QUESTION ONE:

How can qualitative internet researchers define the boundaries of their projects?

Christine Hine

(Responding essays by Lori Kendall (p. xx) and danah boyd (p. xx))

> The notion of immersion implies that the 'field' which ethnographers enter exists as an independently bounded set of relationships and activities which is autonomous of the fieldwork through which it is discovered. Yet in a world of infinite interconnections and overlapping contexts, the ethnographic field cannot simply exist, awaiting discovery. It has to be laboriously constructed, prised apart from all the other possibilities for contextualization to which its constituent relationships and connections could also be referred. (Amit, 2000b, p. 6).

This chapter reflects on some possible ways that a study of the internet might be defined, in terms of the places one chooses to begin and the decisions that are made about avenues to pursue. In addressing this question I have in mind my own experiences as an ethnographer working in the broad area of the sociology of science and technology and trying specifically to contribute to understanding of the role that information and communications technologies play in contemporary society.

I will first describe the analytic approach that informs the way I think about the internet and helps me to decide which kind of internet inquiry I am doing. Science and technology studies is the disciplinary place where my internet research projects start. This decides, to some extent, what will count as interesting places for me to go. I am also shaped by an interest in the status of ethnography as a method for understanding contemporary society, and this too gives fuel for reflection on the boundaries of projects.

I therefore turn next to some strands of thinking in ethnographic scholarship from anthropology and sociology more broadly, that help to show that internet studies are not alone in their dilemmas about where projects start and stop. Finally, I illustrate these points by describing some recent projects, including one of my own, that took unconventional approaches to defining their field sites.

I hope to show that deciding where to start and when to stop can be an intrinsic part of the ethnographer's attempts to ensure that the research questions are both coherently addressed and adapted to the cultural landscape that emerges. When the research is internet research (and I would suggest that most ethnographies of contemporary society could usefully incorporate some internet research), the possible connections to pursue multiply, and the occasions for making decisions on the shape of the project and for learning about it in the process multiply also. Internet research proves to be a rich arena for thinking about how contemporary culture is constituted, and a powerful way to do that is to reflect on the boundaries of individual projects and, at the same time, to explore the boundaries of what it means to do ethnography.

Science and Technology Studies and the Internet

While the question of this chapter is ostensibly about methodological choices, there is an essential link to theory. Working out methodologically where to start and stop a study is bound up with where one feels a study should travel analytically. The problem is deciding what would count as an adequate response to a research question, which can only really be decided within the parameters of a given disciplinary approach or theoretical framework. As Cooper (2001) explains, theories give us particular ways of

viewing the world that can shape ideas about how to go about empirical research.[2] Each

theoretical perspective has an angle on what is interesting about social situations, and

hence how we should go about studying them. It is important, then, to start out by

explaining the theoretical framework that shapes the way I think about adequate

responses to internet research questions. This framework, from science and technology

studies, gives some clear pointers about ways to take a sociological interest in

technologies, and in particular gives some stimulating food for thought in connection

with boundaries.

The sensibilities of science and technology studies shape my approach to the

internet in two key ways. The first is a distinctive concern with the development of

technologies as a social process. Science is often represented (mistakenly according to

the sociology of scientific knowledge) as a form of knowledge independent of particular

social contexts of production. In a similar style, technologies are often thought of as

produced straightforwardly, and asocially, by the application of scientific and engineering

knowledge and economic rationales. Instead of accepting this view of an inevitable

technology arising independently of social and cultural influence, science and technology

studies suggests that we should look for the social dynamics at the heart of new

technologies. It becomes interesting to look at the assumptions that designers work with,

the factors that influence judgments about whether a technology is effective or

marketable, and the way that commercial organizations market and disseminate new

---

[2] Cooper uses two contrasting examples to illustrate this point: Goffman's social interactionist perspective
might encourage a researcher to focus on the detail of social interactions and the way people manage the
impressions they give off; Foucault's distinctive understanding of the operations of power offers a stimulus
to developing critical perspectives on aspects of contemporary social life that might otherwise be taken for
granted.

technologies. Science and technology studies has advocated that researchers aim to open up the black box of technology to find out how it comes to be that way (Latour, 1987).

The other area in which I have found science and technology studies useful for thinking about the internet is its approach to the contingency and variability of technologies in use. Instead of having effects upon society, technologies have been portrayed by constructivist sociology of technology as intrinsically social. What might be thought of as "effects" of technologies are, instead, to be thought of as emergent qualities dependent on particular sets of local dynamics. Technologies have an "interpretative flexibility" (Pinch and Bijker, 1987) which means that different social groups might view them quite differently. As a research focus, it thus becomes interesting to explore how people come to grips with new technologies, what informs their ideas about how to use them, and how social boundaries form and transform around them in a dynamic process not determined by the technology as an independent agent (Oudshoorn and Pinch, 2003). The social dynamics of production and use carve out boundaries between users and producers, create and sustain power relations and hierarchies, and define the sanctioned uses of technologies (Grint and Woolgar, 1997). What technologies are and what they can do can therefore become topics for social research.

Both areas of interest, technology development and technology appropriation, are well suited to ethnographic approaches. This kind of methodology, with its focus on being true to lived experience and on examining how mundane realities come to be, is well-suited for such skeptical examination of technologies and has a key place in the history of science and technology studies (Hess, 2001). There are some dilemmas, however, in determining exactly where such a study should go. Whilst an ethnographer

might routinely expect to find a context of technology use and go to study it, or negotiate access into a company designing new technologies and document the work that goes on there, not all field sites are as readily identified. Recently, science and technology studies has stressed that one should not accept taken-for-granted sets of boundaries in accounting for the form of technologies and their apparent impacts on social life, and this has implications for the design of ethnographic studies (Hess, 2001).

The problem in defining appropriate field sites is that it is not always possible to identify in advance where the relevant social dynamics for understanding a particular technology are going on. This implies that a useful way to study technologies in all their social complexity may be to try and trace their histories and connections and the social groups that are identified around them, whilst remaining ambivalent about the identity of the object being studied. One iconic example of this approach is the Zimbabwe bush pump, as described by de Laet and Mol (2000).

> The Pump is a mechanical object, it is a hydraulic system, but it is also a device installed by the community, a health promoter and a nation-building apparatus. It has each of these identities – and each comes with its own different boundaries. (p. 252).

The description which de Laet and Mol offer of the bush pump shows how it is flexibly and variably defined, and how assessing even whether it is working successfully or not is a highly contextual judgement. The identity of the technology, and thus where to start and stop in studying it cannot be decided in advance. Indeed, it is by following a trail that led them to places they could not have defined beforehand that de Laet and Mol arrived at their argument about the particular quality of the bush pump, its fluidity, which

accounted for its success. Had they set out with a defined idea of what the technology was, they would not have found out what they did. Their advice is to suspend judgement on the appropriateness of various forms of boundary, but instead to engage with the situations that are found. This idea of technologies with inherently multiple identities clearly resonates with Markham's (1998) observation that the internet was viewed variously by its users as a tool, a place and a way of being.

The argument for flexible approaches to methodology is taken further, by John Law in a book provocatively titled *After Method* (Law, 2004). Law starts from the proposition that methods in social science are constitutive of, rather than reflective of social reality (Law and Urry, 2004). Rather than simply portraying the way that things are in the social world, methods thus shape the ways in which it is possible for us to think about society. In *After Method* Law (2004) argues that the world is an inherently messy and complex place, and that any attempt to superimpose the methodological stances of social science upon that situation will inevitably do injustices to some features of the situation. Our methodological instincts are to clean up complexity and tell straightforward linear stories, and thus we tend to exclude descriptions that are faithful to experiences of mess, ambivalence, elusiveness and multiplicity. Law argues that we need to examine our methods for the directions which they push us in, and consider whether their biases and exclusions are desirable ones. He suggests that we face up to the selective nature of methods, and try to develop alternative forms that select for different qualities than linearity and order, focusing in on the researcher's agency as a constructor of reality and not hiding behind portrayals of method as mere technique. Applied to technologies, this means accepting that there are many versions of what a given technology is and how

it is bounded, and trying to address some of this complexity with our methodological approaches.

The theoretical perspectives and methodological predilections of science and technology studies therefore inform the way that I think about ethnography of the internet, and inevitably shape my decisions on the appropriate places to start and stop projects. Sensitized by the emphasis in science and technology studies on opening up black boxes, I am predisposed not to accept taken-for-granted ideas about what technologies can do and how they come about. I expect to find social processes at the heart of the development of internet technologies, shaping the form that these technologies take. I am pre-disposed to find variations in what people do with the internet and with how they experience what they do. The internet will often not be experienced as a single entity, and will have many different social meanings. I expect, then, to find that I will be in doubt for much of the time what the technology is that I am focusing upon, and whether the issue that I am examining at the time is relevant or not. Law's writings on method provide an inspiration to aim to explore the texture of social life as lived without expecting that there will be clear patterns or boundaries. When a technology appears to offer up a clearly defined field site – maybe a newsgroup, maybe a multi-player online gaming site, maybe a cybercafé – these sensibilities suggest that one should become suspicious.

The added value of the science and technology studies approach lies in its ability to question the taken-for-granted aspects of technologies, and that includes judgments about what is and is not relevant to answering the question at hand. The focus has to be on working across the immediately apparent boundaries, exploring connections, making

tentative forays which are then turned into defensible decisions, and retrofitting research questions to emergent field sites. In a later section of this paper I will describe a research project I have recently undertaken, to flesh out these assertions. First, however, there is more to discuss about ethnography, and particularly recent work on how ethnography can be fitted to the conditions of everyday life in complex societies.

Ethnography in complex societies

Thus far much of my discussion could apply to qualitative methods in general as much as to ethnography in particular. All qualitative studies have to be designed with particular ideas in mind about where would be interesting to go or whom to interview in order to study a particular topic. Whilst we might adhere to some form of grounded approach[3] to build theory out of qualitative data, our prior commitments help to shape what we will count as being data in the first place. Deciding what to study and what to exclude is thus as pertinent to qualitative interviewing, for example, as it is to ethnography. However, within ethnography the commitment to ongoing methodological flexibility and to the adaptation of methods to the circumstances in which the ethnographer finds themselves produces a particular consciousness that research design is an ongoing concern and that what counts as data has constantly to be re-evaluated. In what follows I will focus specifically on the organization of ethnographic fieldwork and on the design of multi-sited studies, but in the conclusion I will return to qualitative enquiry more broadly to consider how far the issues raised here apply.

---

[3] The term has acquired many different interpretations since inception, but originates from Glaser and Strauss (1967) and connotes an attempt to develop theory grounded in the data rather than imposing prior conceptualizations upon data.

Ethnography has a reputation as an approach which allows researchers to study social situations on their own terms. The key idea is that the researcher should become immersed in the social situation being studied and should use that experience to try to learn how life is lived there rather than coming in with a particular pre-formed research question or assumptions about the issues that will be of interest. Ethnography is thought of as the most open of research approaches, which adapts itself to the social situations that it finds. This does not mean, however, that ethnographers just wander around aimlessly, or that simply by being in a situation they will soak up data. Ethnography might be adaptive, but it is still purposive. As Hammersley and Atkinson argue, rather than research design becoming irrelevant, it "should be a reflexive process which operates throughout every stage of a project" (Hammersley and Atkinson, 1995, p. 24). Ethnographers begin with a set of foreshadowed problems that give them a sense of what will be interesting to study, but these preliminary thoughts are to be constantly re-evaluated in the face of field experiences.

Classically, an ethnographer is often thought of as going out into a chosen field site, undertaking research into the culture encountered there and coming back to write about the experience. This caricature does not do justice to the complexities of the process, and most pertinently for the discussion here ignores the problems in working out what exactly would count as an appropriate field site. The question of where to begin and end an ethnography, and where to go in between, has to be one of the main sources of anxiety for a contemporary ethnographer. Many of the people who might form subjects of ethnographic enquiry live media saturated lives, connected to diverse others across the globe by travel and migration, by media representation and by telephone and internet

communications. The world is a complicated place, and ethnography as a methodological stance has had to struggle with the consequent difficulty of defining field sites. On this topic there are some exciting currents of writing to tap into in contemporary anthropology and cultural studies, for inspiration on how field sites might be defined for internet research.

To begin with the idea of complex societies, and the problem of adjusting methods to suit, Ulf Hannerz (1992) has some interesting provocations. He suggests that ethnography, narrowly construed as the study of a particular bounded field site, does an injustice to cultural complexity. Culture cannot, in Hannerz' view, be adequately described by a patchwork of place-based ethnographies. This would give an uneven and arbitrary coverage, and fail to address the varying connections between places and the ways in which place itself is constituted:

> As collective systems of meaning, cultures belong primarily to social relationships, and to networks of such relationships. Only indirectly, and without logical necessity, do they belong to places. The less people stay put in one place, and also the less dependent their communications are on face-to-face contacts, the more attenuated does the link between culture and territory become. Hannerz (1992, p. 39).

Hannerz's recipe for the study of cultural complexity is to focus instead on "the interfaces, the affinities, the confrontations, the interpenetrations and the flow-through, between clusters of meaning and ways of managing meaning" (Hannerz 1992, p. 22). The

significance of various forms of connection for defining contemporary cultural life has suffused recent anthropology and cultural studies. In sociology, Urry (2000) has taken a lead in suggesting that mobilities, networks and flows increasingly place in doubt the idea of a society, construed as a coherent bounded unit. Appadurai (1996) uses the notion of "scapes" to capture the heterogeneous territories mapped out by diverse forms of connection: we have thus not just landscapes, but also ethnoscapes, mediascapes, technoscapes and financescapes. Rosenau (2003) talks of "distant proximities" through which local and global are constituted, and he suggests that distance and proximity can only usefully be assessed on experiential grounds, rather than as geographic concepts.

The terminology varies, but the commitment to finding out about contemporary culture as simultaneously bounded and connected, and of using fieldwork as a way to explore its dynamics, remains constant. Fieldwork, however, is not always instantly recognizable, and attempts to explore cultural complexities sometimes push it to its limits. Amit (2000a) assembles a collection of papers which reflect on the problems in defining "the field" as a separate domain from everyday life, particularly when anthropologists study close to home, or in spheres that touch upon their own personal lives as well as their professional activities.

Concerns about ethnography as an appropriate medium to address cultural complexity and multi-sited cultural formations have been prominent in recent years. Ethnographers have of course never been dumb victims of narrowly defined field sites, and their theoretical sensitivities position them to see the local in terms of global phenomena (see, for example, the collection of papers edited by Miller (1995)). However, despite portrayals of ethnography as inherently a method for seeing the global

in, and constituted by, the local, there has been continued concern that place-based studies might not be the best way to represent complex connections. Marcus (1995) proposed a specifically multi-sited ethnography as a way of addressing trans-local connections, even whilst acknowledging that ethnography had always to some extent been multi-sited. Burawoy and colleagues in their collection of globally oriented ethnographies redefine the work of ethnography as being "to study others 'in their space and time'" (Burawoy et al. 2000, p. 4), leaving it effectively up to the subjects of the ethnography to decide whether the study be about a particular bounded place or about networks of diverse connections. Ethnography thus becomes increasingly construed as the exploration and description of the practices of locating, connecting, siting and bounding through which culture is constituted. Ethnographers taking this approach will need to be sensitive to heterogeneous practices and resources, drawing on a variety of media and forms of interaction and representation.

Much of this writing about ethnography is tied to the particular project of anthropology, construed as a multi-faceted study of the constitution of cultures. Whilst I hope to illuminate aspects of contemporary culture, I do not share a commitment to the overall disciplinary project of anthropology. Inevitably, then, some of my methodological choices will be different. For some studies I will want to study particular places, and in some internet studies I will focus on a particular online space, either as an interesting phenomenon in its own right or as an insight into the local constitution of a broader phenomenon in which I am interested. For example, I have studied the discursive practices of one newsgroup in order to explore a specific question about the ways in which laboratory practices transferred to online spaces (Hine, 2002). I have also

interviewed various web site developers within an organization in order to explore the cultural dynamics that underpin web design practices (Hine, 2001). Neither study was explicitly framed as ethnographic. Each project left several questions dangling that could have benefited from an ethnographic engagement, but would have required broader conceptions of field site if I were to explore them in depth. Whilst these were qualitative studies, I did not develop the level of immersion in the settings that ethnographic enquiry would be expected to have, and I focused on narrower research questions than an ethnography would usually employ at the outset. In the next section I will go on to describe some studies that illustrate the purchase offered by being open about the constitution and evolution of research questions and the field sites to study them in.

Multi-sited ethnography and the internet

The debate about ethnography and cultural complexity can be taken as provocative for thinking about how to design studies in, through and around the internet. If we are interested in the internet as a cultural phenomenon it does not make sense to assume that it is always a place that one goes to, and that this place is in turn a field site to be studied ethnographically. As Markham (1998) argued, the internet can be seen as tool, place and way of being, and these different aspects offer different methodological choices. I have argued previously (Hine, 2000) that ethnography was important in establishing that the internet could function as a cultural context, meaning that culturally interesting and sociologically relevant things were happening there. Having established this point, and yet having reached a stage where internet is increasingly seen as a part of everyday life rather than a separate and automatically virtual sphere (Miller and Slater, 2000; Wellman

and Haythornthwaite, 2002; Howard and Jones, 2004) it would be a shame to become restricted methodologically by notions of internet as place. It may indeed sometimes be a place, but taking note of anthropological debates about the significance of place is one way of making sure that we do not miss out on representing cultural complexity at the same time.

There have been some intriguing methodological responses to the internet, making bold attempts to both address the cultural complexities that its use occasions and to cut across the pictures drawn by more conventional approaches. I can only include here a brief and incomplete roll-call: Beaulieu (2004) offers a more systematic review of forms of ethnographic engagement with the internet, looking specifically at epistemological issues. She argues that while virtual ethnographies have been self-consciously innovative and that many anxieties about the adequacies of method have been evoked as a result, there is a lot of continuity with more conventional notions about what ethnography should be and the adjustments to fundamental ethnographic principles have, in practice, been slight. I therefore present here some examples of innovative studies without making particular claims that they either conform to or transform ethnographic principles. The key point is that they illustrate different ways of starting to design a study that engages with the internet (or some aspect of it) and demonstrate the kinds of decisions that arise regarding where to go and what to do there.

Nicola Green (1999) conducted a multi-sited ethnography of a virtual technology. Her work on virtual reality in design and use shows how a study of these technologies can grapple with uncertainty and track the various objects, people and stories involved. She builds an approach based on feminist post-structuralism and science and technology

studies to argue that virtual reality technologies are best studied through a flexible approach that follows people and objects and the stories about them. More specifically, she progressively defines her study and finds herself involved within sites where virtual reality technologies are produced, using them herself, and also focusing on the workers who make virtual reality systems available for members of the public to use. Each perspective adds another layer which further illuminates virtual reality as a complex phenomenon produced through diverse forms of labour. Green (1999) shows that virtual reality takes various forms of social investment to realize as a practical achievement, casting a rather different light on stories of virtual reality as an instance of inevitable technological progress.

TL Taylor (1999) focuses her attention on virtual worlds and explores some of the challenges that this form of research involves, not least the challenge of distributed and multiple presence for ethnographers. If a researcher feels the need to engage with producers, understand the experience of users and be appropriately present within online settings too, then a considerable flexibility and attention to appropriate forms of engagement for each setting is going to be called for. Ethnographers in virtual fields have also to consider how active to be in relation to the particular technologies that they study.

Whilst it might be appealing simply to lurk and observe ongoing activities in a virtual field site, there are some interesting opportunities to be exploited by a move into more active engagement. Max Forte (2005) conducted an ethnographic study of resurgence in aboriginal identity in the Caribbean. Part of his engagement with the subjects of his study was to volunteer to develop web sites explaining their cause. This web site production became a way of deepening his engagement with fieldwork and also

of creating a field through his interactions with web site visitors. He argues that his approach allows him to understand "the social and cultural 'constructedness' of web sites, that is to say the patterns and processes of cultural practice that bring together individuals into online groups of producers, promoters and information consumers" (Forte, 2005, p. 93).

Ethnography of the internet can, then, usefully be about mobility between contexts of production and use, and between online and offline, and can creatively deploy forms of engagement to look at how these sites are socially constructed and at the same time social conduits. The internet also provides some intriguing possibilities for ethnographers to exploit based upon the many traces of social activities that it preserves, in the form of web sites, message boards, hyperlinks etc. These can be used in various ways to help the researcher shape an appropriate field site and explore the varied social textures of that field. Philip Howard (2002) deploys an interesting combination of social network analysis and ethnography in an attempt to get to the heart of new organizational dynamics revolving around digital technologies. Howard uses social network analysis from online data as a sensitizing device for a more conventional organizational ethnography. In a very different approach, Anne Beaulieu (2005) uses hyperlinks as a way of moving around a field site, but also reflects on how hyperlinks come to be created and used. She sets out to study practices of scientific data sharing and argues that hyperlinks form a way of moving around that field, but need to be thoroughly contextualized in terms of what they mean to their producers and users.

Online traces then provide one way of moving around a field site. It is possible both to follow links, and to reflect on what these links mean for those involved. More

conventional ways of moving around are, however, still relevant even for internet researchers. Nina Wakeford and Katrina Jungnickel carried out an ethnographic study of the role of place in the consumption of digital information using a bus journey to provide the spatial parameters of the study and guide their engagement with the urban environment. The bus journey became a way to explore the placing of digital technologies, which in turn provided a means to discuss with designers the potential for new technologies to build on practices observed on the bus (Wakeford, 2003).The accompanying website and blog (http://www.73urbanjourneys.com/) creatively interweave use of technology to expand the boundaries of the ethnography and use of place-based (or transport-based) ethnography to critically engage with the ideas of mobility, ubiquity and virtuality that permeate the technology.

Each of these studies, for me, demonstrates the strength of approaches that engage deeply with technologies and the people designing and using them and that also push against traditional definitions of appropriate field sites. The results are studies that illuminate the social dynamics at the heart of the technologies concerned. The key to this insight is immersion, not necessarily through being in a particular field site, but by engaging in relevant practices wherever they might be found. In the next section I will focus on a study that I carried out, in order to reflect further on the question of boundaries in ethnographies of the internet and the particular problem of what counts as relevant. The outcomes of the study are described at length in Hine (2008). Here I will focus specifically on the decisions I made about where to go and where not to go, in order to further highlight the ongoing reflexive shaping of the field, and to emphasize that the

result is a combination of theoretically oriented artifact and upshot of practical constraints.

Studying ICTs in contemporary systematics

Thus far I have discussed some theoretical approaches that shape how I think about the internet, and some ways of deciding where might be interesting to go to study it. It should be clear that while the internet can be an interesting place to go to conduct a study, it can be productive to define a study in very different ways. Here, for purposes of illustration it seems most apt to describe a study that crossed the boundaries between online and offline in wanton fashion to pursue its topic, aiming to explore cultural constructions in a field without assuming its boundaries in advance.

This field (and I carefully call it field and not field site, for it is diffuse and only occasionally constituted as a whole and certainly not a place) is the biological discipline of systematics, or taxonomy, and specifically the ways in which it has in recent years come to see the internet as a suitable place to conduct its activities. I wanted to explore how the current situation had come about and what practices enabled it and were facilitated by it. One key rationale for conducting this study was the desire to contribute to ongoing interest in e-science and cyberinfrastructure (Hey and Trefethen, 2002). These concepts have acted as foci for increasing amounts of policy attention hoping to make science more efficient and enable it to address larger and more complex questions. I anticipated that studying systematics would give some insight into how far these hopes were sustainable. There was, then, an application domain for the study, although I was also keen to pursue it as a study of contemporary scientific culture in its own right.

Rather than going to one particular site, I hoped to carry out a multi-sited study that would encompass diverse aspects of the discipline and its relationship to the internet. Sites to visit and people to interview were identified by a mixture of sources, online and offline. One of the first pieces of data that I explored in depth was a report produced in the UK by the Science and Technology Select Committee of the House of Lords (2002). This report set out to explore the state of systematics in Britain, in the context of commitments made under the Convention on Biological Diversity. It provided me with rich data on the way that expectations about the role of digital technology were being embedded into the practices of systematics, as the internet was presented almost universally as the hope and destiny of systematics. In addition to its status as qualitative data, this report also provided me with a provisional "map" of the field, via the individuals and institutions who gave evidence to the committee. This gave me a starting point for web sites to visit, institutions to explore and individuals to approach for interviews. I progressively identified new sites to include, and of course made many pragmatic decisions about places I could practically include and those that had to be left out. I restricted myself in the offline sphere to Northern Europe, but ranged farther afield online in the hope of finding out how far local developments fitted in with those elsewhere. Pursuing the links that I found relevant to understand what was going on took me into online spaces in various forms, into the material and literary culture of the discipline, into policy documents and into institutional environments, and led me, in the end, to an argument that these were the features that really ought to be addressed if one were aiming at an adequate account of the field.

The key guiding principle in my study was to proceed by asking myself why activities that I encountered might be happening, and what kind of sense they made to those involved. I read, I interviewed, I lurked, I questioned, I linked and searched, all of the time making tentative connections and engaged in an overall project of making sense of what was going on. The project proceeded, then, as an alternation between exploration and reining in, making tentative steps and testing their relevance for the job at hand, whilst trying also to remain open to redefining the job. I had in mind as a model Heath et al's (1999) study of the networked and inter-linking locations in which scientific work is done. The process that I undertook was one of co-constructing the tool and the job (Clarke and Fujimura, 1992), so that the right ethnographic approach for the task was hopefully the final outcome, but neither tool nor job were wholly foreseeable from the outset.

In looking for relevant ways to frame my study I was inspired by thinking from science and technology studies about whether the boundaries of the technology are as they at first appear. The search has, perforce, taken me to technologies other than the internet, since it became clear that current uses of the internet had their roots in quite different technologies that had been deployed by those involved, and that those prior involvements shaped what could and should be done in diverse ways. Looking at "the Internet" thus turned out not to be the most useful way of bounding the current study. I found that looking at existing databases which institutions held detailing their specimen holdings told me a lot that helped to make the distributed databases latterly available on the Internet make sense. Taxonomy works with very long time horizons, and with an expectation that its resources need to be maintained indefinitely for potential future use.

The provision of online databases is in line with a culture that expects specimens themselves to be maintained not because someone imminently will consult them, but because someone eventually might. Online specimen databases that somebody may one day want to use make sense within that cultural context. In short, then, it was not appropriate to stay with distributed databases on the internet as the object of study.

As a further insight into online databases it was also useful to look at the ways in which information about them circulated, and where they were represented, advocated and funded. One online forum proved to offer access to debates around the role and construction of online databases, and acted as a venue for database providers to promote their work. As an ethnographer I treated this discussion group as rich data, but was concerned to check my stance, analytically and ethically. I wanted to make sure both that my analysis of the data was not wildly out of kilter with the way that the participants viewed it, and also that my use of the data did not offend sensibilities. I therefore introduced myself, to the group owner and subsequently to the entire group, and asked some questions about what the discussions meant to participants. By asking questions of the group, I once more extended the boundaries of the ethnography, identifying myself as an ethnographer to a large audience, and inviting the many silent readers of the group to respond to me and thus make themselves present within the ethnographic purview. I found that many other participants were using the list to monitor hot topics in the discipline and keep in touch with current trends, just as I often was. They were, however, quite critical readers who reflected on how what they read in the group made sense within their other experiences of the discipline. Systematics has been a highly reflexive

discipline, prone to examinations of its status and practices, and this online group provides a new and immediate venue for this kind of reflection.

Another way in which the study moved beyond a narrow version of the relevant technologies was its engagement with material culture. It became increasingly important, as I found out more about the institutions and individuals behind online systematics, to go to these institutions, and to find out more about the collections of specimens which the online databases described. Accordingly, I went on visits to museums, botanic gardens and herbaria, touring collections of animals preserved in bottles of spirit, plants pressed on sheets of paper, dried fungi in paper packets, arrays of insects pinned out in drawers and vials of fungal cultures in fridges. By exploring material collections I was able to understand many more things about online resources. I found out about practices of loaning and visiting collections, beliefs about how objects were owned, how they should be stored and ordered, and what qualities were important. Understanding this material culture turned out to be a vital route into making sense of the virtual culture. The two were not separate, but thoroughly intertwined.

Whilst engaged in these explorations I found a complex landscape both online and offline, comprised of institutions, initiatives and individuals. Web sites in particular gave me insight into the way that initiatives in the field were branded and promoted, and revealed a highly complex network of interconnections. I also benefited hugely from an open culture which encouraged posting of meetings reports, minutes and project participant lists. I still however felt the need for some way of grasping the connections between the virtual entities. There were some appealing candidates: Dodge and Kitchin (2001) show the fascinating variety of different ways to map cyberspace. Web sphere

analysis, as developed by Schneider and Foot (2004, 2005) offers a way of archiving and exploring the complex fields that emerge on the web around a topic. Rogers and Marres' (2000) Issue Crawler explores the networks that arise in the hyperlinks between sites related to a topic. Social network analysis and hyperlink analysis offer ways to explore the spatiality of the web (Park and Thelwall, 2003). For my purposes, however, I sought something a little more quick and dirty, more dynamic. I wanted to be able to "see" connections on the web, but not to be seduced by any one particular representation as the way the field really is. I settled on use of the TouchGraph Google Browser (http://www.touchgraph.com/TGGoogleBrowser.html), which offers visualisations of site networks using the Google facility to track down related sites.

An example of a visualization provided by the TouchGraph Google Browser is shown in Figure 1. The diagram is generated in real time, and can be extended outwards: clicking on a node retrieves its related sites, and clicking on any of those extends the network once again. Nodes can be pulled into position using the mouse to move over-lapping nodes apart. The representation is, then, appealingly dynamic. I found that I was readily able to use these representations as tools for exploration rather than static figures. I was also able, using this means, to check more straightforwardly that my own less systematic ways of mapping the field had not missed key players. I was able to explore the ways in which institutions and initiatives were varyingly visible across the field, both online and offline. Building and comparing these visualizations, and placing them alongside interview data in various projects gave me insight into the ways that identities were forged in this field, and the various faces presented by projects and institutions.

50

I should also note that there is a strong autobiographical element to the research which I undertook. I was positioned to conduct research on the contemporary situation by research I had conducted many years earlier, as part of my doctoral research. In particular, I had acted as an ethnographer on a pioneering taxonomic database project in the late 1980s and early 1990s (Hine, 1995), and this gave me a starting insight into some pertinent issues, an access into relevant networks and some understanding of the technical issues at hand. I also have to confess to an earlier autobiographical connection: as an undergraduate I studied Botany, and as a postgraduate I took a Masters in Biological Computation and conducted my doctoral research into the problem of taxonomic instability. I was therefore once a participant, at a humble level, in this field, and lived through some of the transformations which have brought the discipline to its current state. That experience inevitably shaped the places that I went and my interpretations of them.

I chose not to study the field by undertaking a conventional ethnography within a particular institution carrying out taxonomic work. I regret the loss of textural detail about the way that work in contemporary systematics is experienced that this entailed. It would have been interesting, indeed, to have worked alongside systematists on a sustained basis, and this very different kind of study might have told me much about the way in which systematics, the discipline, comes into being through the practices of systematists working on local scale. Nonetheless, for the study I wanted to do, and particularly for exploring the varied experiences of systematics as it is enacted both in local places and through diverse technologies and forms of connection, it seemed right to move around. The study was bounded, then, both in reach and depth. I set limits upon it

when I decided not to pursue a particular set of connections outward, as well as when I opted not to drill down in a particular place to more depth. Decisions to stop entailed feelings of doubt and loss, worse in some cases than others. These decisions were always made as trade-offs in order to enable work in more detail somewhere more promising.

The project that I carried out combined face-to-face interviews, visits to physical sites, autobiographical experiences, historical documents, web sites, searches and surfing, participation in online groups, simple structured analyses of messages, email interactions, and dynamic visualizations of web-based networks. Without subscribing to the notion that there was a separate online sphere of systematics, I remained open to the idea that culturally significant things might be happening online, and that they might not be fully reflected in things that I could find offline. In the end, though, I am not sure that the result would be characterized as an ethnography. I was inspired by the principles of ethnography, and in particular felt that I held true to its commitment to adaptive studies of meaning-making in social life, and to a notion of learning through immersion. At the same time, the resulting study is quite different to the conventional image of ethnography as the upshot of a long period of immersion within a field site.

Conclusion: the boundaries of ethnography

Many of the issues that I have explored in this chapter relate to qualitative methods more broadly. As Hammersley and Atkinson describe, it is difficult to make an absolute distinction between ethnography and other forms of social research: "there is a sense in which all social researchers are participant observers, and, as a result, the boundaries around ethnography are necessarily unclear" (1995, p. 1). Specific issues that are

pertinent for a broader range of methodological approaches include the question of where to focus a study: qualitative studies will all be shaped by ideas about where interesting phenomena are to be studied, and when studying the internet it can be very useful to think creatively about that issue. To return to the perspectives from science and technology studies introduced at the beginning of this chapter, it is important not to assume that we know in advance what the internet is. Some studies of the internet might confine themselves to a particular online or offline setting, but in other cases we may define a topic of interest that involves us in crossing between online and offline and reflecting on the differences we encounter in different sites. Social phenomena are not uniquely confined to online or offline sites, and it would be a mistake to allow these notions automatically to provide boundaries for our studies.

The approaches that I have described in this paper rely on the idea of the construction of project boundaries as a social process, which is more explicitly linked to ethnography in particular as an adaptive methodological approach. The decision about when to start and stop, and where to go in between, is for ethnographers not made independently of the field but is an intrinsic part of the relationship to it. A set of fieldwork boundaries is the outcome of a project rather than its precursor. The decision about what to study is made collaboratively with research encounters, but it is also inevitably shaped by other factors such as supervisory input, ideas about what is defensible within one's disciplinary context, and responsibilities to funding bodies for whom the study has to be recognizably the one that they paid for. All studies will be bounded, to some extent, by what the researcher can practically achieve. Even though the internet extends the potential spatial remit of our studies, we can still only engage with so

many people in depth, conduct so many interviews or analyse so many web sites.

Qualitative research, and in particular ethnography with its emphasis on immersion, requires depth and engagement in the attempt to understand how social and cultural life is organized, and realizing that potential places a practical boundary on a project.

More innovative ethnographies may push against methodological boundaries such that it becomes debatable whether they are still defensibly ethnographic. Specifically, studies in which the ethnographer moves around, is only intermittently present or fails to carve out a consistent version of "the field" can seem to threaten the notion of ethnography as founded on immersion, and leave lingering doubts about the status of the study (see papers collected by Amit (2000)). The boundaries of methodologies themselves can be fluid and negotiated rather than fixed (Gubrium and Holstein, 1999). Just as some people argue that mobile ethnographies are just ethnography dressed up, so others will doubt that they are ethnography at all. In this situation the key recourse has to be the dialogues in which the study is able to engage: if we can do studies of the internet that say something interesting and that advance debate, whether in policy circles, in the theoretical resources of academic disciplines or in informing practical action, then our studies will have some claim to adequacy.

Recommended Reading

For introductions to the science and technology studies approach see Bruno Latour's (1987) book *Science in Action* and Wiebe Bijker's (1995) *Of Bicycles, Bakelite and Bulbs*. John Law's (2004) *After Methods* is an interesting reflection on the reasons for challenging methodological orthodoxy, grounded in science and technology studies.

An accessible introduction to various forms of ethnography is provided by Martyn Hammersley and Paul Atkinson's *Ethnography: principles in practice* (1995). John Brewer's *Ethnography* (2000) reflects on the current role of ethnography within social research, and offers practical advice. Some interesting perspectives on ethnography's ability to explore complex cultural connections are provided by George Marcus in

Ethnography Through Thick and Thin (1998) and, in relation to computing culture more specifically, David Hakken's (1999) *Cyborgs@Cyberspace*. Emily Martin's (1995) *Flexible Bodies* is a classic example of a multi-sited ethnography of contemporary culture.

Texts that talk specifically about the internet as a field site, and about different ways of thinking of the internet as a conduit of culture, are Annette Markham's (1998) *Life Online* and Christine Hine's (2000) *Virtual Ethnography*. Daniel Miller and Don Slater in *The Internet: an Ethnographic Approach* (2000) offer a useful account of an ethnography of the internet that does not assume that the internet contains a distinctive virtual culture.
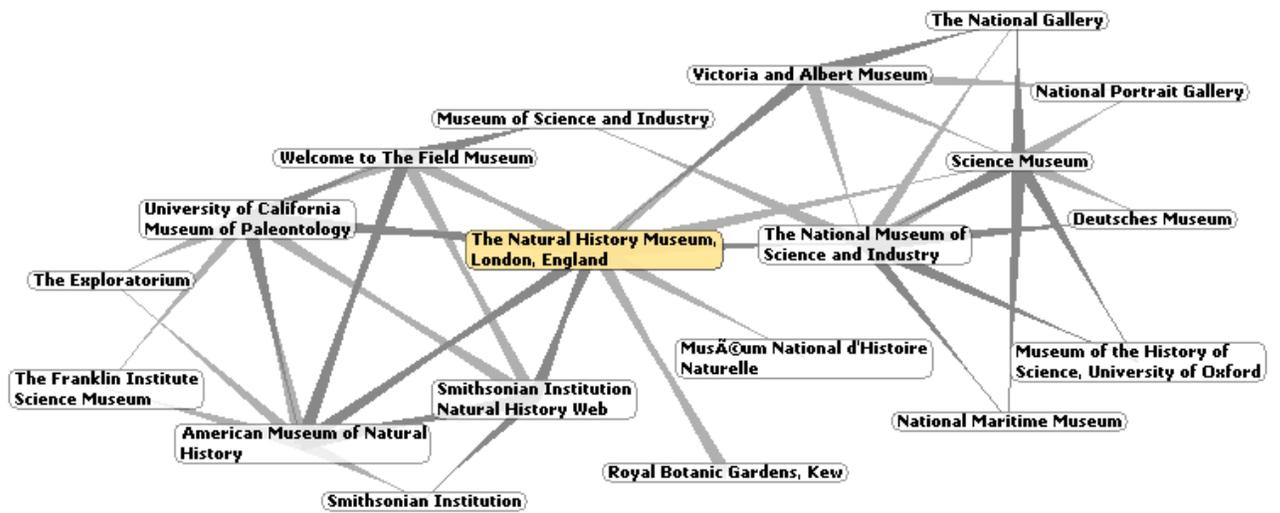
Figure 1. TouchGraph Google Browser visualization of sites related to the Natural

History Museum, London.

A Response to Christine Hine

Lori Kendall

Hine provides a wonderfully detailed consideration of internet project boundaries and ways to proceed in constructing an internet research project. I find two of her insights particularly important. First, project boundaries might not be set within a particular location, as field sites have sometimes traditionally been conceived. This insight is exemplified by her statement that "Internet research proves to be a rich arena for thinking about how contemporary culture is constituted, and a powerful way to do that is to reflect on boundaries of individual projects... " [currently page 2]. The internet, or people's use of it, provides a starting point from which to acquire a rich view of culture. As Hine points out, this approach to internet studies requires immersion "by engaging in relevant practices wherever they might be found." [currently page 13].

Second, the definitions of the research objects are emergent rather than predetermined. As Hine puts it, "[t]he identity of the technology, and thus where to start and stop in studying it cannot be decided in advance" [currently page 4]. Here again, as her example of de Laet and Mol's research demonstrates, the meaning of particular technologies varies within particular cultural contexts. The researcher must allow these meanings to emerge through engagement with the cultural context and the people within it.

Hine's primary focus is on a type of boundary that, for lack of a better term, I'll call spatial. This is exemplified by her use of spatial metaphors embodied in the word "where," as in phrases like "where to start and stop a study" [currently page 2] and

"where to go and where not to go" [currently page 13]. Hine recognizes these as metaphors and her consideration of project boundaries is deeper than merely spatial concerns such as physical or virtual locations. Hine's focus on spatiality gives me the opportunity to focus in turn on other kinds of boundaries contained and implied in her account. In doing so, I discuss the underlying motivations or logics for setting project boundaries. Here also, Hine focuses on one particular sphere of influence, but hints at others. Her focus is primarily on theory, and on the connection between theory and methodological choices, including boundary decisions.

I will briefly consider three different kinds of boundaries and three different spheres of influence on boundary choices. I am calling the three types of boundaries spatial, temporal, and relational and the three spheres of influence analytical, ethical, and personal. Spatial boundaries refer to questions of where, who, and what to study. Temporal boundaries refer to questions of time spent and the issues of beginning and ending research. Relational boundaries refer primarily to relationships between researchers and the people they study (although other relationships are also pertinent to research projects, such as relationships between researchers and their audience for written reports). The analytical sphere of influence refers to theoretical and analytical decisions regarding project boundaries. The ethical sphere of influence refers to boundary decisions made for ethical reasons, especially those made to protect participants. The personal sphere of influence refers to various aspects of the researcher's background that might influence the choice of project boundaries, such as personal proclivities, skills, or history.

These categories of boundaries and their motivational spheres of influence blur

and overlap. For instance, much of what I highlight as temporal boundaries are bound up

with questions of spatial boundaries, and as such are covered in Hine's discussion. My

aim in applying these labels is not to identify actual discrete categories, but rather to

highlight particular aspects of boundary decisions. The metaphor I would use is that of

the research project as a translucent faceted gem. One can turn the gem so as to focus on

a single facet, but through that facet also see the other facets. Given Hine's detailed

consideration of spatial boundaries chosen through analytical considerations, I will

briefly focus on the other two types of boundaries and spheres of influence.

Hine points out that choosing boundaries for a project involves "when to start and

stop" as well as "where to go in between" [currently page 20]. These temporal

considerations, like spatial ones, are often influenced by analytical considerations, as well

as practical ones. (Practical considerations constitute a fourth "sphere of influence" that I

am mostly ignoring for purposes of this discussion. However it is important to remember

that, as Hine says "[a]ll studies will be bounded, to some extent, by what the researcher

can practically achieve" [currently page 20].) Temporal considerations, perhaps more

than spatial ones, are also influenced by ethical and personal issues.

For instance, in the approximately three years of ethnographic research for my

book *Hanging Out in the Virtual Pub* (discussed further in Chapter ___ of this book), I

formed relationships with the people I studied, participants in an online forum I called

BlueSky. At one point during the study, a participant asked me point blank if I intended

to maintain those relationships after I completed my study. In short, that participant

wanted to know whether I was merely using them to further my academic career or

whether the relationships I had formed had meaning to me separate from my research

interests. Ethnographic research projects, and often other forms of qualitative research

(such as projects involving in-depth interviews), involve lengthy association with

participants. These relationships complicate ethical considerations of the research, which

in turn can affect decisions about temporal boundaries of the research.

In my case, I did maintain my relationships with the BlueSky participants, and

continued to hang out online with them for several years following the completion of the

research on which my book was based. In fact, these ongoing relationships complicated

the "end date" of my research, and I would be hard pressed to give an exact date for the

completion. Participants read my dissertation and provided feedback on it. Both this

feedback, and insights provided through my continued participation on BlueSky informed

the rewrite for publication.

This points also to the personal dimension influencing qualitative research. Hine

identifies this as the "autobiographical element" [currently page 18]. Our own

proclivities as researchers, connected perhaps to past interests or relationships, influence

the choices we make in starting and stopping projects, and in choosing where to go in

pursuing those projects.

Ethical and personal considerations also influence what I am calling the

"relational" boundary of qualitative research. In addition to considering where to go and

who to talk to, as well as how long the project should be, we also must consider what

kinds of relationships we will have with participants. This is not of course something that

is completely within our control. Which is to say, relational boundaries will not be

determined solely by the personal sphere of influence. Our participants' desires or

antipathies may encourage or preclude certain kinds of relationships. Our own choices may also be influenced by analytical concerns, such as how much we need to know about our participants. And they may be influenced by ethical concerns; the closer our personal relationships, the greater the vulnerability of both our participants and ourselves.

In my own experience, all of these different boundaries, and all of the various motivations for determining those boundaries, overlap and blur. This was particularly true when I began a new research project that overlapped in significant ways with the BlueSky project. Several BlueSky participants began using an online blogging system. I followed them to that system and began a research project there. This created a tangled web of spatial, temporal, and relational boundaries between the two projects. This entanglement seemed analytically useful to me, in that one of my aims was to compare chat and blogging as different sorts of systems for computer-mediated communication. The personal dimension also influenced project boundaries, because of my continued friendship with several BlueSky participants. Meanwhile, ethical issues became particularly complex, as *Hanging Out in the Virtual Pub* was published during the blogging study. Given the BlueSky participants' interest in discussing the book, both on BlueSky and in their blogs, and given that my network of contacts through blogging had expanded beyond just BlueSky participants, it became difficult to maintain their confidentiality. I found that I needed to curtail my blog participation somewhat in order to mitigate exposure of BlueSky participant identities.

Hine's discussion presents a relatively traditional way of looking at the boundaries of research projects. In her depiction, the researcher is primarily motivated by theoretical concerns, with other issues such as ethical and practical matters mainly

providing limits on what is possible. I have no argument with her account, but hope to

have broadened the types of boundaries considered and the reasons for considering them.

However, in this short space, I can only scratch the surface. I point the reader towards

the list of recommended readings that follows for consideration of other approaches to

even more research boundaries.

List of Recommended Readings

Brown, Karen McCarthy. 1991. *Mama Lola*. Berkeley: University of California Press.
Brown's book pushes the conceptual envelope of ethnography. Her immersion into the
world of Haitian Vodou included her own initiation into Vodou practice, highlighting
conventional boundaries between researcher and participants. In addition to more
traditional forms of ethnographic study and reporting, Brown includes several fictional
chapters reflecting family stories told to her by informants. Her book thus additionally
breaches the usual boundaries between research and writing, and between fiction and
non-fiction. Although I do not provide similar fictional excerpts in my work, Brown's
creative approach has had a significant influence on my ethnographic writing.

Markham, Annette N. 1998. *Life Online*. Walnut Creek, CA: AltaMira Press.
Markham's account provides a detailed look at all kinds of boundaries involved in
qualitative research: between personal and professional life, online and offline reality,
self and other, and body and self, among others.

Nippert-Eng, Christena E. 1995. *Home and Work*. Chicago: University of Chicago
Press.
From the emerging field of cognitive sociology, Nippert-Eng's work addresses the issue
of boundaries themselves, and how we understand and create them. Of particular interest
is a chapter that includes lengthy excerpts from two interviews, with minimal editing or
analytical interventions. This provides an example of an unusual decision concerning the
boundary between researcher and reader. For researchers, this chapter also provides a
useful model of interviewing techniques.

Stacey, Judith. 1990. *Brave New Families*. New York: Basic Books.
Stacey's study of families in Silicon Valley illustrates the great depth that is possible
through qualitative studies, and the ways in which even a small number of cases can
illuminate larger social structures and issues. Stacey explicitly discusses several
boundary issues with regard to her personal life and her research. In an interesting
attempt to compensate for the power differences between the researcher and the
researched, she provides an Epilogue that includes extensive comments by one of her
respondents regarding their reaction to her analysis.

A Response to Christine Hine

danah boyd

As an undergraduate, I once (foolishly) asked my professor how long the assigned paper had to be. "Long enough to touch the ground" was what he told me. Needless to say, this did not satiate my desire to know the "correct" answer that would confirm that I was being a "good" student. Yet, his answer altered my worldview. I began to appreciate that the boundaries of an essay should be determined by the point being made, not by the page count. (It took me many more years to learn that brevity is an art.)

In a graduate school qualitative methods course, I asked my advisor how I would know when I was finished collecting data. He offered the same Dumbledore smile as the previous professor before responding, "when you stop learning new things without expanding the scope of your question." Once again, I asked a question of the wise and received a koan in response. While I have not reached methodological enlightenment, I have begun to appreciate the brilliance of these answers.

Having grown up with the internet, I've always had a paradoxical relationship to it. Rather than seeing the internet simply as either a "cultural artefact" *or* as a place "where culture is formed and reformed" (Hine, 2000, p. 9), I've always accepted both naturally. The internet is increasingly entwined in people's lives; it is both an imagined space and an architected place. Things happen on it, through it, because of it. While all cultures change over time, what makes the internet so confounding for research is that the fundamental architecture (Lessig, 1999) also rapidly changes. Innovations have always radically altered the world - could you imagine society without light or gas? While

tangible innovations have restructured society immensely, the pace of innovation and dissemination is unparalleled. This, of course, complicates internet research.

Networked technologies have completely disrupted any simple construction of a field site. Traditionally, ethnographers sought out a physical site and focused on the culture, peoples, practices, and artifacts present in a geographically bounded context. This made sense because early anthropologists studied populations with limited mobility. Furthermore, there was a collective understanding that culture and people were contained by place. Mobility complicated matters (resulting in excellent ethnographies of diaspora populations) but mediated technologies changed the rules entirely. In a networked society, we cannot take for granted the idea that culture is about collocated peoples. It is not a question of mobility but of access to a hypertextual world. Geography can no longer be the defining framework of culture; people are part of many cultures including those defined by tastes, worldview, language, religion, social networks, practices, etc. Of course, as Hine rightfully points out, we should not simply reject what anthropologists learned by studying places, but instead recognize that this is not the complete story.

When ethnography first went digital, early internet researchers tended to focus on the place-driven metaphors that framed the internet. Chatrooms, MUDs/MOOs, Usenet, and mailing lists implied platial scope by their design. Architectural features appeared to provide meaningful boundaries but, as Hine notes, "one should not accept taken-for-granted sets of boundaries" (currently p. 5). Sure enough, when Deja News appeared in 1995, the walls that separated Usenet groups collapsed; scripts devastated the boundaries of MUDs and MOOs and search has continued to collapse all place-driven web contexts ever since.

Early internet culture focused heavily on social groups gathering around topic or activity. More recent social technologies like blogs and social network sites have altered that dynamic. In these technologies, "community" is an egocentric notion where individuals construct their social world through links and attention. Rather than relying on interests or structure-based boundaries, current social groups are defined through relationships. Each participant's view is framed by their connections to others and the behaviors of those people. The difficulty with this egocentric network view is that there's no overarching set of norms or practices; instead, each node reveals an entirely different set of assumptions. This issue is quite noticeable when researchers (including myself) have foolishly tried to discuss the blogosphere or MySpace as a continuous cultural environment only to be challenged by other blind researchers looking at the elephant's trunk or ear.

To try to balance the view, I've approached my latest project on MySpace from numerous disconnected angles. Every day, I look at random MySpace profiles (it is possible to do this because profiles are numerically generated). I interview teens from different cultural backgrounds. I talk with parents, the site's creators, and adults who use the site. I read commentary about MySpace on blogs and in the news; I listen to people talking about MySpace on the bus and at malls throughout the United States. Through my blog, others know that I'm researching MySpace; strangers send me data on a daily basis. In this way, I've begun this project in the widest way I could possibly imagine. All the same, I've found that there are behaviors or groups that I can track more easily and I've chosen to narrow my focus so that I can focus more deeply on understanding the dynamics between smaller, connected groups. In contemporary networked life, culture is

socially proximate not geographically defined; creating boundaries by medium or genre only confuses matters. Thus, it makes far more sense to find a sample population and try to flush out who they know and the culture that forms amongst them. Thus, during the course of my study, for a selection of people, I try to spiral out to understand their worldview and compare it to other worldviews that I see within the broader system.

Given that networked technologies complicate research, what does it mean to do ethnographic internet research? How do we work through boundary issues? Hine's essay provides critical insight into how ethnography is "an adaptive methodological approach [current page 28]. By discussing different ethnographic projects, she reveals the diversity of approaches that researchers take in undergoing an ethnographic study. Furthermore, she highlights the disciplinary roots and reflexive considerations that ethnographers must consider. In constructing her essay, Hine highlights the most critical feature of ethnography as a method: it is not prescriptive. There is no genie that will come and grant boundaries for a researcher. Learning to do ethnography is a lifelong process and we are all learning as we go. While I cannot offer a box of solutions, I can draw from my own work as well as a rich history of ethnographic practice to offer some guidelines that have helped me.

1) *Read ethnographies*. Read to make sense of what it is that ethnographers do and how they do it; do not focus on deconstruction. Read voraciously and then re-read what you've read. Get inside the heads of other ethnographers - hear their struggles, understand their choices, make sense of their reflexive considerations, try to see what they are doing from their point of view. Read theoretical literature to properly situate research in prior work but do not forget to read other

ethnographies. *The voices of other ethnographers have helped me understand how to approach questions, how to think about the practice. Keeping those voices in mind when I'm in the field allows me to better "see."*

2) *Begin by focusing on a culture.* What defines that culture? Their practices? Their identity? Who are the relevant social groups? What are the relevant social dynamics? What boundaries are applicable? Unlike other methodologies, ethnographers do not begin with rigid, narrow questions; they begin with cultures. Questions are important because they provide guidelines for observation but researchers must be prepared for observations and data to reveal new questions. Bound by culture not by questions. *When I started studying Friendster, I decided to focus on the early adopters – self-identified geeks, freaks, and queers. I wanted to see how these groups overlapped and complicated each other's participation even though the site's popularity had spread far beyond that.*

3) *Get into the field, hang out, observe, document, question, analyze.* Ethnography is about participant observation or deep hanging out; to observe a culture, you must build rapport, be present, and participate. Everything that is observed should be documented; thick description (drawing on Geertz, 1973) is key. Observations provoke hypotheses and early analysis provokes new questions. Document everything. Ethnography is "writing culture" and it is important to try to document and make sense of everything available. Thus, it's critical to hang out across numerous spaces to see the relevant culture from different angles. *This is why I spend time in schools, at malls, in people's homes, online, and in a*

variety of public spaces. By hanging out in different mediated and unmediated

contexts, I can see practices from different angles.

4) *Never get too comfortable*. Always work to make the familiar strange; do not

fetishize anything. When you start seeing patterns, try looking at what you're

observing from a new angle. Try to make sense of practices in terms of the

practitioner and the observer. Be reflexive of your own biases, question any and

all biases that you have. Question your own questioning. Try not to get too

recursive, although ethnography really is turtles all the way down (Geertz, 1973,

p. 29). *For me, the best part about having a background in computer science is*

knowing how the systems that I study work; they are never magic to me. It is

trickier to not love the populations who adopt them so whenever I start sharing

affinity with a particular group, I try to find and make sense of others whose

motivations initially bother me. For example, I spent a month tracking down neo-

Nazis and cocaine distributors on Friendster just to understand how they viewed

the network differently from other participants.

5) *Understand that boundary construction is a social process*. The reflexivity and

questioning inherent in ethnography is antithetical to boundary construction. As

Hine aptly notes, "the focus has to be on working across the immediately apparent

boundaries, exploring connections, making tentative forays which are then turned

into defensible decisions, and retrofitting research questions to emergent field

sites" (Hine, this volume). In other words, the boundaries of a project emerge

when the ethnographer decides which questions to focus on based on patterns in

data and observations. By placing observations and interpretations into an

"intelligible frame," (Geertz, 1973, p. 26) the scope of a project often emerges. While there are always an infinite number of paths to follow, one will learn to recognize when data, theory, and questions come into a collective focus.

6) *Understand that making meaning is an interpretive process.* Never lose touch of the goal of ethnography: to make meaning of culture. Interpretations should be situated and they must be questioned. Ethnographers should always be reflexive about their interpretations, biases, and limitations.

These rules of thumb are not unique to internet ethnographies, but they are just as critical to internet ethnographies as to those that take place in unmediated contexts. What makes studying digital cultures distinctive is not the mindset, but how the architecture affects our practice. There are four key architectural properties of mediated sociality to keep in mind: persistence, searchability, replicability, and invisible audiences (boyd, in press). When people speak online, their words are not ephemeral. Search engines make text, media, and people findable at the flick of a few keys. Hearsay is one thing but online, you often can't distinguish the original from the duplicate; likewise, it's difficult to tell if the author is *really* the author. Finally, aside from the people who sneak around your back and hide behind trees whenever you turn around, most people have a sense of who can hear or see them when they navigate everyday life; online, no one knows when a dog might be looking. These properties collapse social contexts and change the rules about how people can and do behave.

My research centers on these properties precisely because they reveal how critical context is to human behavior. At the same time, these properties alter the context in

which we are doing research and, thus, it is just as critical for researchers to learn how to operate with them in mind as it is for teens who are trying to find a space of their own on social network sites. For example, just because people's expressions on the internet are *public* in the sense that they can be viewed by anyone does not mean that people are behaving as though their audience consists of billions of people across all space and all time. How we act in a park with our children is different than how we act in a pub with our friends; just because these are both public places does not mean that there is a uniform context. When we look to understand people's practices online, we must understand the context within which the individuals think they are operating. This imagined context provides one mechanism for bounding our research. For example, in my own research, I'm only interested in the online spaces that teens perceive to be meant for them to congregate with their friends and peers.

In studying new media, internet researchers may inaccurately bound their view by idealizing the possibilities of the internet rather than recognizing and working within the actualities of practice. Just because people can theoretically use the internet to broadcast their expressions, reach out to diverse populations across the world, or free themselves of their offline identity does not mean that this is what people do or see themselves as doing. People's worldviews – and their neuroses – leak from the offline to the online. To fulfill their goals and desires, people envision structure within the wide-open spaces available online. Internet ethnography is not about the technology – it is about the people, their practices, and the cultures they form. In an unstable technological environment, it is essential to be continuously reflexive about our own views and values concerning emerging technologies.

The internet provides fascinating fodder for observing people and their practices, but ethnographies of internet life must work to acknowledge and then let go of the underlying technology. Discovering the boundaries of such work has nothing to do with the technology and everything to do with the cultures being considered.

Recommended Readings:

Clifford Geertz' (1973) *The Interpretation of Cultures* is what helped me understand ethnography as a method and a state of mind. Whenever I feel lost in what I am doing, I return to this text. Two books have given me valuable insight into thinking about how to do ethnography in mediated spaces: Christine Hine's (2000) *Virtual Ethnography* and Daniel Miller and Don Slater's (2000) *The Internet: An Ethnographic Approach*.

Fundamentally, I believe that learning ethnography requires reading ethnographies. Since ethnography is about "writing culture," it's extremely valuable to read how others have written culture. Several ethnographies are listed in the reference list. Each of these different ethnographies draws on different traditions and exhibits a unique style and voice. While these are some of my favorite ethnographies, other ethnographers will have their own list. Reading a diversity of ethnographies, even if the topic is not particularly relevant, will give one a sense of how ethnographers explain culture.

To help ground the conduct of ethnography of internet culture, it is important to read texts that help explain different aspects of it. For example, Lawrence Lessig's (1999) *Code and Other Laws of Cyberspace* helps elucidate how code is a form of architecture; understanding this, one can understand see how different relevant players have tried to influence the internet's development. Judith Donath's (1999) essay on "Identity and deception in the virtual community" reflects how people's signaling practices must change because of different limitations online while Jenny Sundén's (2003) *Material Virtualities* looks at shifts in embodiment as people "type themselves into being." These are only a few examples of a wide array of literature studying internet culture; familiarizing oneself with this literature will help one recognize different practices that emerge.