith's display (Figure 6) was set to the 'kg CO_2 equivalent' mode, showing her estimated daily carbon footprint from electricity use. She explained that she did not know what the numbers meant (and rejected our offer to show her other modes such as cost or power), but that she was happy with this mode since she could see the numbers going up

[1] The situation in Northern Ireland is different, with some energy companies offering customers a discount for using a prepayment meter.

when electrical devices were switched on, and knew that a higher number meant she had used more electricity that day. She used it together with a 'Watts Clever' remote control enabling her to switch off multiple devices at once. For Edith, the carbon footprint display had no particular environmental connotations, but was simply a number she found useful.

The different use cases concur with van Dam et al's (2010) observations about householders' different uses of home energy management systems, including the example of consulting the display last thing at night to check that (most) appliances are switched off before going to bed. They suggest that a 'one size fits all' design of display is not necessarily suitable. Interfaces need to reflect and accommodate the range of ways in which people appropriate them and fit them into their lives.

Disconnecting things – Both James and Jerry and Amy described having disconnected devices permanently or semi-permanently as a result of realising how much energy they used or would use. In Jerry and Amy's case, they disconnected half of the halogen spotlights in the kitchen of their (rented) flat, to reduce electricity use. James removed a number of radiators from a workshop unit he rents, upon taking over the unit, since he felt they were wasteful and provided more heat than he needed.

FIGURE 6. ***Edith uses her OWL electricity display in the 'kg CO_2 equivalent' mode, showing her estimated daily carbon footprint from electricity use.***

Heating interaction – Fiona described her self-imposed rules around using her heating—switching it ON in October and OFF in April, unless it is particularly warm or cold. She does not interact with the radiator valves or thermostat themselves, preferring to use a single switch on the boiler itself to control everything in one go. Other householders described

'zoning' their houses, controlling individual radiators separately. Jonathan and his wife use a portable wireless thermostat, taken into whatever room their 2-year old daughter is in, to make sure that the house is adequately heated for her. Tamanna and her family use their PassivLiving Smart Switch both via the interface and through a mobile app, telling it that they're IN or (going) OUT, so that the system switches the heating or hot water on or off.

Debbie uses heat to reduce pain from a medical condition. She has all radiators in her house switched on all year round; her gas use is included in her rent for a fixed fee regardless of usage. If it is very cold in winter, she turns on her gas oven and opens the door to warm her open-plan living area, using a deflector she has made to prevent her cats climbing into the oven.

These differing forms of interaction reflect the 'typology of home heating behaviours' suggested as worth exploring by Fell & King (2012). Each has particular design implications.

REFLECTIONS FOR ETHNOGRAPHY

This paper has discussed work in progress—the early stages of a larger project, in which a number of disciplines are participating, across countries and organisations. Ethnographic insights are here part of a process involving designers, technologists and environmental scientists among others, rather than the main focus, but crucially, the insights will, as far as possible, be woven throughout. Even at later stages when new products and services have been developed, the aim is to repeat the research with householders using the new systems, to ensure that the quantitative energy data collected are usefully integrated with qualitative insights—Wang's (2013) Thick Data, as well as Big Data (Slobin and Cherkasky, 2010). There could be obvious synergy in the use of a form of *timescape* (Ladner, 2012)—combining a household's daily electricity and gas use and temperature graphs (often automatically generated by monitoring equipment) with householders' own take on the day, explanations of routines, emotional values attached to particular activities, and the effects of other members of the household or visitors on the actions taken. This form of timescape—explanatory but also potentially predictive—is something we aim to develop. As Ladner puts it (emphases added), we can:

> "[a]llow Big Data to collect information on the **whens** and **how longs** of time, timing and tempo, while ethnographers collect data on the **hows** and **whys** of time, timing and tempo." (Ladner, 2012)

Expanding collaborative boundaries: understanding each other

More generally—and this is not uncommon among qualitative researchers—we also sense the need to demonstrate the value of ethnographic research to project partners focused on quantitative approaches. This challenge means that *internal*, as well as external, presentation becomes increasingly important—ensuring that we present our data in a way which enables other project partners to see how the insights fit into their own parallel streams of work. For example, in a recent international partner meeting we attempted to 'bring some of our householders to life' by using edited video of interviews to introduce

specific insights (around thermal comfort) to the full group of technologists and environmental scientists, then setting a quick exercise to devise possible interventions to test *with those particular people*. The aim was partly to engender empathy, but also to demonstrate practically the ways in which qualitative insights could usefully inform quantitative studies.

Expanding collaborative boundaries means making the worth of ongoing people-centred research clear when working *in conjunction* with practitioners with other priorities, rather than being seen as a stand-alone piece. Collaboration means understanding other: indeed, we perhaps need an ethnographic approach to understanding our project partners' priorities, and how we can best work together. We should, at least, be well placed to do that.

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REFERENCES CITED

Anderson, K., D. Nafus, T. Rattenbury, and R. Aipperspach
2009 "Numbers Have Qualities Too: Experiences with Ethno-Mining." In *Proceedings of EPIC 2009*. Washington, DC: American Anthropological Association.

Burns, C.M., and J. Hajdukiewicz
2004 *Ecological Interface Design*. Boca Raton, FL: CRC Press.

Cabinet Office
2011 *Behaviour Change and Energy Use*. London: Cabinet Office.

Cherfas, J.
1991 "Skeptics and Visionaries Examine Energy Saving." *Science* 251 (4990): 154-156.

Clement, J.
1991 "Non-formal reasoning in experts and in science students: The use of analogies, extreme cases, and physical intuition." In *Informal reasoning and education*. J. F. Voss, D. N. Perkins and J. W. Segal, eds. Pp 345-362. London: Routledge.

Combe, N., D. Harrison, H. Dong, S. Craig, and Z. Gill
2010 "Assessing the number of users who are excluded by domestic heating controls." *International Journal of Sustainable Engineering* 4 (1): 84–92.

van Dam, S.S., C. A. Bakker, and J. D. M. van Hal
2010 "Home energy monitors: impact over the medium-term." *Building Research & Information* 38 (5): 458-469.

Department of Energy & Climate Change
2012 *National Energy Efficiency Data Framework*: Annex E, Table A 3.1. London: Department of Energy & Climate Change.

Department of Energy & Climate Change
2013 *Smart Meters: A Guide*. 22 January 2013. https://www.gov.uk/smart-meters-how-they-work.

van Dijk, G.
2010 "Charging Up: Energy usage in households around the world." *Touchpoint: The Journal of the Service Design Network* 2 (1).

E.ON
n.d. *What's a (kilo) Watt?* Coventry: E.ON UK.

Fell, D., and G. King
2012 *Domestic energy use study: to understand why comparable households use different amounts of energy*. London: Brook Lyndhurst for the Department of Energy & Climate Change.

Froehlich, J. E., L. Findlater, and J. A. Landay
2010 The design of eco-feedback technology. *Proceedings of CHI 2010*. New York, New York: ACM.

Gaver, W., A. Dunne,E. Pacenti
1999 Cultural probes. *Interactions* 6(1): 21-29.

Gentner, D.
1983 "Flowing Waters or Teeming Crowds: Mental Models of Electricity." In *Mental Models*. D. Genter and A. L. Stevens, eds. New York: Psychology Press.

Greene, C., F. Bowden, and R. Gheerawo, eds.
2013 *The SusLabNWE Methods Toolkit*. London: Royal College of Art.

Helen Hamlyn Centre for Design
2010 "Designing with People." http://designingwithpeople.rca.ac.uk.

Hills, J.
2012 *Getting the measure of fuel poverty: Final Report of the Fuel Poverty Review*. London: Centre for Analysis of Social Exclusion, Department of Energy & Climate Change.

Kempton, W.
1986 "Two theories of home heat control." *Cognitive Science* 10 (1): 75-90.

Kidd, A., and P. Williams
2008 *The Talybont Trial: Exploring the Psychology of Smart Meters.* Brecon: The Prospectory.

Ladner, S.
2012 "Ethnographic Temporality: Using Time-Based Data in Product Renewal." In *Proceedings of EPIC 2012*. Washington, DC: American Anthropological Association.

Lakoff, G., and M. Johnson
1980 *Metaphors We Live By.* Chicago: University of Chicago Press.

Lockton, D., D. J. Harrison, R. Cain, N. A.Stanton, and P. Jennings
2013 "Exploring problem-framing through behavioural heuristics." *International Journal of Design* 7 (1): 37-53.

Lunn, E.
2013 "Energy bills: prepay meters can cost poorer households hundreds." *The Guardian*, 20 April 2013.

Papert, S.
1980 *Mindstorms: Children, computers, and powerful ideas.* New York, NY: Basic Books.

Revell, K. M. A., and N. A. Stanton
2013 "Case studies of mental models in home heat control: Searching for feedback, valve, timer and switch theories." *Applied Ergonomics* (ePub). doi: 10.1016/j.apergo.2013.05.001

Shove, E.
2003 *Comfort, Cleanliness and Convenience.* Oxford: Berg.

Slobin, A., and T. Cherkasky
2010 "Ethnography in the Age of Analytics." In *Proceedings of EPIC 2010*. Washington, DC: American Anthropological Association.

Wang, T.
2013 "Big Data Needs Thick Data." *Ethnography Matters*, 13 May 2013. http://ethnographymatters.net/2013/05/13/big-data-needs-thick-data/.

Wilhite, H., E. Shove, L. Lutzenhiser, and W. Kempton
2003 "The Legacy of Twenty Years of Energy Demand Management: We Know More About Individual Behaviour but Next to Nothing about Demand." In *Society, Behaviour, and Climate Change Mitigation.* E. Jochem, J. Sathaye, D. Bouille, eds. Pp 109-126. Berlin: Springer.

Serendipity and business development – Design anthropological investigations at The Post

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This paper describes how 'The Post' (a postal service company in the northern part of Europe) sets out to design an online digital platform for involving their employees in developing new services for the company. It is a story of a design project that failed to accomplish this task, but through sensitivity to serendipity disclosed other and potentially more valuable business opportunities in the process. It is also a story about design anthropology as a particular way of engaging with 'the field'; challenging assumptions and eliciting insight through design orientated investigations of actual and potential relations between people, things, practices and contexts.

INTRODUCTION

This paper is based on material from an interdisciplinary design and research project focused on designing technologies for involving 'communities' in innovative collaborations with companies through the use of social media. The case presented here derives from collaborations with The Post (a postal service company in the northern part of Europe) on designing a social media platform for involving their employees in business development. Though the project never managed to fulfil the initial dream of an online platform, our various attempts to make it (or at least parts of it) come true elicited unanticipated and serendipitous insights, potentials and results we could not have envisioned in advance. In fact what initially seemed to be serendipitous discoveries and byproduct of the design process, turned out to hold potentials of greater value to business development at The Post, than a potential realization of the initial dream of an online platform.

In this paper I will show how these serendipitous discoveries were not simply the effect of good fortune, but also the result of a particular design anthropological approach. Here the initial dream was treated not as a predefined destination to be reached in the future, but rather as a hypothesis about the potential with embedded assumptions about the actual, which needed to be challenged and developed in dialogue with the social, political and material circumstances at hand. In this approach an understanding of the field and its design potentials evolved through a continuous engagement with the dream, not detached from it. Our seemingly serendipitous discoveries thus grew from a critical engagement *with* the dream not *in spite of* it. I would argue that the dream – which we might also call the design intention - thus served as a constructive agent or catalyst in this process even if it was never realized and was perhaps not even a very good idea to begin with. Based on the case presented in this paper, I will argue that:

1. Entering the field with a particular design intention in mind can be a fruitful way of engaging business developers, employees and researchers in an enquiry into what is and what might be, providing valuable insight and disclosing interesting potentials regardless of whether it leads to the fulfilment of the original design agenda or not.
2. The value of (design) anthropology is not in its ability to provide data and clear-cut solutions to a given design problem, but rather in its sensitivity to serendipity and its ability to re-frame design problems and change conversations through design oriented engagements in the field, as well as in the design studio.

I shall elaborate on this towards the end of this paper, for now lets return to our story about The Post and their dream.

THE DREAM

A Dream of an online platform and a linear design process

When our story begins The Post is under pressure to develop new services as the mail delivery business is becoming increasingly less profitable. The innovation department therefore has a dream of developing an online digital platform, where employees (and eventually also end-users) can *feed in* their observations, knowledge and ideas in order to help the company identify and develop potential services and business opportunities.

The drawing below illustrates the dream as it was presented to us (designers and researchers) during one of our initial meetings with The Post:

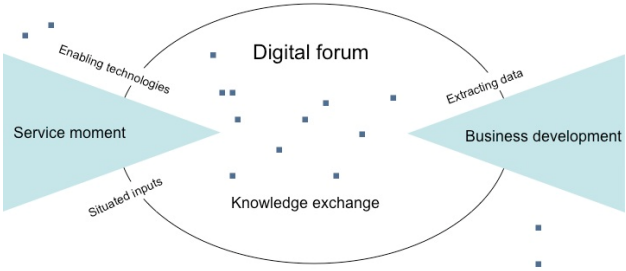

FIGURE 1. ***The innovation team's dream of an online platform – A reconstruction of their original sketch***

As we will see in the following this was a dream with embedded assumptions about work, community, collaboration, knowledge, innovation, technology and value.

As the illustration shows it was a rather concrete and specific dream, of not only finding a solution to a particular problem (the need for the development of new innovative services within The Post), but also of doing so through the development of particular technologies; i.e. an online digital forum and various 'enabling technologies'.

The assumption at the time was that knowledge and ideas were simply lying about 'out there' (with the postal workers and the users) and that with the right kind of technology The Post would be able to collect and render it accessible for business development.

But this was not only a dream of particular outcome, it was also a dream of design as a rational and linear process, through which preconceived ideas where compliantly turned into material objects and predetermined plans straightforwardly implemented (for descriptions and critiques of rational and linear approaches to design see Halse 2008, Ingold 2012, Suchman 2007, Kjærsgaard 2013). Here the move from the initial idea to the final product seemed to be simply a matter of gathering the right material, finding the right form and then building the thing. So that is what we initially set out to do; gather the material (data, drawings and technology) needed in order to build this platform. However, the material was not as compliant as expected and was not easily moulded to fit the initial dream.

DESIGN ANTHROPOLOGICAL INVESTIGATIONS AT THE POST

In search of communities and their innovative potentials

The design team set out to gather the various materials needed in order to start 'building' the dream. We wanted to uncover the kinds of ideas and knowledge that were supposedly 'out there' among the employees in order to figure out how it might be captured and shared online. The company had recently taken up a new service delivering meals to elderly and disabled people. As the meal deliverers and their experiences of entering a new service territory were of particular interest to business development at The Post, it was decided that they would be our first 'users' of the platform. Later communities for other groups of employees and eventually end-users would allegedly follow.

A team of university based researchers – consisting of a computer scientist, two interaction designers, an anthropology student and myself (an anthropologist) - set out to investigate the daily lives of the meal deliverers, hoping to identify the kind of knowledge, experiences and ideas these people might possess, and how that might be rendered sharable and useful through an online platform and various 'enabling' devices. At first we had a hard time getting access to the field partly because of internal procedures and politics at The Post, but also due to the fact that the meal deliverers and their managers were not particularly keen on having us there. On a practical level they feared that we would disturb the work and slow them down when out on the routes (which we did considerably). Moreover they did not see much value for them in this project and were worried (for good reasons) that it might simply create more work. Even so they eventually agreed to us following four meal deliverers for a couple of days on their job. Their hope, I guess, was that our presence might create awareness and recognition of their experiences and skills at the level of management.

We initially met the meal deliverers at the car park, where they were getting their cars ready for the routes. One researcher in each car, we tagged along to the office where they received their plans and routes for the day, then off to the kitchen to collect the meals and pack them in the cars, and finally out on the routes. In and out of houses, up and down stairs, with about 50 people to reach in different parts of the city within roughly 3 hours they had to move fast. But in their cars while driving from place to place, they could catch their

breath and chat about themselves, the citizens (as they called the people to whom they delivered the meals) that they had come to know, and the kind of insights and skills their job required. Even if our field studies were brief (compared to the classical Malinowskian ideal) we learned a lot from being there, and from engaging with this field and its design potentials in what I would call a particularly design anthropological way.

Invisible services and dilemmas

It turned out that the food deliverers knew a lot about how to make plans based on rigid logistics work in practice. Through their work they had developed skills, procedures and tools to help them bridge what they experienced as a gap between, on the one hand the rigid plans of their management - where everything seemed predictable, measurable and fitted neatly into spread sheets - and on the other the physical and fickle reality of their daily routes full of unexpected incidences, and citizens with different personalities and needs. On their daily routes the food deliverers did not simply move food from A to B (as the spread sheet plans seemed to suggest), but also provided care and a sense of security for the citizens. They engaged in conversations, checked that everything was ok, called for assistance if a door was not answered or if yesterday's food had not been touched, and even helped out with small practical problems to the extent (and beyond) which their tight schedule allowed it. On several occasions I saw one of my informants Susan comforting an elderly citizens who had been bruised from a fall, and had no one else to turn to. And Tom, another informant, told me how his colleague Hussein had possibly saved the life of a citizen on one occasion. Hussein had been delivering Mr T's daily meal as usual, when he noticed that Mr T was not his usual self. Normally he was happy, talkative and sharp, but that day he seemed a little out of it and not really present. Hussein therefore called home care to let them know what he had observed, and Mr T was immediate taken to hospital, where it turned out that Hussein's knowledge of Mr T and his attention to Mr T's behaviour had saved him from suffering the consequences of an untreated stroke.

For these meal deliverers caring for their citizens was thus an essential if invisible and un-recognized part of their job. It was a kind of invisible work, which did not appear in any reports, logs or spread sheets, but which nevertheless was an essential part of their service. Caring for the citizens was not only necessary for delivering a decent service, but paradoxically also for making the rigid plans work in practice. In fact it was only through developing some degree of knowledge of and relationship to the citizens that the meal deliverers were able to meet their targets and make things flow by cutting corners, making individual arrangements and improvising in unforeseen situations. Even though every move of these employees seemed choreographed, controlled and planned down to seconds, the meal deliverers still found room to do things their own way. Based on their knowledge of the routes and the practices and personalities of each citizen they were able to tweak, 're-design' and fine-tune their procedures to make the rigid plans work in practice.

Embodied skills and situated innovation

Various routines had been developed and arrangements made with citizens to make things flow a little easier. John for instance, knew that when delivering the meal to Mrs D. she would normally be asleep in front of the TV in her living room not able to hear the doorbell. To save time and wake her up John would go straight to her living room and tap the window. Susan had made agreements with some of her citizens in the apartment blocks that she would ring the front door bell in a particular way (3 short rings for instance) before ascending the staircase to let them know that she was on the way, so that they could then be ready at their door upon her arrival at their flat. Not having to wait for them to answer the door (being elderly or disabled this could take some time) might save Susan the seconds needed for a brief chat about the weather or a quick look at a blooming cactus. Some of these arrangements and routines were written down and shared among the deliverers. Other procedures were less formalized, more tacit and developed through experience, such as the way Susan knew exactly how to manoeuvre in a blind citizen's apartment without moving any of the objects the inhabitant might use as clues to navigate the apartment. Or the way she knew which elevators to take and which to avoid because they were too slow, as well as how to discretely press the button for the elevator while having a conversation with a citizen to make sure the elevator was ready for her exactly at the point where she was ready to leave with a "Goodbye and bon appetite".

Susan's creativity and ability to make things flow had lead her to develop various innovative solutions to problems she encountered on the route. She had designed her own 'key-management system' to keep track of and be able to quickly find the right entrance keys to the various staircases and apartments on her route. And she had develop her own ways of dealing with the various sheets and lists (with essential information about each citizen) that the deliverers had to carry with them while out on their route. She simply had them neatly arranged in a binder that doubled as a tray for carrying and serving the meals. This, she found, was both practical for her (she could easily carry the papers with her at all times, and she did not burn her fingers on the often very hot meals) and a more hygienic and presentable way of serving the meals to the citizens.

Through our engagements in the field we had gotten a glimpse of the daily lives of these meal deliverers, and we had come to appreciate their knowledge and innovative skills. Based on our studies we felt that they definitely had something to offer in terms of contributing towards business development at The Post, but we were still unsure how our material and insights might help us build the envisioned digital platform, if at all.

THE DREAM REVISITED – RE-FRAMED POTENTIALS AND CHANGED DISCOURSES

From the field studies we had learned that these meal deliverers did indeed hold knowledge and skills that might be interesting and even crucial for business developers at The Post. Not only did they know the characteristics, preferences and routines of each citizen on the route, they also knew how to provide some degree of care for these people within the limited time that they had. Moreover they had become experts in the art of

making rigid plans and logistics work in practice (rather than simply on paper). As part of that they had learned how to adjust and tweak systems and procedures to make things flow a little easier. As such they had become a kind of innovator solving everyday problems through situated innovations. Taking the food deliverers knowledge, skills and ideas into account when trying to develop new and innovative services for The Post therefore seemed like the right thing to do. The question was how to do it, and if the dream of an online platform in combination with 'enabling technologies' was the way to go about it.

Though we saw lots of potential, there were equally many challenges. Even though the food deliverers wanted to be involved in business development (at least to the extent that it might influence their work), and felt they had something to offer, they were generally not particularly fond of the idea of a digital platform on which they could upload and share observations and ideas. On a practical level they did not have access to computers on the job, and did not see how they could find the time within their busy schedules to contribute to on an online forum and much less how they could benefit from that. Moreover they were generally not that into online forums, and were not even sure how and what to contribute with. It was unclear to them what might be of relevance and interest to their colleagues, managers and to the business developers, as they were not particularly aware of their expertises and did not necessarily realize when they were being innovative. So even if many liked the idea of being involved, they much preferred a face-to-face dialogue to an online forum. It mattered to them that they could meet and talk to managers or developers themselves, being able to explain and being recognized for their contributions. Still, as Susan pointed out, "nothing can replace that they [managers and business developers] actually get out here and see what we do." This was a very valid point indeed, as the meal deliverer's particular knowledge, skills and innovations were very much embedded in the context of their work and not easily extracted from it.

From collecting ideas to facilitating reflection and dialogue

Through our engagements within the field we had learned that these food deliverers did indeed hold knowledge and innovative skills of interest for the company, but we also realized - through our subsequent design oriented analyses - that their knowledge and skills were of a situated, embodied and tacit nature that was not easily communicated in words (or pictures) on a digital platform, or transferred from one context to another. This challenged not only the company's dream of a digital platform, but also assumptions about knowledge and innovation on which it was formed. Our investigations suggested that knowledge and innovative potentials were not simply 'out there' in plain view for everyone to see, ready to be collected and shared digitally across practices and contexts. Which seemed to indicate that we could not leave it to the food deliverers to provide interesting observations and ideas via an online forum, and that The Post as an organization could not simply take on a passive role here as collector of information and ideas. Sharing knowledge and locating innovative potentials required so much more than that. At this point we were starting to realize that the dream of an online platform with its embedded assumptions (or hypothesis) about the world and its future potentials, when confronted with our observations and design oriented analysis no longer seemed very realistic or convincing. We started experimenting with other

design concepts with another embedded hypothesis of how the knowledge and innovative skills of these food deliverers could benefit business development at The Post.

Our new hypothesis was that knowledge and innovative potentials were not something to be collected and shared out of context, but rather something to be constructed at the intersection between the situated knowledge and creativity of the employees and the strategies and agendas of managers and business developers within the organization. Hence our role as the design team might not be to construct a digital platform where information and ideas could be uploaded and shared, but rather to explore how we might engage workers, management and business developers (and eventually even end-users) in a constructive dialogue about innovative potentials. Our challenge was therefore less about figuring out which technologies might help employees to contribute with ideas and observation to an online platform, and more about figuring out how to get from tacit knowledge and situated creativity to innovative ideas.

The design activities that followed struggled to solve these challenges. Technological fixes were still high on the company as well as the research project agenda, and attempts were made to develop various technological devices that could help provoke reflections and dialogues in different ways. A first step was to experiment with ways in which to 'capture' and share experiences and tacit knowledge, and thereby make the 'invisible' resources and potentials we had identified through fieldwork visible and shareable51. A new dream was born, which seemed more relevant and interesting from a research perspective, but which was not the company's dream, as it was still too abstract and in need of too much work to be attractive from a business perspective. Thus by the end of our six months on the case neither of our dreams had materialized[52], still I would claim that it was not an unsuccessful project.

From 'lean' to 'care'

Design solutions were not the only measure of success in this project. As a direct, if somewhat serendipitous, result of our work managers and business developers at The Post became aware of the invisible work (invisible from the perspective of management, lean thinking and spreadsheets that is) of their employees and its unrecognized potentials for business development. Through people within the company who participated in the project an internal magazine for managers picked up on our story of the food deliverers who did not only deliver food, but also care. This way of thinking about food delivery latched on to discussion within the company on what their business was really about and what it might be in the future. Here care was increasingly talked about as a new and important market and insight from the design process used to support this new dream of a different and lucrative business for The Post. Our design investigations thus resulted in a re-framing of earlier

[51] Unfortunately this is not the time and the place to elaborate on these experiments which though interesting and promising were also far too experimental and abstract to result in any concrete and immediately applicable solutions

[52] It does not mean that these dreams were abandoned altogether, parts of them still live on in different forms within new projects

assumptions within The Post - at least at the level of management - about the work, knowledge and (innovative) skills of their employees, as well as about the value and business potentials of their service. The project thus contributed towards a *change of discourses* within the company, where *lean* was no longer the only word in the vocabulary of managers and business developers, and the word *care* was increasingly also used when talking about future services and business potentials.

From building to growing

Within the company our findings, stories and design ideas gradually took on a life of their own, as they were twisted and moulded in various ways to fit the practices and agendas of differently positioned actors at The Post, making it hard to pin-point the outcome of the project to a particular product, service or strategy. The design process was not as envisioned at the beginning of the project a linear process where the outcome was simply the materialization or the logical consequence of preconceived visions and plans. Following Ingold, we might understand our design process not as a projection of ideas onto the materiality of the world, but as a process of continuous transformation of ideas and material within it (Ingold 2007, Ingold 2012), where ideas, strategies and design objects were not built according to preconceived ideas and plans, but grew out of the socio-material circumstances at hand as kind of by-products of various people's movements through the world (Ingold & Hallam 2007; Ingold 2012). It was therefore not simply The Post's dream of an online platform that was challenged in this project, but also their dream of a straightforward linear process where ideas are simply turned into physical forms. In this project the outcome was more ambiguous and less tangible. Here serendipitous insights which at first appeared to be nothing but by-products of the design process, turned out to be the most valuable and promising results of the project.

ANTHROPOLOGY, SERENDIPITY AND BUSINESS DEVELOPMENT

The question is what can we learn from this case? What does it teach us about design processes, business development and the potential roles of fieldwork, ethnography and anthropology within such processes? And how is that related to serendipity? Was our serendipitous discovery of the importance of care in delivery services and its business potentials simply a matter of chance discovery, or was there more to it than that?

Pieke describes serendipity as:

> …Less random and more proactive than suggested by the gloss of the term…[as it] describes the creative tension between structuration and event, and that balance between control and creativity which defines science as a vocation within a discursive community (Pieke 2000:129-130)

According to Pieke serendipity may thus be understood not as incidental findings, but as the potential result of a particular way of engaging with the field from a certain vocational vantage point. In that respect, serendipity has always played an important role in the generation of anthropological insights through fieldwork, whether in a design context or not.

Though serendipity cannot be forced, certain research strategies may be able to offer it a helping hand. My argument here is that within a design and business development context certain ways of approaching design, ethnography and the relations between them are more like to generate and make use of serendipitous insights than others. In our case with The Post serendipity was the unpredictable - but not accidental - outcome of a particular design anthropological approach, attempting to bring design agendas, field practices and academic perspectives into a dialogue throughout the design process, while making constructive use of tensions between them. Unlike in traditional anthropological fieldwork we approached the field with particular agendas and goals in mind, but as opposed to more traditional linear approaches to design and business development we treated these agendas and goals as starting points for rather than end points of our enquiry. In this design anthropological approach moving from the field to the design studio was not (as our project plans had prescribed) a simple move from ethnography to design. It was not - as in ethnographically informed design - a matter of translating ethnographic findings into implications for design (Anderson 1994 ,Button 2000, Dourish 2006, Kjærsgaard 2011, Otto & Smith 2013). Rather our field studies were from the start in a constant and critical dialogue with the design agenda – or the dream if you like. Both our work in the field as well as in the design studio was about developing an understanding of the field and its design potentials, through the production of analysis, field data, design concepts and artefact. As such the field and design studio, ethnography and design, were in a constant dialogue with one another throughout the project. Our serendipitous discoveries thus arose through a fieldwork-based anthropologically inspired dialogue with the design agendas of the project (and not despite of such agendas), but also through designers' and researchers' ability to wonder about, question and re-frame practices, relations and assumption in the field as well as in the design studio. In hindsight we might describe our design anthropological approach as based on two basic principles or strategies:

1. Treating ethnography and design not as separate fields and stages in the design process, but rather as part of the same design anthropological inquiry - As opposed to expectations embedded within the original set-up of the design project and traditions of ethnomethodologically and ethnographically informed design (Button 2000, Halse 2008, Dourish 2006 Kjærsgaard 2011, Kjærsgaard& Otto 2012)
2. Treating design ideas, agendas or dreams not as solid destinations to be reached in the future, but rather as some sort of hypothesis about the world that needs to be tested, challenged and developed through (design oriented) engagements in the field, and which (unlike in rational linear approaches to design) might as a result grow into something completely different.

In this project fieldwork was thus not simply about informing design or the organization about the world 'out there' but about entering into a critical dialogue with the design agenda through design oriented engagements in the field. Inspired by Henara et al. (2007) we might see this as a way of 'thinking through *the making of* things' or rather as a way of "thinking through *attempts to make* things", where the making of things, design concepts or strategies is a way of entering into a dialogue with the field, in order to explore and experiment with practices, context, relations, and our understandings of them (Kjærsgaard 2011, Kjærsgaard & Otto 2012).

In this process the dream - or the design agenda - played an important role as a starting point and a catalyst for such a dialogue. Approaching the field with a particular design intention in mind posed questions to and elicited responses from the field, which sparked serendipitous insights that might otherwise have remained unnoticed. Moreover the dream provided us with a shared focus, serving as kind of 'boundary object' (Star & Giesmer 1989) through which various interests, agendas and perspectives within the project could interact.

However, the dreams role as an *object in* the design process should not be mistaken with its role as an *object for* the design process. As already mentioned, I find it more constructive to think of such dreams, design ideas or design agendas not as destinations in the future, towards which we simply need to find a path, but see them rather as starting points for critical inquiries about the actual and the potential. As this case suggests the role of fieldwork and ethnography in design cannot simply be to *inform* design in terms of filling in blanks within a pre-defined framework, or in terms of providing 'neutral' material and descriptions from which design ideas may be built. Instead, I suggest a design anthropology that challenges established frameworks through *re-framing* practices and relations within and between the field and design, and works as a kind of critique, though a constructive critique from within aiming to multiply perspectives within the design process as well as the organization. Paraphrasing Rabinow (and with him Luhmann), we might say that the role of fieldwork and anthropology in design and business development is not simply about producing knowledge or accurate accounts from the field, as much as about *establishing points of discourse* (Rabinow et al. 2008: 56). This is what we did successfully in the case of The Post. The case presented here suggests that the value of anthropology within design and business development may be hard to tie down to specific products or service, and that if we try too hard, we might loose out on what could possibly be the most valuable out comes of design anthropological investigations, namely the serendipitous insights and potentials that result from changed perspectives and discourses.

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REFERENCES CITED

Anderson, R. J.
1994 "Representations and Requirements: The Value of Ethnography in System Design." *Human-Computer Interaction* 9 (3): 151-182.

Button, G.
2000 "The ethnographic tradition and design." *Design Studies* 21 (4): 319-332.

Dourish, P.
2007 "Responsibilities and Implications: Further Thoughts on Ethnography and Design." *Proceedings of DUX07*: 2-16.

2006 "Implications for Design." In *Proceedings of the SIGCHI conference on Human Factors in computing systems*: 541-550.

Halse, J.
2008 "Design Anthropology: Borderline Experiments with Participation, Performance and Situated Intervention." PhD Diss., IT University Copenhagen.

Hazan, H and E. Hertzog
2012 *Serendipity in Anthropological Research – The Normadic Turn*. Ashgate

Henare, A., M. Holbraad, and S. Wastell
2007 "Thinking through things." Introduction. In *Thinking Through Things: Theorising artefacts ethnographically*. A. Henare, M. Holbraad and S. Wastell, eds. Pp. 1-31. London & New York: Routledge.

Ingold, T. and E. Hallam
2007 "Creativity and Cultural Improvisation: An Introduction." In *Creativity and Cultural Improvisation*. E. Hallam, and T. Ingold, eds.Pp. 1-25. ASA Monographs 44.

Ingold, T.
2007 Introduction. In: *Creativity and Cultural Improvisation*. E. Hallam and T. Ingold, eds. Pp. 45-55. ASA Monographs 44.
.
2012a "The Perception of the User–Producer." Introduction. In *Design and Anthropology*. W. Gunn and J. Donovan, eds. Pp. 19-33. Surrey, England: Ashgate.

2012b "Towards an ecology of materials." *Annual Review of Anthropology* 41: 427-442.

Kjærsgaard, M. G.
2011 "Between the Actual and the Potential: The challenges of design anthropology." Ph.D. Diss., Faculty of Arts, Aarhus University: Department of Culture and Society.

Kjærsgaard, M., and T. Otto
2012 "Anthropological fieldwork and designing potentials." In *Design and Anthropology*. W. Gunn and J. Donovan, eds. Pp. 177-191. Surrey, England: Ashgate.

Kjærsgaard, M. G.
2013 "Transforming knowledge and design concepts." In *Design Anthropology: Between theory and practice*. T. Otto, R. C. Smith and W. Gunn, Eds. Oxford & New York: Berg.

Otto, T., and R. C. Smith
2013 "Design Anthropology: a Distinct Style of Knowing." In *Design Anthropology: Between theory and practice*. T. Otto, R. C. Smith and W. Gunn, eds. Oxford & New York: Berg.

Pieke, F.
2000 "Serendipity: Reflections on Fieldwork in China, in Anthropologists." In *A Wider World*. P. Dresch et al., eds. Pp 129-150. New York & London: Berghan Books.

Rabinow, P. et al.
2008 *Designs for an Anthropology of the Contemporary*. Durham: Duke University Press.

Star, S., and J. Griesmer
1989 "Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkley's Museum of Vertebrate Zoology, 1907-39." *Social Studies of Science* 19 (3): 387-420.

Suchman, L.
2007 *Human-Machine Reconfigurations: Plans and Situated Actions*. Cambridge University Press.

Understanding mediated practices: Combining ethnographic methods with blog data to develop insights

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While theories of practice have been influential in the social sciences, these frameworks have seen limited application in ethnographic and applied inquiry, perhaps because few methods for carrying out practice theoretical research have been elaborated. We address this opportunity and provide an account of a multi-method inquiry on domestic practice. First, we explain methods for integrating data from blogs with ethnographic methods and how this data can be used to develop theory. Second, we share our experience as interdisciplinary researchers using ethnographic and quantitative data to connect work at the boundaries of social practice theory and theories of consumption. Finally, we share our insights on why industry should aim to better understand existing and emergent consumer practices.

INTRODUCTION

While theories of practice have been influential in the social sciences, much applied and empirical consumer research tends to investigate the choices and actions of discrete individuals or groups of consumers instead of analyzing the routines, engagements and performances that constitute social life. In contrast to the common usage of the term, such as in the phrase "best practices," theoreticians of social practice contend that structure, agency, and the dynamic relationship between individuals and the market should be the starting point for research. Therefore, from this point of view, consumers and consumption should be investigated through the study of practice: study not cell phone users, but cellphoning (Shove, Watson, Hand, and Ingram 2007). A common heuristic for the analysis of practice is a tripartite scheme, variously described as objects, meanings, and doings (Magaudda 2011, Arsel and Bean 2013) stuff, images, and skills (Scott, Bakker, and Quist 2012), or equipment, images, and competencies (Shove and Pantzar 2005). Despite the promise of the practice theoretical approach in applied contexts, these frameworks have seen limited application in ethnographic and applied inquiry, in part because few methods for carrying out practice theoretical research have been elaborated. Furthermore, although linking up ethnographic studies with broader patterns of practice could help to better illuminate cultural patterns, few ethnographic and applied researchers combine ethnographic methods, such as long interviews, with the visual and textual data generated and used on sites such as Pinterest, Facebook, and popular blogs. We contend online media can provide data on the patterning and distribution of existing and emergent practices that would

otherwise be difficult to ascertain through traditional ethnographic practice. Our paper addresses these two opportunities by outlining a method for dealing with the large amount of text and image data found on a popular blog.

CONTEXT

The example used in this paper is Apartment Therapy, which started in 2004 as a blog and has since become a media brand focusing on domestic consumption. Whereas Martha Stewart invokes picket fence perfectionism (Golec 2006), the aesthetic of Apartment Therapy is soft modernism, a blend of the elitist form-follows-function ethos of high modernism that incorporated the popular preference for restrained use of color and the pursuit of comfort and warmth (Gebhard 1995). For example, Le Corbusier and Mies van der Rohe represent high modernism; Crate and Barrel and IKEA use soft modernism to sell home goods to middle-class consumers. To these consumers, soft modernism serves an important economic function by winnowing a consumer's choices to a set that is not only more manageable, but also more likely to meet with broader acceptance — and thus garner higher value when a home is resold (Rosenberg 2011). As a central conduit for the communication of soft modernism, Apartment Therapy appeals to the young, relatively affluent consumer actively seeking advice on all aspects of domestic practice. Started as a home design blog, it quickly established sites focused on cooking, parenting, home technology, and green living, emerging as a powerful media force with greater reach than Martha Stewart Living, Sunset, and other well-read shelter magazines.

The challenge of observing soft modernism at work

The method we discuss emerged from a logical necessity to incorporate content from the Apartment Therapy blog site into an ethnographic study on the readers of the blog. The rich narrative and visual imagery of blogs well complements ethnographic analysis because blogs are public and spontaneous representations of everyday practice (Arsel and Zhao 2013).

These narratives are encoded in mass mediated representations and are shared stories that are typically understood as representing and providing the meaning component of a practice. They can be complex and even contradictory, such as that surrounding the Hummer SUV brand in the US (Luedicke, Thompson, and Giesler, 2010), or simple, such as a shared understanding that an Apple iPod makes an ideal gift. As the iPod example makes clear, however, cultural narratives also can influence actions — in this case, the giving of iPods. This, in turn, can create shifts in the alignments of objects, meanings, and doings that constitute a practice (Magaudda 2011). Therefore, it is essential to understand the range and trajectory of broader cultural narratives and to incorporate this understanding into ethnographic analysis.

One way of thinking of mediated cultural representations is to see them as maps of the circuit of a practice, where the boundaries and limitations of the circuit are drawn, held and tested. One might expect a blog like Apartment Therapy to employ a complex system of editorial guidelines and approval procedures, but a surprise early in the research was the lack

of centralized oversight over the discourse. At the time of our research, however, the bulk of Apartment Therapy's content came from a collection of freelance bloggers who were paid per post. Rather than edit and approve individual posts, Apartment Therapy employed a tryout process where interested bloggers would submit a series of sample posts. These posts would run on the blog and editors would choose which freelancer to hire permanently. To be hired, a freelancer had to exhibit not only an affinity to the linguistic style of the blog, but also a familiarity with the aesthetic sense of soft modernism. Thus, we contend that the posts on Apartment Therapy and similar blogs can be read as the material evidence and expression of the embodiment of an organic, self-referential, and continuous narrative.

As one might imagine, the quantity of information on blogs, while not approaching that of big data, can overwhelm typical qualitative methods of analysis. To address this problem, we provide below practical guidance on how to collect, store, organize and analyze large and potentially messy data sets. First, we describe a method used to automate the extraction and formatting of a database of nearly 2 gigabytes (about 55,000 blog posts) of text and image data. Second, we walk the audience through the use of database software to archive and organize the textual and visual content of blogs. Third, we discuss how to use natural language processing software to generate and analyze a corpus of textual blog content. Fourth, we show how this process can bolster qualitative analysis and help to identify illustrative sample posts from the collected data.

Extracting data from blogs

The first step is to create an offline archive of blog content. Before starting any kind of analysis, it is essential to clean the data to avoid clutter and to increase efficiency. This can be done in one of two ways: either manually — by a human manipulating a computer and saving each blog post to a separate electronic file — or it can be automated to some extent with a program that automatically download all web content by pointing the program at the blog's archive pages, which list all past posts by month or by category. Automating the process of creating an offline archive, however, may take some ingenuity, especially because server-side blog software has changed, and not all blogs have easily accessed archives. With the advent of so-called "endless" scrolling and image-driven microblogging formats such as Tumblr, there may be some unavoidable manual labor to create a list of links to all past posts. That said, you may be able to find software such as TumblRipper, which can be used to create offline archives of image content. Note that it is a violation of the terms of service of many commercial blogs to download large amounts of content, so your project may require special permission of the blog's owner.

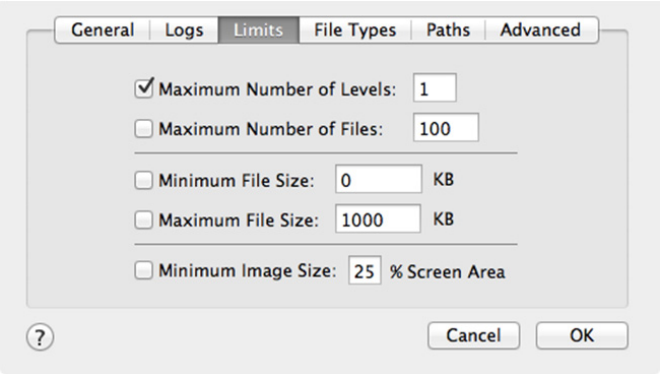

FIGURE 1. ***LIMITS. The Limits tab on SiteSucker's settings panel, shown here, allows the user to specify how many levels are downloaded. Setting the maximum number of levels to 1 means that the program will download the web page to which it is pointed and all content linked to on that page, then stop.***

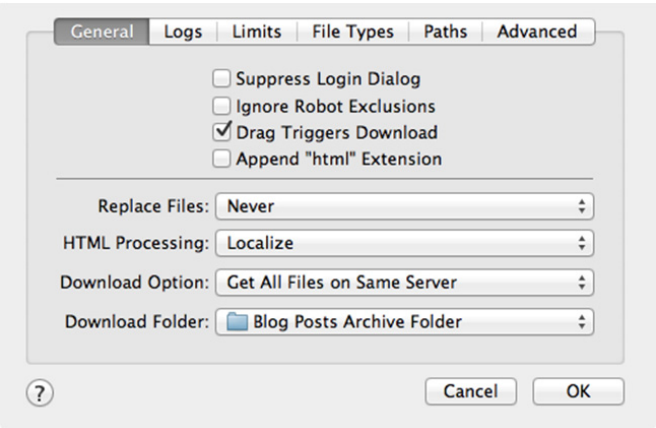

FIGURE ***2. OPTIONS. The General Tab, also in SiteSucker's preferences, allows you to specify if the program should download files only on the same server to which it is pointed, or if it should download files regardless of location on the web. Localize, the default setting for HTML Processing, changes code in the files you download so images can be viewed offline and pages link to the offline version rather than back to the original server.***

If you cannot find a way to use software that will make a useful archive of blog content, the simplest way to automate the download of a large number of web links is to create a web

page using a free online service such as Google Sites or Wordpress.com. First, assemble the list of URLs that you wish to download, such as links to each blog index page or individual blog post. Once you have this list, use Excel's text concatenation function to transform the links into valid HTML code by using a formula similar to the one below. If the links are in column A, the formula in cell B1 would read:

=CONCATENATE("", A1, "")

Once you fill row B with this formula, you will have a list of web links in HTML format that can be copied and pasted into the web page you made on Google Sites or Wordpress.com. From there, use a program such as SiteSucker for Mac to download the contents of each web link. Be careful when setting the options so that you get the correct amount of data. In particular pay attention to settings that allow you to specify the number of levels or layers of link hierarchy that you want to retrieve. If you are studying a site with relatively few links to outside content, it might make sense to download one extra level of content. For example, this could allow you to archive other blog posts and websites referenced in links in posts in the focal blog. On the other hand, if your site is large or complex, downloading links that lead away from the original domain may result in an unmanageable mountain of data; for your first round of analysis we suggest that you download only data (text and images) that appear in posts on your target domain. After some time, the automated download software will produce a set of separate HTML files. Make a backup copy of these HTML files before proceeding with the next steps.

Because nearly all web pages have some repeated content, such as a text or graphic header, navigation, search functions, and advertising, in most cases the downloaded files will benefit from some further processing to remove repetitive content. (If not, you may find yourself wondering why "search," "next," or "author" are the most commonly used words in your dataset.) Using a computer tool called grep, which can be likened to a much more powerful version of the familiar search and replace function found in a word processing program, is the fastest way to do this across many text files. If you do not possess skills using grep or HTML, or wish to gain them, we recommend you bring on outside help. A savvy computer science student can make quick work of the next steps.

Using grep, compose and test a search expression that will strip out the non-desired repetitive content (headers, advertisements, navigation, and so on) from your web page. Most blogging platforms generate well-organized and commented code, often divided with the " " html tag, so it is relatively easy to identify which sections you need to strip out and devise a grep expression accordingly. For example, the header section of most HTML files is used for things such as advertising tracking and will appear on every HTML page you have downloaded. It is likely this section is not needed for your analysis. The precise grep string you would use will vary with the site, but essentially you want to tell the computer to look for a string of text that starts and ends the section. Often HTML code will be commented to denote the sections of the page. These comments, which start with "<!--", can be useful as anchors for a grep expression.

Once you have tested the grep expression on several files, you can apply it to all of the HTML files you have collected using the command line or with a batch search-and-replace

function in an application such as TextWrangler for Mac. If you find that an error in your grep code or an irregularity in the HTML files you have collected has caused a problem, you can revise as necessary and run the script again on your backup. Once you have a clean set of files you can proceed with manual analysis or put the files in a database, which can help ease the process of retrieval and comparison.

For database software, we recommend DevonThink Pro Office, which runs only on Mac OS, for several reasons.

- **Built-in RSS feed support.** RSS stands for really simple syndication… which can help automate the addition of new blog posts over time
- **An artificial intelligence engine.** Select one database item, and DevonThink can find database items that are linguistically similar to it. A central finding in our research — and the centerpiece of a diagram explaining our theory — is, in emic terms, the "landing strip." This term refers to an area near the entry to your home where you stash keys, mail, shoes, and outerwear to keep them from "contaminating" the rest of your living space. We identified blog posts on the topic of a landing strip and used this function to find other posts that used similar language, which helped us to extend and test our theory and also allowed us to find the most illustrative examples for our readers without reading the thousands of posts containing the term "landing strip."
- **Sophisticated searches.** In addition to Boolean searches (searching for one word AND another word OR some other word but NOT this word), DevonThink can find records containing words that are near each other. For example, to find evidence to back up a preliminary finding that Apartment Therapy linked the state of cleanliness to the feeling of calm, we looked for instances of the word "calm" near the word "clean." These searches can be saved and as new information comes into the database they will automatically be included in the search results.
- **Redundancy.** DevonThink has a built-in backup function.
- **Export tools.** Records in DevonThink can be easily exported to a variety of formats, including text, for further processing in specialized text analysis software.
- **AppleScript support.** AppleScript is a macro instruction language that allows repetitive tasks to be automated. We used an AppleScript and grep to change the creation date of each record in our database to match the date and time it was originally published on the AT blog. This allowed us to easily sort chronologically and divide the posts into groups according to date.

A primary disadvantage of DevonThink Pro Office is that its power and sophistication taxes a computer's resources. If you plan to work with a database as large or larger than ours, we recommend using the fastest computer you can and making sure it has as much random access memory installed as possible. In particular this will speed complex searches. A second disadvantage is that DevonThink Pro Office is not designed for collaboration. While it is possible to save the database file using a web sharing service such as Dropbox, only one user can open and work with the database file at a time. If is opened by two or more users at

once, it is highly likely that the file will become corrupted and you will lose data. To solve this problem, we developed a system of "checking out" the file for access via a quick email notification, and as a secondary measure we used the built-in label function of Mac OS X to turn the file red to show that it was not available for use. When one user was done working with the file, we changed its Finder label to green to show it was available for the use of others. While other database or qualitative analysis software can be used to the same effect, but we found that the combination of DevonThink's ease of use and power makes it particularly well suited to researchers who are beginning to work with large datasets.

SYNTHESIZE. GO BACK AND BACKWARDS. REPEAT.

Social science knowledge is created through an iterative process that requires the investigator to go back and forth between data and provisional understandings of the phenomenon. Multi-method inquiries necessitate another layering of analysis, to merge and synthesize various types of data at different levels of specificity. This back-and-forth shifting of focus is essential because it broadens the analysis from emic to etic and synthesizes multiple interpretations, including the researcher's own observations, the subjects' probed narratives, and the subjects' performed narratives (such as blog content). It also broadens the temporal and spatial spectrum of inquiry from the resource restricted boundaries of ethnographic inquiry.

While there is no universal rule to where to start, our subjective opinion is to begin by analyzing the ethnographic data first. This, we feel, holds closer to the spirit of ethnographic inquiry by allowing the researcher to begin to frame analysis based on the words and observed actions of the research participants. This can help prevent the researcher from relying too much on the somewhat decontextualized analysis a machine can make. While powerful in extracting patterns, machine generated analysis has a significant blind spot in terms of losing some of the nuances and context (Maxwell 2013). We advocate an approach where insights from interviews, content analysis, coding, or other ethnographic methods comes first, before the use of automated tools.

Once some provisional understanding is achieved, the researcher can perform analysis on the entire body of data to test and develop emergent theories. No single software is fit for all uses; in our case we chose the Stanford Part-of-Speech Tagger (Toutanova et al. 2003) because its capabilities mapped our provisional findings. We observed that the categories of objects, meanings, and doings could be roughly mapped onto parts of speech: objects were typically represented by nouns, meanings by adjectives, and doings by verbs. Using the Stanford Part-of-Speech Tagger allowed us to efficiently find the most commonly used nouns, adjectives, and verbs in our corpus. Note that the software does not do the analysis for you; as a check measure, we independently coded the results as objects, meanings, and doings, and discussed inconsistencies until they were mutually resolved.

After you have invested the time in getting your data into usable shape, it is worth investigating other analytic tools. For example, if your analysis aims to show the change in time of personal relationships, network analysis may be useful. To gain a sense of difference in how people are using words over time, software tools such as WORDij can quickly reveal shifts. If you are interested in the emotional content of a corpus of text, the Lingusitic

Inquiry and Word Count software can be of use. Riopelle (2013) discusses how ethnographers can use these specific tools in an applied context. Humphreys (2010) utilizes a similar multi method approach, supplementing qualitative coding with computer-assisted content analysis to trace the changes in discourses on gambling in American newspapers.

CONCLUSION

As Warde (2005) has famously argued, consumption is only one moment in practice. Taken together, ethnography and social practice theory have the potential to illuminate both applied and academic studies of consumption. For the consultant, applying the social practice framework can show how integral practice is to the purchase and use of goods and services (Korkmann 2006), therefore offering a theoretical framework that is both substantial enough to contain the complexity of the world, but also comprehensible enough to be used by members of corporate teams regardless of previous exposure to theory. For academic audiences, applying social practice theory is one way to address the challenge of connecting potentially related research in different contexts — in effect, to show how practices intersect and draw from one another (Shove et al 2012). For example, we showed how a key resource for 21st century consumers recruited into the Apartment Therapy taste regime was the practice of soft modernism, a practice that had roots in postwar cultural changes. For those visiting the Apartment Therapy site, soft modernism provided not only a source of objects — teak coffee tables, sleek lamps, Danish chairs — but also a source of meaning. Together, objects and meanings are critical resources that become inseparably integrated with the doings (the third element of practice) of soft modernism in a way that, would become closely associated with both Apartment Therapy and our participants' own putatively personal sense of style (Arsel and Bean 2012). Breaking down practice into these three constituent parts and showing how practice performances (Shove et al 2012) arise from the patterned combination of objects, meanings, and doings could lend some interchangeability to otherwise disparate analyses.

Mediated representations of practice can be an ideal site to confirm and understand the workings of practices observed by the ethnographer in the field. While a netnographic (Kozinets 2010) or critical visual (Schroeder 2006) approach can be used to understand mediated representations, our approach differs in applying the three-part practice heuristic of objects, meanings, and doings. Mapping representations of practice in these three categories can provide insights into the material workings of a practice and may provide hints on how a particular practice may change in the future.

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REFERENCES CITED

Arsel, Zeynep and Jonathan Bean
2013 "Taste Regimes and Market-Mediated Practice." *Journal of Consumer Research* 39(5):899-917.

Arsel, Zeynep and Xin Zhao
2013 "Blogs." In *The Routledge Companion to Digital Consumption*. Russell Belk and Rosa Llamas, eds. Pp 53-61. New York: Routledge.

Gebhard, David
1995 "William Wurster and His California Contemporaries: The Idea of Regionalism and Soft Modernism." In *An Everyday Modernism: The Houses of William Wurster*. Marc Treib, ed. Pp. 164-183. Berkeley, CA: University of California Press.

Golec, Michael J.
2005 "Martha Stewart Living and the Marketing of Emersonian Perfectionism." *Home Cultures* 3(1):5-20.

Humphreys, Ashlee
2010 "Semiotic Structure and the Legitimation of Consumption Practices: The Case of Casino Gambling." *Journal of Consumer Research* 37 (3):490-510.

Korkmann, Oskar
2006 "Customer Value Formation in Practice: A Practice-Theoretical Approach." Ph.D. diss., Swedish School of Economics and Business Administration.

Kozinets, Robert
2010 *Netnography: Doing Ethnographic Research Online*. London: Sage.

Luedicke, Marius, Craig Thompson, and Markus Giesler
2010 "Consumer Identity Work as Moral Protagonism: How Myth and Ideology Animate a Brand-Mediated Moral Conflict." *Journal of Consumer Research* 36 (6):1016-1032.

Magaudda, Paolo
2011 "When Materiality 'Bites Back': Digital Music Consumption Practices in the Age of Dematerialization." *Journal of Consumer Culture* 11 (1): 15-36.

Maxwell, Chad R.
2013 "Accelerated Pattern Recognition, Ethnography, and the Era of Big Data." In *Advancing Ethnography in Corporate Environments: Challenges and Emerging Opportunities*. Brigitte Jordan, ed. Pp. 175-192. Walnut Creek, CA: Left Coast Press.

Riopelle, Ken
2013 "Being There: The Power of Technology-based Methods." In *Advancing Ethnography in Corporate Environments: Challenges and Emerging Opportunities*. Brigitte Jordan, ed. Pp. 38-55. Walnut Creek, CA: Left Coast Press.

Rosenberg, Buck Clifford
2011 "Home Improvement: Domestic Taste, DIY, and the Property Market." *Home Cultures* 8 (1): 5-23.

Schroeder, Jonathan
2006 "Critical Visual Analysis." In *Handbook of Qualitative Methods in Marketing*. Russell Belk, ed. Pp. 303-321. Aldershot, UK: Edward Elgar.

Scott, Kakee, Connie Baker, and Jaco Quist
2012 "Designing Change by Living Change." *Design Studies* 33 (3): 279-297.

Shove, Elizabeth and Mika Pantzar
2005 "Consumers, Producers and Practices." *Journal of Consumer Culture* 5 (1): 43-64.

Shove, Elizabeth, Mika Pantzar, and Matthew Watson
2012 *The Dynamics of Social Practice: Everyday Life and How it Changes*. London: Sage.

Shove, Elizabeth, Matthew Watson, Martin Hand, and Jack Ingram
2007 *The Design of Everyday Life*. Oxford, UK: Berg.

Toutanova, Kristina, Dan Klein, Christopher D. Manning, and Yoram Singer
2003 "Feature-rich Part-of-speech Tagging with a Cyclic Dependency Network." *In Proceedings of the 2003 Conference of the North American Chapter of the Association for Computational Linguistics on Human Language Technology - Volume 1*. Pp 173-80. Edmonton, Canada: Association for Computational Linguistics.

Warde, Alan
2005 "Consumption and Theories of Practice." *Journal of Consumer Culture* 5 (2): 131-53.

WEB RESOURCES

DevonThink Pro Office
http://www.devontechnologies.com/products/devonthink/devonthink-pro-office.html.

Stanford Log-linear Part-Of-Speech Tagger
http://nlp.stanford.edu/software/tagger.shtml

SiteSucker for Mac
http://www.sitesucker.us/mac/mac.html

Consumer fetish

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Commercial ethnography has become an important activity for accessing the lived experiences of consumers that are constructed as "others" that firms have to discover and manage. In organizational contexts where the necessity to accumulate organizational knowledge about markets have become paramount, the figure of the "consumer" has become a quasi-magical object bestowed with the aura of the real, a fetish that comes to stand for the market, and symbolizes the firm's effective orientation towards the market. In this paper we demonstrate how the anthropological concept of the fetish may be usefully employed in understanding the nature of this process, whereby the voices and images of consumers are endowed with power within organizational contexts. Consumer fetish is at once a quasi object and a manifestation of analogical knowledge.

INTRODUCTION

Our paper focuses on corporate ethnographic research as a specific organizational activity which firms undertake to "get close" to consumers. While organizations buzz with talk about consumer needs (Applbaum 1998; Lien 2004), firms usually rely on intermediaries, such as corporate ethnographers, to document the lives of people who purchase their products. As a consequence, ethnography has become increasingly visible in the business world through the practice of prominent companies like Harley-Davidson, Intel, Procter and Gamble or Microsoft that regularly conduct ethnographic studies. Recent books (Cefkin 2009; Mariampolski 2006; Sunderland and Denny 2007), professional conferences, and media exposure of star ethnographers such as Intel executive Genevieve Bell (Barnett 2005), have all contributed to a newfound interest in ethnography.

The rise of ethnographic research in corporate contexts is tightly linked to what du Gay and Salaman (1992) call the "cult[ure] of the consumer " (p.1), i.e. a powerful ideology of governmentality (Foucault 1979) structuring managerial work, where organizational members are "expected to work on themselves to become flexible, service-minded, and disciplined providers of customer satisfaction… in the name of profitability" (p. 32). In this context, organizational work revolves around the needs of consumers who are internalized as "sovereign" and social relations within the firm, which are expected to resemble those of the market, what du Gay and Salaman call an "enterprise culture" (p. 627). Previous research documents the extension of these trends in education (Kennedy, Goolsby and Arnould 2003; Molesworth, Scullion and Nixon 2011) and management consulting (Press and Arnould 2011), and especially in international markets where the process of producing the

idea of the sovereign consumer where she previously did not exist is evident (Cayla and Eckhardt 2008; Mazzerella 2003).

In this context, we argue that consumers operate as powerful images within organizations, and that the current popularity of ethnographic research in corporate settings is precisely because of what we will term the fetishistic qualities of these quasi-objects. Some years ago Appadurai (1996) evoked the transformation of consumers into signs, and alluded to the "fetishism of the consumer":

> As for the fetishism of the consumer, I mean to indicate here that the consumer has been transformed, through commodity flows (and the mediascapes, especially of advertising, that accompany them) into a sign, both in Baudrillard's sense of a simulacrum which only asymptotically approaches the form of a real social agent; and in the sense of a mask for the real seat of agency, which is not the consumer but the producer and the many forces that constitute production.' (Appadurai 1996, 42).

Despite these allusions to processes of fetishization, and the cult of the consumer, we know little about the way consumers stimulate and fascinate organizational members. Du Gay and Salaman (1992) suggest that employees are expected to satisfy consumers as a way to fulfil their own desires to be creative. But if the figure of the consumer has power over organizational members, we know little about the way these power relations come to be and shape firm activities. Our work bridges this gap by attending to the fetishization of consumers in the corporate world.

THEORIZING THE FETISH

> Trade with the newcomers came to be regulated by ritual objects that the European referred to as 'fetishes,' on which they were asked to swear oaths and that were held to bind together otherwise unrelated people in contractual obligations. The power ascribed to such objects were in this case quite similar to the sort of sovereign power imagined by Hobbes; not only were they tokens of agreement, but they were themselves capable of enforcing those agreements because they were essentially forms of crystallized violence (Graebner 2001, 231).

As Graebner suggests here, the system of representation that anthropologists and ethnographers call fetishism, emerged from the encounter between mutually exotic cultures during the age of discovery (15th to 18th century) and in which European explorers of that premodern era drew upon their religious self-understanding to make sense of culturally distinctive ontologies (i.e., theories of things, Miller 1987, 2005). In our work, we draw parallels between the fetish, as conceptualized in anthropological theory as ritual objects regulating social relations (in the enforcing of contracts above) to think about "consumers"

as a type of fetish structuring organizational relations, and endowed with the same kind of power to which Graebner alludes.

To understand how "consumers" operate as fetishes, we go to anthropological theory. Comparative research has determined that in a nominative sense, the fetish has four characteristics. First, it is a material embodiment of various qualities, not a symbol of them. Secondly, the fetish is a composite that uniquely organizes heterogeneous qualities—specific, if immaterial desires, beliefs, narratives, but also practices-- into a novel identity (Pietz 1985, 7). The third element of the fetish is that it is a unique and clearly socially constituted form of value (Pietz 1985, 9). The fourth theme associated with the fetish is that it materializes a social bond (Serres 1982, 147). This is because fetishism is practiced to achieve certain tangible effects for its maker, in traditional systems, healing or constraining action on another person at a distance (Pietz 1985, 10); the fetish renders this possible.

Organizational scholars have already highlighted the fetishization process at play in the organization-wide celebration of statistics. Carlon and her colleagues (Carlon, Downs and Wert-Grey 2005) show that statistical indicators about CEO performance have become organizational fetishes, separated from the human and social context of performance, obfuscating various organizational aspects of a CEO's performance by replacing them with statistical measures such as a company's earnings. Here we find the idea of the fetish as masking the real as in Marx's (1981/1884) theory of commodity fetishism through which the appearance of goods in markets always defined in terms of the common metric of price conceals the human labour that was necessary to produce them.

In consumer research, past work has highlighted the relevance of the fetish. For example, Fernandez and Lastovicka (2011) work out how consumers imbue some cherished possessions with the properties of the fetish, transforming what they call relics and replicas into personal fetishes. However, a limitation in this work is its reproduction of a psychological understanding of fetish associated with its role in consumers' identity work (Belk 1991), rather than embracing the sociological concept of fetish derived from Marx and Durkheim (Shiermer 2011).

The identity focus neglects two critical dimensions of fetish. The first, initially signaled by Pietz and affirmed by MacGaffey (1995), writing of Kongolese ritual objects, is the fetish arises in the encounter or transitions between heterogeneous social and symbolic systems. The second is neglect of fetish's instrumentality and its inscription in some sort of power game. This latter point is significant in the research showing how statistics designed to represent firm performance enter into power contests through which CEO employees wrest astronomical salaries from corporate stakeholders (Carlon, Downs and Wert-Grey 2005).

In this paper, we turn to another important kind of organizational fetishism, more specifically the quasi-religious devotion that representations of consumers provoke within firms. We ground our argumentation in rich empirical material on the fetishization of consumers within organizations.

FIELDWORK

Our fieldwork focuses on a particular type of consumer research activity: ethnographic projects where firms try to capture and analyze the everyday lives of consumers, often with

the help of an outside research firm, ostensibly in order to better understand their markets. As we discover, what often ensues is the transubstantiation of consumer research data into a fetish, which constitutes an emic, that is, to say a culturally particular way of knowing (Harris 1976) and vehicle of corporate practical action.

In this project data comes mainly from long interviews with corporate ethnographers and their clients. We recruited informants though different kinds of referrals, relying especially on existing contacts within the community of corporate ethnographers. While access to ethnographers working freelance or for research and consulting companies was relatively easy, we had more difficulty accessing client firms. Organizations are reluctant to share information about the kind of consumer research they do, often because they fear this will be used by competitors or attract negative publicity. Despite these reservations, we conducted interviews in several organizations. Wherever possible, we did several interviews within the same firm, and interviewed consultants and researchers who worked on projects together. In contrast to the image of the solitary anthropologist doing fieldwork in an exotic locale, the ethnographers we studied often work collaboratively with clients, innovation consultants, videographers and recruitment agencies. During their visits in people's homes, they are often accompanied by executives of the client firm. We interviewed a total of 35 executives, working in various types of roles and industries, in various locations. We did these interviews in 5 different countries, with a predominant focus on North America, where most of the large organisations regularly using ethnography are based.

THREE MOMENTS IN THE FETISHIZATION OF CONSUMERS

Materialization

By materialization we refer to the process through which consumers come to be seen and heard within the corporation. We recall here Pietz's insight that 'the truth of the fetish resides in its status as a material embodiment of being; its truth is not that of the idol, for the idol's truth lies in its relation of iconic resemblance to some immaterial model or entity' (1985, 7).

The sense that the consumer is an exotic object with strange and unexpected attributes is a surprising theme in our data. This theme of dealing with a 'weird' species comes across in the following quote, where ethnographer Donna talks about an engineer in a software company watching a video of consumers interacting with his software:

> I will never forget the very beginning of the two day workshop, one of the engineers, he is an ergonomics guy, engineering guy and we kind of spend an hour together; made them watch the video and kind of created these really cool experiences for them...and he was like 'this is really interesting but these people are weird...the consumers'...he is like 'they are just weird they do weird things'by the end of the second day he was like' I get it they are not weird they are…this is what they are like and we need to kind of embrace the fact that just because they don't use this function the way I designed it as an engineer doesn't make them weird'.

Thus ethnographic work brings back to the firm reports of the strange and exotic world of consumers; troublesome raw materials for which 'solutions' can be devised. As in classic accounts, ethnography mediates between two worlds, that of the consumer and the firm. A related notion that consumers are material assets for firms comes across in a quote below where Janet, a senior researcher in a consumer goods company, talks about the practice of videotaping every consumer encounter:

> When I say we videotape everything, we video tape everything. Whenever we're talking to a consumer, whether it's in their home or in the grocery store, if we get permission from a store to do consumer work, we're videotaping […] I purchased a video camera for our team, because we videotape everything now (Janet, New Product Development Team Leader, Upstate Care).

Thus, ethnographers are acting on the principle of comprehensiveness in their approach to data collection; to encompass the domain of the consumers' life word. Similarly, the urge to capture and stock the consumer asset as reassuring 'artifact' is vividly expressed in the excerpt below:

> I mean there is always this aspiration, that they're gonna watch the videos. …and you know over the course of study they already spend more time than they can possibly do, on top of their regular work. But they feel like if they've got those videos then you know after our engagement's done with them, they're kind of safe. It's more an artifact of reality than audio would be. That's what I think they think (Sam, Innovation Consultant)

What emerges from interviews is the sense that encounters with consumers are important, even sometimes dramatic events; the example of Upstate Care recording every consumer encounter is an illustration of the importance of the consumer encounter. In materialization these exotic consumers are made tangible, through the projection of images on screens, photographs, and audio recordings. Video clips of exemplary consumers become a ubiquitous feature of consulting reports, and then are replayed and recirculated through marketing teams. Managerial customers "just love" these video artifacts. As a consumer ethnographer explained, they become powerful tokens of target markets that circulate within firms:

> People just love video. They get engaged with it in a way that they don't get engaged with words on a page. It's a great take away for them to share internally with their team or with their partners. Obviously, there are limits as to how they can use it. They can't be posting it on their websites or anything. But internally, it is an important learning tool for the organisation. Certainly, their videos embedded within that report. Sometimes they want a separate summary video made. So you might

> make a 15-minute highlight reel of different aspects of the report. So if you have five key insights, you would have a few minutes of video that reflect that behaviour or that occasion.

Dramatically, the materialization of the consumer takes the form of composite photographs and even cardboard cut-out representations (see below two user personas developed for a software development project).

Figure 1. ***Photo of Persona Developed in a Corporate Setting (used with permission from Rosa Guðjónsdóttir)***

The composite persona is another ubiquitous product of ethnographic segmentation studies. The personification process illustrates the desire to materialize consumers within organizations. But notice how in the image above, the personified image appears to watch over the employee pictured.

Marketers have employed personification to represent target segments (Reynolds, Crask and Wells 1977; Dutta-Bergman and Wells 2002). Advertising researchers have used the persona concept to understand the meanings spokespersons evoke (Stern 1994). Designers use personas, understood as representations of product users, to help them imagine their behaviour and goals (Cooper 1999). But persona has clearly evolved beyond these uses. One might even say it has gone a bit "feral" to paraphrase Genevieve Bell (2011). To see how persona has evolved as a product of corporate ethnographic research consider a 2010 report on the use of personas at Microsoft:

> Meet Chris Green and Colin Wilcox. They're typical IT folks working in small and midsize businesses. …. Chris and Colin are 'personas' created by Microsoft's Windows Server team to represent the real IT workers that use the products and help make sure the company meets the needs of its customers[…] Bill Laing, Microsoft corporate vice president, Windows Server and Solutions Division, explains: 'Microsoft needs to be clear on 'who are we building this for' and 'how are we meeting the needs of these people?' Personas offer 'a way to focus the conversation... almost as if the customer were in the room.'' http://www.informationweek.com/news/222500024.

Ford also used persona in the design of the Ford Verve:

> Antonella is an attractive 28-year old woman who lives in Rome. Her life is focused on friends and fun, clubbing and parties. She is also completely imaginary. Ford is using characters like Antonella to bring a human element to the dry statistical research drawn from polls and interviews.[…] They are also like avatars, those invented characters used in online games and forums to symbolize a participant's personality.' http://www.nytimes.com/2009/07/19/automobiles/19design.htm.

Notice the use of the term avatar; an avatar is an active agent, not merely a passive representation. A picture of this persona Antonella is shown in figure 2 below. Notice in this image how the colour scheme of the car is identical to the colour scheme associated with the persona; greys and pink tones predominate. It is as if car and image constitute the hybrid persona.

Before Creating the Car, Ford Designs the Driver

A model depicting Antonella, the imaginary woman who was the guiding personality for the Ford Verve, a design study that was the basis for the new Fiesta. More Photos >

Figure 2 ***A Hybridized Image of Car and Persona***

Personas are brought into being according to user researchers, because 'the elicited user needs disappear during system development' (Guðjónsdóttir 2010, 14). As we can see from our review of primary and secondary data, commercial personas exemplify the materiality of the fetish. They are unique compositions of heterogeneous elements, and as materialized in text, photos, video, and cut-outs, irreducibly material. While the generation of personas from commercial ethnographic research is relatively new, we found it ubiquitous across firms. Persona has become part of the standard vocabulary employed by commercial ethnographers and their clients. Moreover, these idealizations have become the 'Holy Grail' for judging the real, as a high placed executive with an anthropology pedigree admitted:

> Yeah, you know, I would think in the consumer space, you know, again, that is really encountered even more heavily if you know, then it becomes this Holy Grail of you know, you want to find just the right real one and model everything around that and then as if it is going to stay fixed and we've got it now, you know…There is this kind of perfection that is assumed to go with that and again, I think for me the dishonesty is both in the questions of objectivity but also the assumption that, you know, once you do that it is so easy to want to fix it.

We do not believe this spiritual analogy is superficial. And as our informant suggests, researchers are incentivized to find 'just the right real one' and when they do there is a

tendency for firms to attribute perfection to this image and to want to 'fix' it as an exemplification of the market.

Animation

Animation refers to the process of imparting life and vitality to the material embodiments described above. Sculptors of Dogon statues display expertise when through their skill they 'give life' to the fetish, that is endow the fetish with some kind of vitality, so that one feels he is seeing a human being (Leloup 2011). Animation is also a process of simulation, first as mimesis, in the way ethnographers simulate the market by adding details about consumers, as already suggested in the descriptions of Chris and Antonella above. In addition, animation is also simulation, in the way that it masks an absence, here the absence of real consumers, replaced by personas ("avatars") and other material embodiments. Ethnography plays a central role in this context, in helping executives develop layers of narrative about consumers, and bring 'consumers to life'. No effort is spared in the quest to animate the persona:

> Then the baton passes to us and we say 'we're going to go deep on these segments now' So we will go out to maybe five countries and we'll spend a day and a half with each person who represents that segment. We'll do a two hour long introductory interview and then we'll come back and spend a whole day with them, sometimes from 7am to 10 o'clock at night. So we collect this very rich contextual data and we bring it back to the office" (Donna, Senior User Experience Manager, Denver, emphasis added).

The language executives used to talk about the benefits of ethnography is telling. It is the word that simulates the market that brings life to the persona:

> So, I think that video is often like the quote come alive. It's like the consumer come alive. So that's one reason. It has a verity kind of quality about it that really works. (Alicia, Ethnographic Consultant)

It is as if the word represented the kind of contagious magic Fernandez and Lastovicka (2011) describe among collectors of rock star relics, once uttered and attached to the marketers' simulation, the persona, the word sticks the qualities of the original to the persona:

> To me, just like a picture says a thousand words, having someone say it on video really brings it alive in people's minds where they can relate better to it and therefore it is just a better communication tool. (Janet, New Product Development Team Leader, Upstate Care).

Similarly in the following quote, Linda, an innovation consultant talks about a recurring project where their company is asked to bring 'a segment to life. She mentions the selective recruitment of exemplars and the careful staging employed to craft persona especially when the end product is to circulate widely within a firm ('show it to all their sales staff'):

> If the objective is really about sort of bringing a segment to life we are going to be very picky about who we talk to, sort of find the exemplary person [...] On a few occasions, when clients explicitly state that they want a high end deliverable that they want to show it to all their sales staff, or to all their executive team, we'll rent specialized equipments we'll work with a videographer, we'll stage it much more (Linda, VP of Research, Innovation Consulting Firm).

As brought to life inside the firm, personas are similar to what Baudrillard (1998, 31) calls `sham objects,' and others like Shiermer (2011) 'quasi-objects', i.e. objects that offer an abundance of signs that they are real such as those enumerations captured in hours of video tape, but in fact are not. And moreover, such concatenations of signs induce a state of happiness for like miraculous medical treatments they are signs of success (Franke 2000), in this case success of the research enterprise, of effective segmentation and targeting.

Fascination

Fascination refers both to conflating simulacra with the real, and secondly, the ambiguity of control, that is, the power of consumer-fetishes so conflated to enthral organizational members. The process of materialization, of bringing consumer voices, images, bodies within the corporation and of simulating their lives is a process of control, of being able to fashion consumers in a certain way. This is the idea of action on relevant targets at a distance referred to in the anthropological theory of the fetish. Diana, a user experience manager at a software company, explained how the use of personas within her corporation helped her colleagues produce 'solutions' (also see quote from Donna above) for a target market:

> Personas are really powerful in our company. You take a customer segment, and you give them a name and a face and you make that person come alive. For engineering teams this is really powerful, we have something like 10 thousand engineers in our engineering team and we want to make sure that everyone understands the customer.

Our interviews often evoke the sense of ownership and control that personas provide to management. Personas provide power both relative to other members of a marketing team and over the market, the persona represents. Malcolm describes the fascination process evoking both conflation and control:

> When we show the film the client says [lowered voice] 'Oh, I went to that ethnography, that's my person. That's my person, and I was there.' So there's a real strong sense of identification- they are excited, and they buy into it, and they believe it even more. So, somehow the truth they have experienced it, they have seen it again and then they have the power- the client…to tell their other people about it, and validate it. (Malcolm, VP of Planning, Advertising Agency).

Thus, managers buy-in to and believe in the persona as an object of firm action, but then this image becomes a "power" that may be exerted. First once materialized and animated, the fetish becomes self-referential. It induces researchers to reconfirm its realness:

> When it's just illustrative segmentation data, we have to find that 'busy mom'. And we have to bring her to life. And if the 'Busy Mom' Just Right Eater isn't a busy mom, then we move on to the next person who is a Busy Mom. (Nate, ethnographic researcher, Sydney)

In other words, once Busy Mom Just Right Eater has been codified, the search is on to assert the conformity of real persons with the consumer fetish. According to Nate, the search continues until she is found. And second, it exerts influence over others. These consumer fetishes begin to circulate through companies, exerting influence ("bring used" to "anchor" experiential reality) as they do:

> Our business partners and people outside of the groups know Philippe and Jane and Harry and Sue. And so it's a – I guess – I mean they are, I think, being used in the way that they're supposed to, which is like, you know, they're the experience anchors.

Once animated in this way, consumer-fetishes become part of the organization's life. Beyond fictional archetypes, persona become real, but also by materializing and containing consumers in the persona, they also become objects of control. They channel perception, ("we met three Marys"). But also under control, they may even become objects of contempt as in the following:

> Some of these design tools, these personas are about taking that even further cause at least the soccer mom is sort of an archetype. But once you say that she is Mary and you and you rewrite Mary the soccer mom to make you feel like it's real. And I hear people telling stories about 'well yeah we met three Marys so far in the study' and I think that is sort of letting you feel safe when you are embracing the strange. Now I think that is having the opposite of fact…I think the more you sort of pretty up your archetypes the more you create the option for contempt…

Contempt of course is the flip side of fear. And fear of the unruly consumer is never far below the surface (Gabriel and Lang 2006). Some of the strongest evidence for the ambiguity of control, and the power of the fetish derives from uncovering fear of the consumer "other" within the walls of the corporation. One anthropologist working for an American telecommunications company talked about not being allowed to actually meet any consumers, illustrating the sense of awe, wonder and fear that consumer-fetishes can induce:

> So I put together a proposal to actually talk to the customers who were using the cell phones. And what was interesting about that is that I was absolutely not allowed to talk to any customers in person. They freaked out at the fact that I would actually talk to real people. They were worried about lawsuits; they were worried about all kinds of things. And it just wasn't in their model…

CONSUMERS AS ORGANIZATIONAL FETISHES

On a descriptive level, our novel contribution is demonstrating that in the hands of corporate ethnographers and their clients, customers become fetishized creations. We demonstrated that themes of materialization, animation and fascination, terms glossing scholarly work on fetishism, run through our primary data and that ready material exemplars of consumer fetishes can be found in secondary sources as well. Under the sign of the real, ethnographic researchers "bring back" heterogeneous source materials from the field that is crafted into material representations. Through video and other tools, these materials are brought "to life." And finally these persona begin to exert power at a distance, not only in the crafting of consumer "solutions" but in influencing how subsequent research is moulded to confirm and deepen knowledge of the fetish, and in circulating through firms, and across departments to "anchor" the behaviour of managers and employees in service to the consumer fetish as target market. The fixing of these anthropomorphic persona well illustrates the idea of the fetish as a sign that has been captured by key actors, in this case the firm (Carlon et al. 2005, 479) for practical ends. Further, these processes provide a framework for examining how ethnographic consumer data circulates within firms.

According to MacGaffey (1995) and Carlon et al. (2005), the fetish arises in the encounter between heterogeneous social systems. In our case these systems are constituted by the lifeworlds contemporary persons inhabit and the world of the bureaucratic corporation, one function of which is to turn such persons into customers. We have described a process by which this occurs. That is, persons are transformed into fetishistic persona through ethnographic research. These customer-signs are objects of value to firms; they contend for their custom in the marketplace of images. Thus, the sign or figuration is sought after as an object of value. However, as consumer data the sign has gone adrift in the transition between semiotic systems, the system of the ethnographic researcher inspired by the anthropological conventions of contextualized thick descriptions of cultural experience, and the pragmatic sign world of actionable insights with bottom line implications that animates the firm (Denny and Sunderland 2006; Jordan 2012). Once fixed as persona in a system of persona the sign is captured in a second semiotic system. As fetish, persona such

as Microsoft's Chris or Colin or Ford's Antonella exemplify the erased distinction between signifier and signified that is the hallmark of traditional fetish. To paraphrase Carlon et al (2005, 480-481) the fetish as an object echoes another object, process, or relationship elsewhere. But with its origin effaced in the synthetic process of materialization and animation within the firm, the fetish is captured and takes up new power to operate within a second-order system, the firm's segmentation or new product development systems, for example.

Our analysis of ethnographic consumer research contributes to a better understanding of corporate ethnographic research as a social-material practice. More specifically, through a description of the devices and artefacts that surround ethnographic projects, we are better able to document how ethnographers and executives fashion consumers from heterogeneous bits and pieces of image, text, and artefacts. By attending to the reactions and emotions of executives exposed to these representations, we can explain how the fetishization of consumers happens. By contextualizing these practices within the discourse of the 'market-oriented organization', we can begin to analyze why this fetishization happens and what it means for our understanding of the contemporary organization.

CONSUMER FETISHIZATION AS ANALOGICAL KNOWLEDGE

If consumer quasi-objects –persona--are fetishes, our analysis leads to reflection about the nature of the knowledge firms develop when they extrude such objects. Here we want to show how the anthropological insight -- that representation is not the only ontological strategy that people adopt -- is particularly relevant to understanding this one product, only one, of ethnographic consumer research. Considering non representational modes of what Descola calls figuration (Descola 2005) can help elucidate some aspects of effective ethnographic knowledge production and suggest that consumer fetishes correspond to an alternative to representational ontologies.

In western society beginning in the 15th century, artistic representation whether of people by way of portraiture or nature by way of landscapes and still lives, emancipated itself from religious symbolism and mimetic figuration. Eventually the truth of the physical world and the truthful expression of the inner life of persons became objects of privileged concern in art as in science, disciplines less hermetically sealed from one another in that time. Note that Leonardo was both a gifted portraitist and pioneering anatomist. The idea that hidden laws governed both the human and the natural world gradually diffused. Eventually in portraiture the interior life of the human subject is deduced from a systemic amalgamation of realistic details concerning its exterior appearance.

By extension, the inner moral dimension of the individual is read from visual evidence. Consequently, resemblance to the real and verisimilitude became the principle criteria of the truth of painting until late in the 20th century (Blanc 2010). Scientific objectivity or realism is a branch of this aesthetic principle as well. Thus, on the one hand, scientific realism holds that the real and the true can be represented by graphic images (Tufte 2001), that is, the equations, models, plots, and figures that decorate scientific articles. Conversely the truth is discernible behind empirical detail if only the latter is captured in sufficient verisimilitude. Hence, the constant reference to invisible phenomena like law like generalizations, higher

order and latent constructs in positivist managerial science. Certainly in fields like management and market research, representing the material world, the world of behaviours, has become prioritized over what is seen as a fugitive and relatively superfluous interior spirit, albeit the interest in neuromarketing suggests a return to the search for inner essences. Nevertheless, the representation of hidden truth is a long standing pillar of modern western scientific ontology.

In non-western societies, by contrast, whether animist or totemist in orientation, images and sometimes sounds are not intended to reproduce reality. In other words they do not represent something; instead, they produce or activate certain elements that they render present in a form that people give to them (Stoller 1989). In societies that privilege totemic ways of knowing the spirit and the flesh are considered to be two divergent registers of being. This ontology is vividly reflected on the Northwest coast of North America in animal masks that open to reveal a hidden anthropomorphic image within. For divergent surface appearances mask a hidden interior kinship. In contrast, in societies that privilege animistic ways of knowing as captured in Australian Aboriginal painting, groupings of geographic features, animals, plants, and humans are epigenetically linked together through the Dream Time actions of various ancestral beings. There is no divergence between the interior and exterior manifestations of these things' instead they are all deemed to share certain characteristics. Knowledge is all about remembering, re-enacting, and re-embodying these linkages. In both totemic and animist systems of figuration, through myth and ritual forms and images distinctive forms of knowledge is transmitted and reproduced from generation to generation with minor variations.

The modes of figuration that a fourth system called analogical knowledge adopts are diverse. But notable for our research is the point that analogical figuration brings together disparate elements and gives them coherence through narrative. Analogical thinking holds that there is a fundamental difference between both the internal and external manifestations of things; Descola (2007) invites us to think of examples such as the ancient Chinese idea of the 1000 elements or the medieval European idea of the Great Chain of Being in which every single thing is uniquely created by God and inviolate. In analogical thinking the narrative principle that presides over the assemblage takes precedence over the diversity of the elements that compose the assemblage. In other words, in a universe conceived of as an indefinite combination of separate and autonomous entities, networks of correspondences establish linkages between entities. To make order, to create continuity within a myriad of interwoven differences, many visual mechanisms are called upon. Analogical thinking is the foundation of the fetish as described by ethnographers and theorized by classical sociologists like Durkheim (Ellen 1988; Pietz 1985; 1987; Schiermer 2011).

The fetish construct adds to understanding the nature of knowledge in organizations as it breaks out a definable category of figurative knowledge from "the residual category of tacit knowledge" where all cases of knowledge not easily classed as explicit, rationalistic knowledge amenable to representation in formulas and algorithms tend to be classed (Styhre 2004, 178; 183; Werr and Stjernberg 2013). It brings this form of knowledge out of the shadows through two moves, first by drawing on Descola to show how naturalistic representationalism is just one, albeit a powerful one, among several strategies by which people encode knowledge of the world. And second, by showing that fetish corresponds to

another class of knowledge strategies, and may be recognized through both its systematic and dynamic properties, properties that our data analysis revealed. Thus, consumer fetish as analogical knowledge becomes of the recognizable distributed organizational resources that comprise knowledge.

REFERENCES CITED

Alvesson, M.
1990 "Organisation: From Substance to Image?" *Organization Studies* 11: 373-394.

2003 "Beyond neopositivists, romantics, and localists: A reflexive approach to interviews in organizational research." *Academy of Management Review* 28 January: 13-33.

Anand, N., and B. C. Jones
2008 "Tournament rituals, category dynamics, and field configuration: The case of the booker prize." *Journal of Management Studies*, 45:1036-1060.

Anderson, P. F.
1986 "On Method in Consumer Research: A Critical Relativist Perspective." *Journal of Consumer Research* 13: 155-173.

Applbaum, K.
1998 "The sweetness of salvation: consumer marketing and the liberal-bourgeois theory of needs." *Current Anthropology* 39: 323-350.

Barnett, M.
2005. "Keeping an eye on you." *U.S. News & World Report*, 6/20/2005. Pp. 138, EE12-EE13.

Baudrillard, J.
1998. *The Consumer Society: Myths and Structures*. London: Sage.

Belk, R. W.
1991 "The ineluctable mysteries of possessions." *Journal of Social Behavior and Personality* 6:17–55.

Bell, G.
2011 "Big data as a person." Paper presented at Web Summit 2.0 Conference, October 17–19, San Francisco, CA. Accessed 4 July 2013. http://www.youtube.com/watch?v=Nvn_l_Vh3hw.

Bezaitis, M.
2009 "Practice products and the future of ethnographic work." *EPIC Proceedings*. Arlington, VA: American Anthropological Association. Pp. 151-161.

Blanc, D.
2010 "La fabrique des images, une expérimentation de Philippe Descola." *Connaissance des Arts*. Paris: Société Française de Promotion Artistique.

Bruner, E. M.
1986 "Ethnography as narrative." In *The anthropology of experience*. V. W. Turner and E. M. Bruner, eds. Urbana, IL: University of Illinois Press.

Carlon, D. M., A. A. Downs, and S. Wert-Gray
2006 "Statistics as fetishes: the case of financial performance measures and executive compensation." *Organizational Research Methods* 9: 475-490.

Castoriadis, C.
1998 *The Imaginary Institution of Society*. Cambridge: MIT Press.

Cayla, J. and G. M. Eckhardt
2008 "Asian brands and the shaping of a transnational imagined community." *Journal of Consumer Research* 35: 216-230.

Cefkin, M.
2010 *Ethnography and the Corporate Encounter: Reflections on Research in and of Corporations*. New York: Berghahn Books.

Clifford, J. and G. E. Marcus, eds.
1986 *Writing Culture*. Berkeley, CA: University of California Press.

Dávila, A.
2001 *Latinos, Inc. The marketing and Making of a People*. Berkeley: University of California Press.

Descola, P.
2005 *Par-delà nature et culture*. Paris: Gallimard.
2007 "À propos de par-delà nature et culture." *Tracés: Revue de Sciences humaines*. 12/2007. Accessed 10 Februrary 2013. http://traces.revues.org/229.

Dutta-Bergman, M. J. and W. D. Wells
2002 "The values and lifestyles of idiocentrics and allocentrics in an individualist culture: A descriptive approach." *Journal of Consumer Psychology* 12: 231-242.

Du Gay, P., and G. Salaman
1992 "The cult [ure] of the customer." *Journal of Management Studies* 29 (5): 615-633.

Ellen, R.
1988 "Fetishism." *Man*. 23 (2): 213–35.

Evans-Pritchard, E. E.
1940 *The Nuer: A Description of the Modes of Livelihood and Political Institutions of a Nilotic People*. Oxford: Clarendon Press.

Fernandez, Karen. V. and J. L. Lastovicka
2011 "Making magic: Fetishes in contemporary consumption." *Journal of Consumer Research* 38: 278-299.

Foucault, Michel
1979 "On governmentality." *Ideology and Consciousness* 6: 5-21.

Frank, A.W.
2000 "All the things which do not fit: Baudrillard and medical consumerism." *Families, Systems & Health: The Journal of Collaborative Family Health Care* 18: 205-217.
Frank, A.W.
2000 "All the things which do not fit: Baudrillard and medical consumerism." *Families, Systems & Health: The Journal of Collaborative Family Health Care* 18: 205-217.

Gabriel, Y. and T. Lang
2006 *The Unmanageable Consumer*. 2nd edition. London and Thousand Oaks: Sage.

Gebhardt, G. F., G. S. Carpenter, and J. F. Sherry, Jr.
2006 "Creating a market orientation: a longitudinal, multifirm, grounded analysis of cultural transformation." *Journal of Marketing* 70 (October): 37-55.

Graebner, D.
2001 *Toward an Anthropological Theory of Value: The False Coin of our Own Dreams*. New York and Basingstoke: Palgrave.

Grandclément, C. and G. Gaglio
2011 "Convoking the consumer in person: the focus group effect." In *Inside Marketing*. Zwick, D and J. Cayla, eds. London: Routledge.

Guðjónsdóttir, R.
2010 "Personas and Scenarios in Use." PhD thesis, KTH School of Computer Science and Communication. Stockholm, Sweden.

Harris, M.
1976 "History and significance of the emic/etic distinction." *Annual Review of Anthropology* 5: 329–350.

Hughes, P., R. F. Morgan and Y. Kouropalatis
2008 "Market knowledge diffusion and business performance." *European Journal of Marketing* 42 (11/12): 1372-1395.

Jordan, B., ed.
2012 *Advancing Ethnography in Corporate Environments Challenges and Emerging Opportunities*. Walnut Creek, CA: Left Coast Press.

Kennedy, K. N., J. R. Goolsby, and E. J. Arnould
2003 "Implementing a customer orientation: Extension of theory and application." *Journal of Marketing* 67: 67-82.

Kohli, A. K. and B. J. Jaworski
1990 "Market Orientation: The Construct, Research Propositions, and Managerial Implications." *Journal of Marketing* 54 (April): 1-18.

Kohli, A. K., B. J. Jaworski, and A. Kumar
1993 "MARKOR: A Measure of Market Orientation." *Journal of Marketing Research* 30 (November): 467-477.

Leloup, H.
2011. *Dogon*. Paris: Editions Musée du quai Branly/Somogo.

Lien, M. E.
2011 "The virtual consumer: Constructions of uncertainty in marketing discourse." In *Market Matters: Exploring Cultural Processes in the Global Marketplace*. C. Garsten and M. Lindh de Montoya, eds. Palgrave Publishers.

MacGaffey, W.
1994 "African objects and the idea of fetish." *RES: Anthropology and Aesthetics* 25: 123-131.

Mariampolski, H.
2006 *Ethnography for Marketers: A Guide to Consumer Immersion*. London and Thousand Oaks: Sage.

Marx, K.
1981 [1884] *Capital: Volume Two*. NY: Vintage Books.

Miller, D., ed.
2005 *Materiality (Politics, History, Culture)*. Durham: Duke University Press.

Miller, D.
1987 *Material Culture and Mass Consumption*. Oxford: Blackwell.

Molesworth, M., R. Scullion, and E. Nixon
2011 *The Marketisation of Higher Education and the Student Consumer*. Abingdon: Routledge.

Nafus D. and k. anderson
2006 "The real problem: Rhetorics of knowing in corporate ethnographic research." In *EPIC Proceedings*. Arlington, VA: American Anthropological Association.

Pietz, W.
1985 "The Problem of the Fetish, I." *Res: Journal of Anthropology and Aesthetics* 9: 5–17.
1987 "The Problem of the Fetish II: The Origin of the Fetish." *RES: Journal of Anthropology and Aesthetics* 13: 23-45.

Press, M. and E. Arnould
2011 "How does organizational identification form? A consumer behavior perspective." *Journal of Consumer Research* 38: 650-666.

Reynolds, F. D., M. R. Crask, and W. D. Wells
1977 "The modern feminine life style." *Journal of Marketing* 41: 38-45.

Rook, D. W.
2003 "Focus groups fail to connect theory, current practice." *Marketing News*, 37 (19): 40–45.

Rosaldo, R.
1993 *Culture & Truth: The Remaking of Social Analysis*. Boston: Beacon Press.

Schiermer, B.
2011 "Quasi-objects, cult objects and fashion objects. On two kinds of fetishism on display in modern culture." *Theory, Culture & Society* 28: 81-102.

Serres, M.
1982 *Genèse*. Paris: Bernard Grasset.

Stoller, P.
1989 *The Taste of Ethnographic Things: The Senses in Anthropology*. Philadelphia: University of Pennsylvania Press.

Styhre, A.
2004 "Rethinking knowledge: a Bergsonian critique of the notion of tacit knowledge." *British Journal of Management*. 15: 177-188.

Sunderland, P. and R. Denny
2007 *Doing Anthropology in Consumer Research*. Walnut Creek: Left Coast Press.

Werr, A. and T. Stjernberg
2003 "Exploring Management Consulting Firms as Knowledge Systems." *Organization Studies* 24 (6): 881–908.

ARTEFACTS

ALICIA DORNADIC, Co-Curator
Independent

ADAM DRAZIN, Co-Curator
University College London

When an idea is cast into the world, others are able to play with it, learn from it, expand, discuss, replicate or challenge it. The idea becomes shareable. EPIC Artefacts are a way to put ethnographic ideas out in the world. From research, design, and teaching tools, new methodologies, ways of thinking, and communicating, to finished products and films, the makers who created this year's artefacts push the boundaries of ethnographic production and interpretations of their work in current and future contexts. They come from corporations, consultancies, non-profits, start-ups, and academia to share their ideas with you.

Oh-Bento! How high school students bring ethnographic discourse into a lunch box

FUMIKO ICHIKAWA and HIROSHI TAMURA
Re:public Inc.

Placing innovation as one's heart of the activity, high-school students of a town hit by a devastating tsunami two years ago have been under collaboration in a youth community program called i.club. Oh-Bento, four bento box concepts invented through the program will be presented together with the overview of the program. The artefact will also present how these talents not only discovered the qualities of the town through their what was often sensory ethnographic work, but also, changed the way local community interacted and reacted towards change.

Curious rituals: Gestural interaction in the digital everyday

NICOLAS NOVA
The Near Future Laboratory

KATHERINE MIYAKE
NANCY KWON
WALTON CHIU
Art Center College of Design Pasadena

Curious Rituals is about gestures, postures and digital rituals that typically appeared with the use of digital technologies (computers, mobile phones, sensors). Based on field observations and interviews conducted in several locations in the USA and Europe, the book describes these gestures and their implications in a product design context. The design fiction video features an exploration of potentially new kinds of gestures and postures that may appear in the near future.

coYupik: Exposing opportunity through cooperative innovation

ANNA CUCURULL
SARA FORELL
SERGIO GAUSACHS
A Piece of Pie

In a challenging environment, innovation and cooperation are critical. They allow the Yupik people to thrive in frozen Alaska, and lie at the heart of coYupik – a unique Co-Innovation Digital Platform developed by "A Piece of Pie". Able to deliver actionable insights throughout the innovation process, coYupik applies cutting-edge ethnographic methods based on gamification to tap into real lives and generate insights beyond the traditional face-to-face techniques with improved efficiency.

Coach Me: Innovation in bus travel

LIONEL OCHS
Méthos Paris

NICOLAS GAUDRON
VIRGINIA CRUZ
IDSL Paris

The suggestive installation revolves around a Europe-wide ethnographic and design research project on coach travel. Attendees are invited to take part in the research experience and discover the process that laid the groundwork for a successful innovative bus travel service. Research outcomes are confronted with images of actual implementation to spark the discussion. This research was undertaken for SNCF iDBUS by Méthos and IDSL.

Concept development board of a domestic heating product for older adults

PJ WHITE
Institute of Technology Carlow

This artefact is the result and embodiment of a 12 month Design Ethnographic field study. The study was conducted as an enquiry into older adult cooking and heating product usage. The study included 40 participants both male and female, from varying socio-economic backgrounds in urban and rural Ireland. This Concept Development Board suggests improvement for future redesign and development of heating products for older people.

Data salvage for design inspiration

JULIE GUINN
Intuit

STEFANIE DANHOPE
Microsoft

This toolkit is designed to facilitate lateral thinking during brainstorming exercises. It was developed as part of a larger project exploring new applications for research artefacts in the design process. It uses photographs salvaged from an abandoned research archive to demonstrate how artefacts can continue to provide value even long after their original purpose has been fulfilled.

Repair project

IVANA FABRIO
School of Design Faculty of Architecture University of Zagreb

DOMAGOJ KUNIĆ

Repair is a project promoting an activity that embodies knowledge, skills, creativity, and the relationship between people and their possessions. It gathered designers with a task to repair old, defected objects of local citizens, through their live interaction. It is a platform investigating the narrative behind objects, through stories that show how bonds between people and their possessions are created, and how they can be embodied in the repaired object.

Rhei Inc.

DAVID HILMER REX
STEPHEN LICHTY
Rhei

Rhei is a research studio that leverages contemporary art methodologies to orient, inform and inspire specialists in other industries. Our 80 researchers are artists, curators, and theorists operating globally. The artefact is an online platform designed to encourage an ontological approach to researching phenomena. By giving primacy to the mobility of concepts, desires, and problems, we ask fundamental questions of the phenomenon and present our findings as a context.

Balancing the electricity smart grid without unbalancing the family

LOUISE BUCH LOEGSTRUP
Kolding School of Design

MAREN MELISSA NELSON-BURK
WAFA SAID MOSLEH
WENDY GUNN
SPIRE, The Southern University of Denmark

The emergent bidirectional smart grid technology has forced a Scandinavian energy company to begin rethinking the relation between themselves and private energy users. The idea of the artefact is to provoke the energy company to reflect on their thinking about this relation by generating anthropological analytical understanding in the company through a collaborative process of designing involving incomplete scenarios.

This Is not a pipe

J. PAUL NEELEY
Neeley Worldwide

This project works to unpack the elements of a complex human behaviour and public health issue, that of smoking. The result proposes a future where the underlying function of smoking has changed, but some of the associated behaviors, meanings, and rituals live on in new and meaningful ways. The approach challenges us to avoid reduction in our work, and to engage with complex behaviour and meanings in new ways.

Provocative video scenarios

AGNESE CAGLIO
University of Southern Denmark

These three very short films were developed to support exploration of remote video communication. This brings a method traditionally used by designers, the scenario, into the user studies practice. By proposing controversial design concepts, the videos aim at representing tensions and sparking discussion about the issues at hand, rather than provide solutions. The conversations emerging can often highlight key aspects of practice and values that might otherwise be overlooked.

One concept expressed in five ways: How does The Media format affect feedback?

TAKANORI UGAI
Fujitsu Laboratories

CHIHO SASAKI
KEIKO IHARA
infield design

Since 2011, this research project has been conducted in a small fishing village swept out by the huge earthquake and tsunami on 11th March 2011. Interviews with thirty-eight people were conducted and twelve scenarios were built upon their hope and reality. A variety of prototypes will be displayed, which are: a novel, picture book, manga, posters and animation videos. Each future scenario is expressed in five media.

Step on, pick up, tap through: Moving findings beyond PowerPoint

ALEXANDRA ZAFIROGLU
JENNIFER HEALEY
TIM PLOWMAN
Interaction and Experience Lab, Intel Corporation

Plastic simulacra blankets printed with life size photographs of car contents and an interactive graphics-rich report bring to life the daily materiality and diversity of global automobility practices. With these artefacts, ethnographers avoid PowerPoint reports with rigid narrative flows and summaries of recommendations, instead allowing audiences to explore findings at their own pace, in dialogue with researchers and through materials they can stand on, pick up, turn over and read.

User experience sketches

LUCY NEILAND
ExperienceLab

These sketches were produced as part of a project, commissioned by a major broadcaster, to understand people's radio habits, with the ultimate objective of designing an IPTV radio app. The sketches show common types of participant interactions with the radio throughout the day. They were put together after an initial round of ethnographic research in order to help communicate our findings to the design team and the client.

PECHAKUCHA

SUZANNE L. THOMAS, Co-Curator
Intel

HAN PHAM, Co-Curator
Intel

Imagine you are on stage. Behind you 20 slides flash by, 20 seconds each. It's six minutes and forty seconds of you and your slides in glorious real-time bringing an idea, inspiration, thought or passion to life. It's PechaKucha. In 2013, your EPIC compatriots walk you down the path of a changing Brixton neighbourhood, wake you up from a nap in China, watch you be born and die digitally and, thankfully, get you out of jail.

Consider everything

J. PAUL NEELEY
Neeley Worldwide

When we design today, we isolate problems and then create solutions for them, and we then celebrate those solutions. But in reality we have no idea exactly what we've done, because in focusing on any particular problem we have really just ignored everything else. We have failed to engage with the complex realities of our interconnected world, and in our attempts at solutions have only created more problems.

Trust me

HAN PHAM
Intel Labs Europe

When people are faced with a situation that puts them on edge, what – and who – helps them ease off it? Han Pham reflects on the role of "trust avatars" and how exploring trust in the everyday present and fictional futures can teach us about adding back the human touch in future experience design and technologies. "Trust Me" touches on the quirky and poignant human geography of trust between the lines and what the possibilities may be for creating more empathetic experiences.

Daily ordinary joy

PAUL RATLIFF
Independent

Daily Ordinary Joy is a personal research project exploring moments of joy or delight sparked by everyday encounters with the world. Images and captions of participants illustrate some of the emerging ideas about the categories and nature of these experiences. The presentation seeks to open a conversation about ethnographic research as a process that can and does shift the consciousness of the people who participate in it.

Behind bars

BECKY ROWE
ESRO

An overview of fieldwork conducted by ESRO in three of England's Young Offenders Institutions for the Youth Justice Board. The work involved 300 hours of ethnography, exploring the experience of young people and staff to help policy-makers improve the rehabilitative impact of prison. Becky Rowe (Managing Director, ESRO) will challenge assumptions about prison life and highlight controversial recommendations – including why traditional suicide prevention measures may be counterproductive, and what prisons can learn from retail environments.

Your creative mind-set is the future

SHILPI KUMAR
Herman Miller Inc.

KETA PATEL
PAUL SHEETZ
CHIA-LING YU
Institute of Design, IIT Chicago

Work environments are changing. The digital era has enabled new models of work and life. People are increasingly gravitating towards new work environments. Spaces that support collaboration, cooperation and collective innovation adhere to a similar network. Collaboration between Herman Miller and the Institute of Design led us to methodologically immerse into relevant spaces around Chicago. Innovation labs, design consultancies, co-

working communities and hacker spaces provided grounds for our research findings on different ways of working.

Snore: Public sleeping in China

MOLLY STEVENS
Google

Sleeping in public is common in China. The practice reflects a foggy border between public and private space, between work and rest, between open job markets and guaranteed positions. Will businesses begin enforce western standards for behaviour, or will napping become a protest against non-Chinese institutions? This presentation will explore some of the social norms associated with public sleeping in China in 2013 and discuss the current climate in the retail stores about this habit.

Ideology and alternative market systems: the case of complementary currencies

MARIO CAMPANA
Cass Business School, City University London

Money can have different meanings according to uses, sources, and marketplace practices associated with it. Complementary currencies, arisen with the recent economic downturn, are charged with ideological values such as anti-capitalism, sustainable consumption, and community building. However, they also assume different consumption and symbolic meanings according to the market where they are embedded. This research aims to study what kind of changes a currency such as the Brixton Pound has triggered in its local marketplace.

Why ethnography can turn fear of change into enthusiasm

RIKKE ULK
KATJA SCHLESINGER
Antropologerne

Antropologerne claims that the widespread sense of pressure due to cutbacks and financial crisis - resulting in an inability to radically improve products, services or societies - can be regained if using ethnographic methods and emphatic prototype testing. With hand-drawn cartoonish styled illustrations on real life field photography and by combining brain

research with solid ethnographic experience from client projects it is argued that ethnography can to turn fear of change into enthusiasm.

Stasis to stability

JAKE GARBER
The Innovation Unit

Last year in Buckinghamshire, the council and its partners realised the support they offer to families with complex needs wasn't working. Through detailed ethnography Innovation Unit uncovered families held in stasis by services, rather than finding stability they could build on, and services struggling to support families develop their own resources. The stories we surfaced generated a common perspective and language, cutting across individual service priorities, that has created a shared opportunity for real change.

Farmification

LISA MA
Fringejoyride

The author went to live inside a joystick factory in Shenzhen. After immersing in the life of factory workers as ex-farmers, she proposed part-time farming to help manufacturers survive through vertiginous innovation waves and opened a global dialogue about how western technological demands impact the world food economy. Farmification is currently undertaken by large industries endanger suffering from demand shortages. Their emergent pattern results in a productive passive activism against the rapid advancement of China.

Modern artefacts and a fundamental embrace: A new appreciation for old friends

ERIN HOLLAND
Mullen

I present for discussion the value and insight modern artefacts provide ethnographic practitioners in business and, more specifically, advertising. These social, technology based artefacts are in transition and their meanings and symbolism are affected by the human desire to present a curated self. Our recent study on behaviors surrounding the usage and purchase of smartphones illuminated this desire and the need for a return to the fundamental tools all ethnographers possess - conversation and observation.

Life and Death in the Age of Digital

MEGAN BANNON
SapientNitro

Technology and big data have changed the way we live…and die. Human life is being captured, analyzed, and impacted like never before. We're at the crux of a revolution, and understand very little about the long-term impacts individually and societally. What does this all mean for research, innovation, and design? How do we manage the influx of data, the power and the responsibility of this new future that currently exists without clear ethical guidelines?

SALONS

SIMON PULMAN-JONES, Co-Curator
GfK

STOKES JONES, Co-Curator
Motorola Mobility

KATHY BAXTER, Co-Curator
Google

RICH RADKA, Co-Curator
Claro Partners

EPIC Salons are not a seminar, not a presentation, nor workshops with a 'leader'. In 2013, the first year this format was featured, the Salons achieved their sole goal of offering more space for 'horizontal' conversation between EPIC attendees - by offering a forum for shared in-depth explorations of a single topic.

New methods in and for ethnography

STOKES JONES, Host
Motorola Mobility

Arguably, the main battles that defined the formation of ethnographic praxis in industry in the 80's and 90's - over the most appropriate and effective research methods to deliver against businesses' innovation and design objectives – have been won. With ethnography well established as a mainstream approach in many business and organizational contexts, what is the new methodological frontier? We will draw inspiration from a new spirit of methodological exploration and experimentation being driven by cross-disciplinary collaboration in social and cultural research. To what extent do the methods we use create the social realities that we engage with as well as describing them? What can a more ambitious and creative vision of the role of methods offer to the practice of ethnography?

Redeeming Big Data

KATHY BAXTER, Host

Google

The topic of Big Data currently exerts a big gravitational pull: few conferences – whether business-focused or academic – feel able to exclude it from their agenda. It presents itself as both the biggest prize and the biggest challenge. From the purely commercial perspective, the tantalising prospects of scale, comprehensiveness and responsiveness that Big Data offers businesses in their engagement with their markets are frustratingly offset by the magnitude of the technical challenges presented by creating effective data taxonomies and analytical frameworks. At the same time, new thinking has been emerging from the social sciences which provides both critique of the narrow scope and flawed premise of much commercial Big Data thinking, and new conceptual apparatus which may enable more effective and human-centered harnessing of the massive quantities of information produced by and about people, things, and their interactions.

The Informal Economy

RICH RADKA, Host

Claro Partners

A constellation of factors, from the nature of growth in emerging economies, to new personal business models enabled by social media, and the harsh necessities of the current economic climate, mean that the marginal and improvised activities that comprise the 'informal economy' look likely to play an increasingly significant and central role in the world's economic and cultural future. How should ethnography engage with the informal economy? How can we equip organisations to learn from the informal economy and construct an equitable engagement with it? Can ethnography play a role in addressing the challenges of scalability and ephemerality that threaten to limit the impact of innovations originating in the informal economy?

WORKSHOPS

CATRIONA MACAULAY, Co-Curator
University of Dundee

SIMON ROBERTS, Co-Curator
ReD Associates

EPIC 2013 features nine handpicked workshops that were designed to provide attendees with fresh skills and perspectives on the art and science of ethnographically informed work. A clutch of workshops will discuss how we train and mobilise as a professional community in- and outside of academia. An- other will discuss how we sell our work (and how it is bought). Other sessions were designed to introduce attendees to new tools that can be used to conduct fieldwork or how to create a digital ecosystem of ideas, information and conversations. Simple, human-scale technologies and cognition came to the fore in workshops designed to teach people how to think with their hands, to command a room with a whiteboard and marker pen or unfold creative thinking processes.

Ethnography + Design Fiction

NICOLAS NOVA
The Near Future Laboratory
ANAB JAIN
Superflux

The workshop will deal with relationship between ethnography and futures research: how can ethnographic theories and field research be relevant for foresight-related activities? What are the opportunities and limits of such endeavours? More specifically, by engaging participants in a series of short activities we will explore how the crafting of design fictions - "the deliberate use of diegetic prototypes to suspend disbelief about change" as defined by Bruce Sterling - may benefit from ethnography.

What is your digital identity? Create a digital ecosystem of ideas, information and conversations

ABHAY ADHIKARI
Independent digital engagement strategist

A workshop for those interested in learning how to exploit the power of social networks both as a business and a research tool. You will develop a Digital Identity based on your professional interests or role within your organisation. You will also define a unique voice to express ideas with clarity. You will apply this thinking to select social tools to curate a digital ecosystem of ideas, information.

Barcelona 2.0 - Organizing the 2nd meeting of European Business Ethnographers in 2014

HEINRICH SCHWARZ
Schwarz Innovation,

The goal is to start planning the next meeting of European business ethnographers (aka EPIC Europe) as follow-up to the Barcelona meeting in 2012 – formulate a vision, determine an approach, build a task force, allocate tasks and activities, think about a venue and an organizational structure etc. For everyone who is interested in European applied/business ethnography or people driven problem solving from industry or academia: designers, strategists, innovators, psychologists, anthropologists/ethnologists, managers and of course ethnographers.

Mobile apps and sensors: Emerging opportunities for ethnographic research

MIKE GOTTA
Gartner

MARC STICKDORN
MyServiceFellow

SIAMACK SALARI
EthosApp

ROSA MCLEAN
Over The Shoulder

This workshop will (1) examine three mobile ethnography apps and how they aid the research process (2) use these apps to kick-off a group discussion on the type of tooling capabilities needed by practitioners, (3) explore industry trends and topics in the area of quantified self and their potential impact on ethnographic approaches. Proliferation of mobile self-tracking / monitoring apps and sensors are creating new opportunities for ethnographic research. Mobile tools designed to aid the research process are also emerging. At the same time, parallel market trends (e.g., quantified self) are evolving, creating opportunities for new business models and innovative consumer relationships that can also help ethnographic research.

Thinking with your hands

DOERTE (DOTTI) TOELLNER
VIRGINIE GAILING
Point-Blank International GmbH

We're inviting conference participants to step out of the cognitive space and ‚craft' rather than, think' innovation. In prototyping together we'll experience the potential merits of Design Thinking – without lecturing. In our workshop, mini-teams generate their own interpretations of the challenges introduced at EPIC in the form of haptic-collective prototypes. BUT, teams will have to work together in complete silence. This means flexing their non-verbal communication skills, & stepping out of the language-dominated 'conference mode'.

Skills and relationships: defining the training of future practitioners

STEFANA BROADBENT
University College London

In this panel we explore what are the mutual responsibilities of academic programs and industry partners in developing a shared field of practice. A senior group of academics and practitioners will discuss what are the pressing needs for training in the private and public sectors and how should academic programs respond to them. But we also examine whether the theoretical and ethical frameworks of academic research can be applied to other research frameworks attempting to grapple with the question of how the ethnographic method changes as it moves between contexts.

Not a workshop on ethnography (it's about using whiteboards)

PHILLIP JOE
Microsoft

When you are trying to inveigle user-centred thinking into the hard-nosed world of business, and you only have a one-hour meeting to gather up the egos, yet you still want to show you care about people, what can you do? This session is not about ethnography (although Phillip does claim to know how the word is used), but a low-brow, practical session about white boarding. Or, "how to appear like you know what you're doing in a big stakeholder meeting, especially if you have not met anyone before, and are not sure what will come from the meeting, but want to make it worthwhile all the same." This session will add a basic method to your client working toolkit that can be used to run sessions over an hour, or a day.

What we buy when we buy design research

ANDREW HARDER
Workshop Experience Strategy

HANNAH SCURFIELD
Intel

This workshop explores how to deliver value with design research. Aimed at both client and agency researchers, we ask: How should clients buy Design Research? How do we balance methodologies, management needs, design processes and agency capabilities? How do we turn business objectives into a well-scoped research project that delivers the right things to the right people? This workshop unpacks the challenges, approaches and competencies of managing design research in an organisational context.

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