

QUESTION ONE

How Can Qualitative Internet Researchers Define the Boundaries of Their Projects?

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The notion of immersion implies that the “field” that ethnographers enter exists as an independently bounded set of relationships and activities that 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, pulled 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 how a study of the internet might be defined in terms of the places one chooses to begin and the decisions one makes 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 an understanding of the role that information and communications technologies play in contemporary society.

Responding essays by Lori Kendall (pp. 21–25) and danah boyd (pp. 26–32).

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I first describe the analytic approach that informs how I think about the internet and helps me decide which kind of internet inquiry to undertake. Science and technology studies is the disciplinary place from which my internet research projects begin. This starting point decides, to some extent, what will count as interesting places for me to explore. My analytic approach is also shaped by an interest in the status of ethnography as a method for understanding contemporary society; ethnography 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, which help show that internet studies are not alone in having 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 his or her 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 as well. Internet research proves to be a rich arena for thinking about how contemporary culture is constituted, and a powerful way to do that thinking 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, it has 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 determining 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.¹ 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 it provides 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 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).

Science and technology studies is also useful for thinking about the internet in its approach to the contingency and variability of technologies in use. Instead of having effects on society, technologies have been portrayed by the 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 & Bijker, 1987), which means that different social groups might view them quite differently. One interesting research focus is 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 & 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 & 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

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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. While 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 approach 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 constraint 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 while 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 that 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 judgment. 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 judgment on the appropriateness of various forms of boundaries and instead 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 & 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 on 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 that 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 stance means accepting that there are many versions of what a given technology is and how it is bounded and that we need 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; they 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 predisposed to find variations in what people do with the internet and 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 about what the technology is that I am focusing on, and whether the issue that I am examining at the time is relevant or not. Law's writings on method provide the inspiration 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,

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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 that are then turned into defensible decisions, and retrofitting research questions to emergent field sites. In a later section of this chapter, to flesh out these assertions, I describe a research project I have recently undertaken. First, however, there is more to discuss about ethnography, particularly about 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 to study a particular topic. While we might adhere to some form of grounded approach² to build theory out of qualitative data, our prior commitments help 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 ethnographers find 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 focus specifically on the organization of ethnographic fieldwork and on the design of multi-sited studies; in the conclusion I return to qualitative inquiry more broadly to consider how far the issues raised here apply.

Ethnography has a reputation as an approach that 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 (1995, p. 24) argue, rather than research design becoming irrelevant, it "should be a reflexive

process which operates throughout every stage of a project." 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 it 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 inquiry 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 one can tap into exciting currents of writing in contemporary anthropology and cultural studies for inspiration on how field sites might be defined for internet research.

Let us begin with the idea of complex societies and the problem of adjusting methods to suit, about which 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's view, be adequately described by a patchwork of place-based ethnographies. This patchwork would yield 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 focuses 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

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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 ethnoscapas, mediascapas, technoscapas, and financescapas. 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 that reflect on the problems in defining "the field" as a domain separate 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) has proposed a specifically multi-sited ethnography as a way of addressing trans-local connections, even while 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. While 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 from those of anthropology. 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 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. While these were qualitative studies, I did not develop the level of immersion in the settings that ethnographic inquiry 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 describe some studies that illustrate the purchase offered by being open about the constitution and evolution of research questions and the field sites in which to study them.

❖ MULTI-SITED ETHNOGRAPHY AND THE INTERNET

The debate about ethnography and cultural complexity can provoke 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) argues, 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 the internet is increasingly seen as a part of everyday life rather than as a separate and automatically virtual

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sphere (Howard & Jones, 2004; Miller & Slater, 2000; Wellman & Haythornthwaite, 2002), 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 that have made 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, evoking many anxieties about the adequacies of method as a result, there is much continuity between them and more conventional notions about what ethnography should be and that 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 they demonstrate the kinds of decisions that arise regarding where to go and what to do there.

Nicola Green (1999) has 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 poststructuralism 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 that further illuminates virtual reality as a complex phenomenon produced through diverse forms of labor. Green (1999) shows that virtual reality requires various forms of social investment for it to be realized as a practical achievement, casting a rather different light on stories of virtual reality as an instance of inevitable technological progress.

T. L. 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 considerable flexibility and attention to appropriate forms of engagement for each setting are going to be required. Ethnographers in virtual fields have also to consider how active to be in relation to the particular technologies that they study.

While 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 it can creatively deploy forms of engagement to look at how these sites are socially constructed and at the same time are social conduits. The internet also provides some intriguing possibilities for ethnographers to exploit based on the many traces of social activities that it preserves, in the form of web sites, message boards, hyperlinks, etc. These online traces 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. He uses social network analysis of 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 set 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

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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 to 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 web site and blog (<http://www.73urbanjourneys.com>) creatively interweave technology to expand the boundaries of the ethnography and use 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 with 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 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 focus specifically on the decisions I made about where to go and where not to go, thereby further highlighting the ongoing reflexive shaping of the field and emphasizing that the result is a combination of theoretically oriented artifact and upshot of practical constraints.

❖ STUDYING E-SCIENCE ETHNOGRAPHICALLY

Thus far I have discussed some theoretical approaches that shape how I think about the internet, as well as 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 the ongoing interest in e-science and cyberinfrastructure (Hey & Trefethen, 2002). These concepts have acted as foci for increasing amounts of policy attention that hope 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. I identified sites to visit and people to interview 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 United Kingdom by the Select Committee on Science and Technology 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 that gave evidence to the committee. This testimony 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 understanding 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; this pursuit led me, in the end, to an argument that these were domains that really ought to be addressed if one were aiming at an adequate account of the relationship between systematics and the internet.

The key guiding principle in my study was to proceed by asking myself why activities that I encountered might be happening and what

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kind of sense they made to those involved. I read, I interviewed, I lurked, I questioned, I linked, and I searched, all of the time making tentative connections and engaging 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, while 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 interlinking locations in which scientific work is done. The process that I undertook was one of co-constructing the tool and the job (Clarke & Fujimura, 1992), so that the right ethnographic approach for the task was, I hoped, the final outcome, but neither tool nor job was wholly foreseeable from the outset.

In looking for relevant ways to frame my study, I was inspired by science and technology studies to question 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 previously 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 that institutions held, detailing their specimen holdings, told me a lot that helped make the distributed databases that were later 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 will consult them imminently, but because someone might eventually. 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 offered 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 provided 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 that the online databases described. Accordingly, I visited museums, botanical 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 aspects of online resources. I found out about practices of loaning and visiting collections and explored beliefs about how objects were owned, how they should be stored and ordered, and the qualities that objects must have if they were to be useful to systematics. Understanding this material culture turned out to be a vital path to making sense of the virtual culture. The two were not separate, but thoroughly intertwined.

While 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 they revealed a highly complex network of interconnections. I also benefited hugely from an open culture that encouraged posting of meetings reports, minutes, and project participant lists. I still, however, felt the need for some way of grasping the connections among 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.

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Social network analysis and hyperlink analysis offer ways to explore the spatiality of the web (Park & Thelwall, 2003). For my purposes, however, I sought something a little more quick and dirty, something 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 visualizations 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 1.1. The diagram is generated in real time and can be extended outward: Clicking on a node retrieves its related sites, and clicking on any of those sites extends the network once again. Nodes can be pulled into position using the mouse to move overlapping 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, as well as the various faces presented by projects and institutions.

Note that there is a strong autobiographical element to the research that 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 experience gave me a starting insight into some pertinent issues, 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 that 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 such an ethnography would have provided. 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 a local scale. Nonetheless, for the study I wanted to do, and particularly for exploring the varied experiences of systematics as 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 on 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, stronger in some cases than others. These decisions were always made as trade-offs to enable me to work in more detail somewhere else 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, e-mail 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 from 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

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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 requires us to cross between online and offline and reflect 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 described in this chapter rely on the idea of the construction of project boundaries as a social process, which is linked more explicitly 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 analyze so many web sites. Qualitative research and, in particular, ethnography with its emphasis on immersion, require 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 [2000a]). The boundaries of methodologies themselves can be fluid and negotiated, rather than fixed (Gubrium & 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: How to Follow Scientists and Engineers through Society* and Wiebe Bijker's (1995) *Of Bicycles, Bakelites and Bulbs*. John Law's (2004) *After Method: Mess in Social Science Research* 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: The Role of Immunity in American Culture from the Days of Polio to the Age of AIDS* is a classic example of a multi-sited ethnography of contemporary culture.

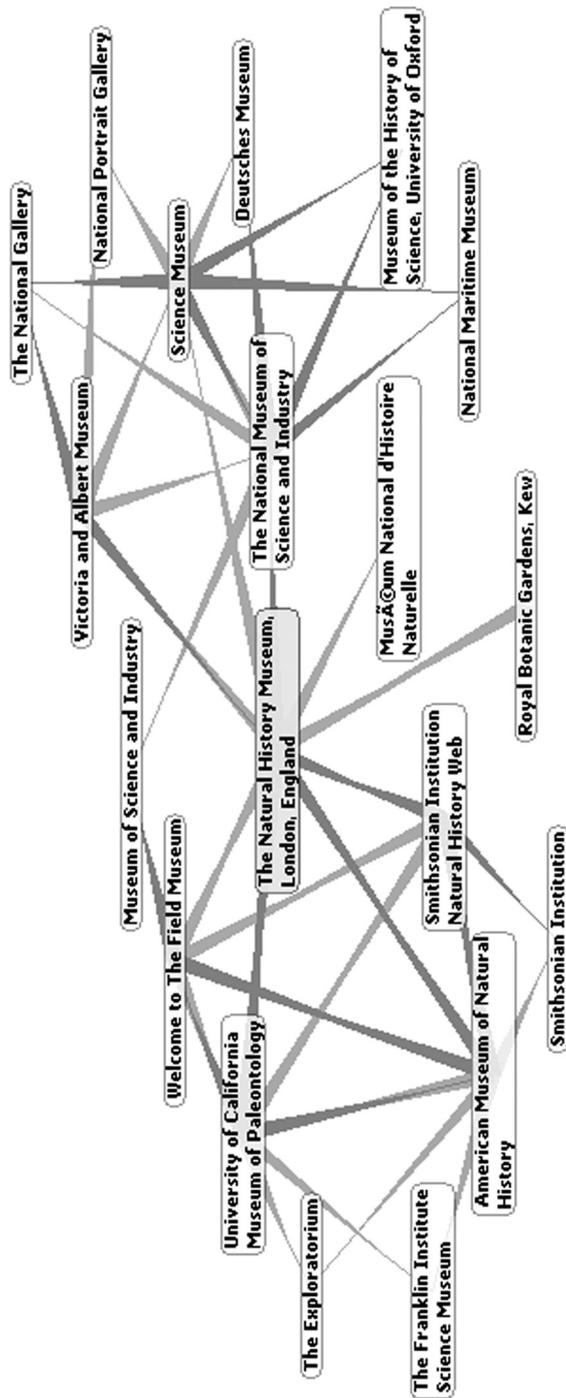
Texts that talk specifically about the internet as a field site, and about different ways of thinking of the internet as a conduit of culture, are Annette Markham's (1998) *Life Online: Researching Real Experience in Virtual Space* and Christine Hine's (2000) *Virtual Ethnography*. Daniel Miller and 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.

❖ NOTES

1. 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.

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

Figure 1.1 TouchGraph Google Browser visualization of sites related to the Natural History Museum, London



NOTE: This diagram is presented as a "found" ethnographic artefact, as originally rendered by the TouchGraph Google Browser.

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” (p. 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” (p. 12).

Second, the definitions of the research objects are emergent rather than predetermined. As Hine puts it, “The identity of the technology, and thus where to start and stop in studying it cannot be decided in advance” (p. 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” (p. 2) and “where to go and where not to go” (p. 12). Hine recognizes these as metaphors, and her consideration of

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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 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 is bound up with questions of spatial boundaries and as such is 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 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" (p. 7). These temporal considerations, like spatial ones, are often influenced by analytical considerations, as well as by 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, "All studies will be bounded, to some

extent, by what the researcher can practically achieve" [p. 18].) 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 4 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 the people I studied to further my academic career or whether the relationships I had formed had meaning to me apart 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.

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 its completion. Participants read my dissertation and provided feedback on it. Both this feedback and the insights provided through my continued participation on BlueSky informed the rewrite for publication.

This experience points also to the influence of the personal dimension on qualitative research. Hine identifies this as the "autobiographical element" (p. 16). Our own proclivities as researchers, connected perhaps to our 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

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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—my continued friendship with several BlueSky participants—also influenced project boundaries. 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 to reduce potential 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 toward the list of recommended reading that follows for consideration of other approaches to even more research boundaries.

❖ RECOMMENDED READING

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 nonfiction. 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 her 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 response did not satisfy 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 artifact” 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 changes rapidly. 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 today 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 approach 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 colocated 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 what they learned 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. This was logical, considering the emphasis on "rooms" invoked in early social software like chat rooms and MUDs/MOOs. Architectural features appeared to provide meaningful boundaries but, as Hine notes, "one should not accept taken-for-granted sets of boundaries" (p. 4). 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 more recent 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 her or his 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

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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 so I've chosen to narrow my focus so that I can concentrate 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 among them. 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 (p. 18). 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 life-long 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 points 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? Its practices? Its 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. Be 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, and 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 an affinity*

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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 are 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" (p. 6). 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, 2007). 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 from 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 READING

Clifford Geertz's (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*.

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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 lists. 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 see how different relevant players have tried to influence the internet’s development. Judith Donath’s (1999) essay, “Identity and Deception in the Virtual Community,” reflects how people’s signaling practices must change because of different limitations online, whereas 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.