

ETHNOGRAPHY AND VIRTUAL WORLDS

A Handbook of Method

TOM BOELLSTORFF
BONNIE NARDI
CELIA PEARCE
T.L. TAYLOR

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such personal identifier information in the first place, since it is typically unnecessary. If collected, personal data do not necessarily have to be shared with all members on a team. For instance, in one of Celia's collaborative projects, the team conducting face to face lab protocols collected physical world names but did not share them with the team doing inworld participant observation, who only had avatar names. Regardless of what data storage methods we use, we must ensure the data are safeguarded in line with the human subjects requirements of our institutions. Data must generally be stored on a secure server or locked in a cabinet in a private office.

We can ease the work of fulfilling IRB demands by beginning the process early, studying examples of colleagues' successful protocols, making personal contacts at our IRB office to ask questions, and promptly supplying answers to staff questions or requests for changes in the protocol. We suggest being flexible and cooperative; however, there may be rare cases where we need to be firm. One of us has experienced two instances in which the IRB suggested a complete change of research topic or subject pool. In both cases getting IRB approval required significant compromises that were largely deleterious to the research. While such interventionist moves are uncommon, they lie within the realm of possibility; we can mitigate them by educating our IRBs.

IRBs seem to work well with precedent. Some of us have had success with setting up standards, such as a precedent for an approved online consent form, which can be used as a template for multiple projects. Celia's lab has formed a human subjects research working group that maintains a library of methods books and articles, as well as an online knowledge base that includes links to IRB training sites, previously approved consent forms and protocols, and other resources that help to build on prior work and streamline the IRB process.

CHAPTER TEN

DATA ANALYSIS

10.1 ETHNOGRAPHIC DATA ANALYSIS: FLEXIBILITY AND EMERGENCE

The work of data analysis is often forgotten in discussions of ethnographic research. Ethnographers write about their experiences "in the field," discussing data collection in great detail. Particularly since the publication of *Writing Culture* (Clifford and Marcus 1986), ethnographers have also explored the process of writing itself. Both forms of reflexivity have been valuable, and of course this book addresses them. However, ethnographers have been far less transparent about the intermediate step of data analysis that makes possible the transition from data to text. Too often this step is treated as a black box, as if it is simply the brilliant minds of individual researchers that make connections and draw conclusions.

Like participant observation itself, data analysis is highly emergent and contextual (Bernard 1998). There is no one way to come up with the broad insights and claims that give ethnographic analyses their unique stamp and which ensure that the texts produced will be cited and discussed by others. But we can offer some practical advice. The most fundamental approach to data analysis is to engage in a rigorous intellectual process of working deeply and intimately with ideas. Analysis is not primarily about tuning coding schemes or tweaking data analysis software packages. It is about finding, creating, and bringing thoughtful, provocative, productive ideas to acts of writing.

This process is deeply personal, almost idiosyncratic, but begins with stretching our cognitive and perceptual horizons to encounter, absorb, and react to relevant literatures and conversations. We discover ideas through a systematic process of reading the literature, discussing our research with colleagues, and taking note of whatever strikes us as interesting and pertinent as we experience it in the field. Students in particular must learn to develop and trust their instincts, which will be improved by engaging with the literature and wider research community. A sustained passion for talking, thinking, and reading, for forging collegial discussions

in domains of interest—these activities are the source of the good ideas that populate the ethnographic literature. At the same time, ethnographic research is profoundly exploratory and deeply identified with discovery. It is up to us to develop sound, persuasive arguments about what we find interesting, and to convince others that these arguments illuminate our data and speak to crucial concerns and debates.

One of the biggest differences between ethnographic data analysis and other paradigms centers on the temporal flow of the research. Most research paradigms establish coding and other analytic schemes *before* undertaking data collection. To conduct a survey, for instance, we must decide ahead of time if we will ask people to identify their age in terms of “under 20, 20–39, 40 and up,” or “under 15, 15–29, 30–44, 45 and up,” and so on. We must decide if we are going to ask about age, gender, or income. In contrast, while ethnographers formulate plans before conducting research (as discussed in chapter 4), we also try to be responsive and open to shifting our interests as we encounter the unexpected. We modify methods and research questions to respond to what we find in the field. Such shifts entail reshaping plans for data analysis.

As a result, we often construct significant portions of our data analysis protocols *after* we have completed field research. For someone conducting ethnographic research for the first time—and, on occasion, even for the experienced ethnographer—this flexibility may feel like a disconcerting lack of structure, out of step with common expectations for scientific research. Yet recall how a virtue of participant observation and other ethnographic methods is that they allow us to treat data as culturally situated: the value of the data is linked to the contexts of its collection. We cannot know those contexts in advance. An ethnographic methodology extends this kind of flexible approach into the data analysis phase.

10.2 PRELIMINARY REFLECTIONS WHILE IN THE FIELD

There is a general timeline to ethnographic research, from research design through data collection, data analysis, and the writing of research results. However, some stages may overlap, including data collection and data analysis. The classic scenario is to leave the field after a year of research to return home and, comfortably seated in one's office or library, pour over fieldnotes, interviews, and all the other data amassed during that long year. In this scenario, the “fieldnotes” produced during data collection and the “ethnography” produced through data analysis are rigidly sequential. However, this idealized scheme of observing, recording, and

analyzing oversimplifies the realities of ethnographic research: “distinguishing these three phases of knowledge-seeking may not, as a matter of fact, normally be possible; and, indeed, as autonomous ‘operations’ they may not in fact exist” (Geertz 1973:20; see also Gupta and Ferguson 1997).

Thus, although there is a typical sequence to ethnographic work, the process can also have an iterative quality. Ethnographers may sometimes begin data analysis before data collection is complete (LeCompte and Schensul 1999). Since to varying degrees we do not know what we seek until we find it, it is not only possible but also desirable to engage in preliminary reflection on our data while in the field. We are not simply acting as recording robots while doing our fieldwork; it is normal (and beneficial) to be engaged in some low-level reflection as we proceed. This can help inform fieldwork and allow us to be responsive to emerging insights. In graduate school Tom was advised to leave his Indonesia field-site every few months for a weekend, travel to a nearby town (or even just a hotel in the same town), and try some preliminary review of his material to see what themes were emerging and where he might want to focus further data collection efforts. As recommended by Mills (1959), Celia kept a research journal throughout her fieldwork on the Uru diaspora; this allowed her to capture personal insights and revelations in situ, which informed her data collection and later her analysis. She also made notations on her actual fieldnotes if she noticed something that might represent a pattern or wanted to follow up on something she had seen or heard during participant observation or interviews. Given that in ethnographic work research questions and topical foci are to some degree emergent, preliminary reflections in the field can help modify data collection to better account for issues of which we were unaware prior to the research itself.

A strength of virtual world ethnography is that it is particularly amenable to weaving together data collection and some early reflections on where we are in the work. Sitting at our desks, we can alternate between looking at piles of collected data around us and stepping back into our virtual world fieldsite. While conducting fieldwork in Second Life, Tom would sometimes not log into the virtual world for a couple days to write summary discussions of his findings. T.L. remembers sitting around waiting at a gaming event, sketching out ideas in her notebook, when she stumbled upon a breakthrough in how to think about her data. As she mapped the various actors and activities she was seeing (Clarke 2005), noting their interrelations, she came to realize the diverse domains of

data not as a barrier for analysis and something to overwhelm her, but as the heart of the story. This led her to broaden her gaze for the remainder of that event undaunted.

It is thus important to be open to the possibility of preliminary reviews of our data while in the field, so long as two dangers are kept in mind. First, the bulk of analysis should take place after fieldwork, or after a significant portion of fieldwork in a multi-year study. Preliminary analysis is counterproductive if it is so time-consuming that it detracts from data collection. Second, it is necessary to understand that the preliminary labeling of data as they are gathered is not the same as data analysis. In addition to using these moments to tweak our data collection, we can consider the early work we do in looking over our data while still in the field as opportunities to leave ourselves waypoints for future in-depth analysis.

10.3 THE ROLE OF THEORY IN DATA ANALYSIS

In chapter 3 we noted that ethnography differs from grounded theory and ethnomethodology in that it often builds on prior theoretical work. We discussed the notion that ethnographers draw from varying types of theory—whether philosophical or social scientific—as lenses through which to understand patterns of social activity. But how can such theories be applied; how do we even know where to begin? Being conversant in a number of different theoretical approaches is helpful; however, it is of course impossible to have a comprehensive knowledge of all available theories. Furthermore, it is mistaken to use theories simply because they are in vogue or we have a particular axe to grind. The theoretical frameworks we select should be responsive to the data and research interests.

This may seem to contradict traditional notions of scientific inquiry. However, ethnographers typically place theories in dialogue with data, sometimes drawing theoretical approaches from unexpected places if they suit the analytical task at hand. This approach is especially apt when “grand theories” such as activity theory are used as broad conceptual grounding. Such theorizing invariably needs to be rounded out with more focused “middle-range” theories in closer contact with the data. Bonnie has used theories of innovation and computer-mediated communication in her publications, while keeping activity theory as an orienting framework. For example, she used Seay and Kraut’s notion of “problematic usage” of games to discuss debates about “addiction” in regard to World of Warcraft, but she also used the more abstract, higher-level theories of John Dewey and activity theory (Nardi 2010).

Understanding this back-and-forth relationship between data and theory in ethnographic analysis is important because all too frequently we have seen students and researchers asserting that their work is valuable because it is theoretically unprecedented. Such claims of absolute novelty are both unnecessary and misleading. Of course the dangers of false claims to originality in ethnographic research are hardly limited to studies of new technologies. The continuing influence of that mindset can be seen in pressures to not research a virtual world that has already been studied, as if building a research community were a bad thing and being the ostensibly first person to describe a new online environment was valuable by definition (Fairfield 2011). This orientation obscures the fact that research is an intersubjective enterprise, founded in the cumulative theoretical work of numerous forebears and colleagues.

There are several approaches to weaving theory into our analyses. One way to begin is to look at the work of other researchers in our disciplinary areas to see which theories they have found most productive. Celia arrived at the application of de Certeau’s notion of consumption as a creative practice through the work of sociologist Paul Willis (1981), as well as Henry Jenkins’s foundational studies of fan culture (1992). She built on this concept in theorizing how members of the Uru diaspora were forging a “fictive ethnicity” through their transplantation of Uru culture and artifacts to other virtual worlds (Pearce and Artemesia 2008). As ethnographers we should feel free to engage flexibly with a range of disciplines in developing our theoretical perspectives. For instance, Celia has drawn from the psychological theory of flow (Csíkszentmihályi 1990) and Goffman’s (1974) sociological theory of frame analysis. Broader theoretical orientations, such as Marxist, feminist, or queer theory, can also act as conceptual resources for better understanding the phenomena we encounter in our fieldwork.

An example from Tom’s work that highlights this scholarly principle of “standing on the shoulders of giants” is the concept of *techné*. Tom noticed that Second Life residents kept talking about how making things was important to them. He also saw such crafting take place, often collaboratively, during participant observation, and he joined in these activities. Over time he also realized that these ideas about crafting extended to how people modified their avatars and homes, how they talked about “building” community, even questions of fashioning identity and worldview. This inspired Tom to research the idea of “crafting.” He was stunned to discover that one ancient Greek word for crafting, *techné*, was the root of the contemporary term “technology.” He knew right

away he was on to something. Then he discovered not only that Aristotle had discussed the distinction between *techné* and *epistémé* (knowledge), but that important theorists including Félix Guattari, Michael Foucault, Martin Heidegger, and Bernard Stiegler had explored how the concept of *techné* could shed light on human relations to technology. *Techné* ended up becoming a central theoretical framework of Tom's analysis, but not because he had stated in his original research design "I want to use the concept of *techné*" or "I need to cite Foucault in my book so people will think I am smart." Through an iterative relationship to his ethnographic research, Tom forged a theory in dialogue with his fieldsite. That he could analyze aspects of Second Life culture through the lens of Aristotle by way of Foucault suggests new forms of online sociality. Without such understandings of how our work fits into broader scholarly debates, we cannot make a truly original contribution to the field.

T.L. has, for example, drawn theoretical concepts from actor network theory into her analysis of gaming. In her work on modding, she built upon Latour's formulation of the role of nonhuman actors (1992) to discuss how user-created software came to act as a powerful member of raiding teams. She analyzed mods not just as tools, but as social actors that carry with them particular agency, values, and expectations. Inspired by the work of Rabinow (2003), as well as Deleuze and Guattari (1987), she developed, in engagement with her data, a notion of the "assemblage of play" as a way of understanding how diverse components well beyond the packaged game software co-constitute experience in these spaces (Taylor 2009). She found resonance in this approach to what Bowker and Star (1999) identified as an "ecological understanding," a useful frame for that stage of ethnographic work when we begin to comb through our fieldnotes, looking for interrelations and piecing together a rich picture of the life of a virtual world.

10.4 BEGINNING DATA ANALYSIS: SYSTEMATIZE AND THEMATIZE

In this section we discuss techniques for analyzing data to move toward developing broader insights, but we want to emphasize at the outset that while this task is a necessary step in data analysis, it is not the hard part. The hard part is developing *original* insights and ideas with wider relevance to our research communities. From our fieldwork we collect a staggering range of materials. During data analysis we get to survey this material, looking for the patterns and relationships that will lead

to important insights and arguments. This process is slow: there are no shortcuts. "Becoming friends" with the data is a way to think of this journey; it is just as immersive, in its way, as fieldwork: "The ethnographer begins concentrated analysis and writing by reading his fieldnotes in a new manner, looking closely and systematically at what has been observed and recorded. In so doing, she treats the fieldnotes as a data set, reviewing, re-experiencing, and reexamining everything that has been written down, while self-consciously seeking to identify themes, patterns, and variations within this record" (Emerson, Fretz, and Shaw 1995:144). We must give ourselves over to the data—minimizing interruption, ensuring concentration, and finding the quiet in which the data will speak to us. We will provide some details for analyzing various forms of data, but we start with general guidelines.

A first step is systematizing our data. This reveals patterns that can lead to larger insights when combined with other concepts and principles. Systematization is done by going through all the material, sorting it, marking it up, and annotating it where needed. This process usually involves some form of tagging; that is, labeling data with micro-units such as "gender," "conflict," "alts," then moving to coding. The distinction between tagging and coding is heuristic, but coding usually refers to a systematic categorizing of data with higher-level constructs such as "player notions of work/play" or "the relationship between temporality and romance." Note that coding and tagging require actually reading a text, not just doing word searches. For instance, notions of work and play might be stated in language that does not include the words "work" or "play." An exclamation like "crap, have to leave for my shift in 15 minutes :(" typed into guild chat reveals attitudes about work that may be juxtaposed to particular events taking place at the time, yielding important data that we can interpret with nuance because we were on the scene, knew the participants, and had extensive background knowledge of the social group or activity in question.

If working with material digitally, we could in principle use a range of qualitative data analysis programs (such as Atlas.ti). While some researchers employ such programs, it is striking that none of us has ever used them. Our experience has been that they typically require a steep learning curve and are frequently constrained by analytical assumptions built into the software. There may also be a tendency to believe that qualitative analysis software is somehow more "objective" than hand coding and analysis, and that such software may help overcome the myth that ethnography is "undermined by subjectivity," discussed in chapter 3. But

the situated and contextual nature of ethnographic research and analysis defies standardization and mechanization. It is erroneous to assume that a piece of technology (which, incidentally, is made by people) can do the interpretive work of a thoughtful human mind.

Instead we opt for the flexibility of standard word processing, database, and spreadsheet programs—and even paper and pen—to comment on, highlight, move, and search for data. Thus, while not in any way discouraging the use of qualitative data programs, we emphasize that they do not, in themselves, perform the work of analysis. The key to data analysis is to interact with the dataset: read it, study it, immerse oneself within it, and let the data paint a portrait of the culture we are studying. Answers to research questions lie within the data—and furthermore, new questions inhabit the data as well, questions that stood outside the universe of the thinkable when we originally designed the project. No data analysis software will ever lead us to such questions; it is through intensive engagement with the data that these questions (and their answers) will become apparent.

Coding is an early stage of data analysis, not its culmination. Sometimes researchers think that once coding is done, the work of data analysis is complete. However, by definition coding misses the big picture: the overarching meanings, histories, and linkages between cultural domains will not be rendered intelligible within schemes that label, tag, or segment. For instance, applying the code “learning episode” to an event in which a player teaches another player a gaming technique tells us nothing about how the persons involved understood what learning means, the dynamics of collaborative learning, the motivations behind learning in a play context, how learning is subjectively experienced, or the contexts that shape the learning interaction.

This second level of analysis thus involves building out from our initial phase to thematizing the data. During this stage we are looking for patterns, critical moments where a phenomenon is echoing through the culture in a significant way. While it may begin with noting a simple argument over a virtual billboard, a brief lamentation about the impending demands of a player’s job, or a phrase that appears independently in multiple interviews, thematic development is about moving beyond the notation of single incidents. The work we do in systematizing helps leverage our data in finding recurrences. While it is from often seemingly minor details that our most important findings sometimes arise, they come as well from the overview of data writ large, engaging with theoretical and

conceptual arguments in the literature, and developing new arguments when necessary. We must establish that our data reveal wider patterns.

As we sort our data to develop themes, it will often prove helpful to arrange the data into “piles” or sections with subject headings. These subject headings can include emic concepts (like “avatar customization” or “mods in raiding”), as well as etic concepts (like “social stratification” or “hegemony”). As noted earlier, our most important analytical tool is ideas. We bring them in from theory, generate them from the data, and build on emic constructs to perform our analyses.

For viewing, some ethnographers print out key materials. Others rely on virtual piles—cutting and pasting relevant data into a Word document, for instance. Some do both. T.L. first sorts through her digital materials, then prints out a portion so that she can shuffle the data around in physical piles, marking things up with pens and highlighters. Tom prefers to keep all his data in digital form, using the “outline” function of Word to thematically organize the data, or entering data into a Filemaker Pro database where it can be easily sorted and regrouped. Bonnie first prints out and reads all her fieldnotes and interview transcripts like a novel, then goes back over the data more analytically, armed with colored pens, Post-it notes, and the original digital files to facilitate searching for specific words and phrases. Celia has used a combination of all these approaches, as well as the “old school” technique of organizing concepts and patterns on index cards.

Whatever procedures we employ, the goal is to organize the data into manageable pieces we can thematically analyze and easily locate when writing up research results. Using folders and subdirectories on a computer can be helpful. As piles or sections of data accumulate, we can refine them. Some will get so large and unwieldy that we will be forced to split them up into two or more topics. In other cases we may find a section with only a few items in it; this can prompt us to consider combining it with another section.

Ethnographers develop higher-level themes by linking or juxtaposing coded units, such as “the way informants talk about crafting objects shares features with the way they talk about falling in love.” Critical incidents or events that reveal cultural propensities, connections, conflicts, or problems may also yield themes, such as Bonnie’s assessment of the agency of gaming software in altering social relations, which she analyzed in light of events surrounding changes in raiding requirements following a software expansion in *World of Warcraft*.

In practice, tags, codes, and themes are not mutually exclusive and should inform each other. Often we begin to notice higher-level units as we work with lower-level units. We may, for example, be searching for instances of talk related to gender and discover that distinct formulations significantly structure game discourse and activity. Ultimately these first two stages of data analysis—systematization and thematization—are in close conversation with each other and are iterative. As we develop thematic threads through the data we may find ourselves polishing coding schemes or finding new angles we did not spot when we began. As we indicated at the start of this section, the process of analysis is as immersive as the fieldwork itself, and we should, while attending to the data in a rigorous way, also let it lead us to important critical areas. Before we continue and discuss the move from thematizing to narrativizing and building arguments, we want to talk about some specific issues that can arise with various forms of data.

10.5 WORKING WITH PARTICIPANT OBSERVATION DATA

While the guidelines above apply to all forms of data gathered during fieldwork, different kinds of data often require special approaches. Given that participant observation is the pivotal data collection method of ethnographic research, it follows that fieldnotes should be central to analysis. Fieldnotes will include not just major incidents, but a range of mundane interactions and episodes. In many cases the commonplace and everyday may prove more informative than events that occasioned explicit commentary.

Ethnographic research is fundamentally about understanding a culture from the inside out. However, by the time we get to the data analysis phase, we are often so acculturated to the fieldsite that we take its cultural logics for granted, just as our informants do. Analyzing participant observation data helps to “make strange” (Bell, Blythe, and Sengers 2005) our fieldsite once again; this allows us to retrace the ethnographic journey from outsider to insider, chronicling key moments of curiosity, befuddlement, and insight.

Whether working with fieldnotes digitally, physically, or both, the goal of analyzing data collected via participant observation is to discover patterns that illuminate the research question and develop new insights. A good first step is to read everything and look for core themes. This is admittedly something of a black art, but knowledge of the literature and understandings of what is important and interesting guide the process.

Issues of contention may be important, but so are widespread norms, consensus, and repeated scenarios and routines: ethnography is probably the science most dedicated to the normal and the quotidian.

Two concepts that provide a useful way to think about analysis are Mills’ notion of “the sociological imagination” and Richardson’s metaphor of “crystallization.” Mills reminds us that we can move in and out of the data, observing it at different scales, from the most minute detail to the broadest overall pattern of culture. To achieve this “you try to think in terms of a variety of viewpoints and in this way to let your mind become a moving prism catching light from as many angles as possible” (1959:214). Richardson also invokes the prism in her metaphor of crystallization; this can highlight the multifaceted nature of our data, since crystals possess “symmetry and substance with an infinite variety of shapes. . . . What we see depends on our angle of repose” (1994:934).

Just as with participant observation, we should not conceptualize working through fieldnotes as a distanced process. Our deep embodied knowledge of the fieldsite is an asset, and it is through (not despite) such engagement that we produce our best work. We should “participate” in our participant observation data as we analyze it, watching for things that catch our eye and incidents we find important. Of course, what may catch our eye are things that leave us perplexed, or that challenge some hunch or argument we are developing.

When faced with these conundrums, we must be diligent to avoid the trap of dismissing data that do not fit the argument we are trying to build. We should look for places in our fieldnotes where we noted being confused by something we encountered, or where we identified exceptions to patterns. Contradictions in the data often open up the possibility of new and unexpected discoveries or serve to illuminate our understanding of cultural norms. There is no need to fear discovering something that appears to disprove our ideas: this situation usually represents an opportunity to clarify and deepen the analysis. Since there are always variable attitudes and practices in any culture we study (Romney, Weller, and Batchelder 1986), there often exist two or three dominant understandings of an issue. Discovering this complexity can bring new insights and open new problematics. For instance, Bonnie noticed a bimodal distribution in player attitudes regarding real money trading (RMT), in other words buying and selling virtual items for conventional currencies among World of Warcraft players. The heated emotions offered up by players on this topic led her to analyze portrayals of “Chinese gold farmers” who retail virtual items for physical world currencies. During data

analysis Tom found evidence that in Second Life some residents liked having more than one avatar (an alt), while others disagreed with the practice. Learning about these multiple perspectives did not disprove his ideas about avatars but helped him craft a more robust theory of virtual embodiment. T.L. noticed differing opinions about “powergamers” during her EverQuest research that spoke to deeper themes about how people understood distinctions between play and work. Following the trail of divergent responses in the data allowed her to push her own initial thinking on the subject.

10.6 WORKING WITH INDIVIDUAL AND GROUP INTERVIEW DATA

Next to participant observation data, the most significant body of data will usually come from individual and/or group interviews. The process of converting interviews from their raw audio or video form into transcribed text is not just a practical procedure. It is an analytical journey as well. As mentioned earlier, there are unglamorous, mechanical aspects to transcription. However, what must not be forgotten is that when working with the texts of our interviews, even in apparently rote tasks of transcription, we are engaging in a deeply analytic practice. Many researchers (including some of us) have transcribed interviews while still in the field, to ensure data are not lost and to see what topics might need further investigation. However, all of us have transcribed interviews after completing primary fieldwork. The value in having at least some transcription take place after fieldwork is that we can use the process of transcribing analytically. It can allow us to simultaneously look back on our fieldwork with the benefit of hindsight and engage with the data in a focused and intimate manner. When outside transcribers produce transcripts of audio interviews, it is imperative that we read them slowly and carefully, since we will not have had the benefit of listening closely to the interviews during transcription. In this case, if needed, we should go back to portions of the original audio to listen for nuances of intonation and other aural cues that may help us grasp the data more fully.

In ethnographic research interview data are not analyzed in isolation. A unique affordance of ethnographic methods is that they allow us to compare what people *do* with what they *say* about what they do. While ethnographers are concerned with what people are up to, we are also concerned with their emic understandings of what they are doing and its significance to them. An important aspect of data analysis therefore

involves comparing the interactions observed in participant observation with participants' own understandings and interpretations of these activities. In some cases we may find contradictions; in others we may find that a particular action takes on new meaning when looked at through a particular cultural lens. Informants may be more or less self-reflective, more or less critical of their cultures and the individuals within them. In Celia's work with the Uru diaspora, activities and artifacts in virtual worlds often had hidden meanings informed by players' history in Uru, as revealed through interviews. Fountains, a book on a pedestal, a decorated egg, or a certain style of tall pine tree had special meaning among Uru refugees in There.com that could be drawn out only through interviews.

As we sit down with our interview transcriptions, the process of data analysis does not differ substantially from the approach to dealing with participant observation data. The goal is immersion in the material: watching for themes and points where informants make insightful comments, notating useful passages, and highlighting quotable lines. Data analysis may be oriented toward broader themes, or it may be at the level of detailed tagging of small analytical units (such as the use of a particular word or phrase). One approach can be to re-listen to recorded interviews with the transcription before us, annotating the transcription as we go along. Often we have particular participants who are especially informative and articulate; working closely with those interviews is very useful. The ultimate goal is to distill from the hours of conversations the core concepts, themes, and issues around which we will build our ethnographies.

The words of our informants are a powerful part of the final work, and we should attend not only to the issues they raise, but to their way of speaking about them. Do particular words, phrases, or ideas recur? Are there moments of strong sentiment or ambivalence? Are there places where the informant's words do not align with the concepts and ideas we are developing, challenging our understandings of the data? Are there specificities of language use that reveal aspects of culture? Are informants introducing terms, concepts, or ideas that are especially unique?

All these suggestions apply equally to group interviews. There are, however, a few minor additional issues. When analyzing group interview data, it is important to attend both to moments of consensus—when participants agree on some issue of interest—and moments of debate, as these disagreements can illuminate the range of opinions and practices regarding some domain of human action. For instance, in the months before the introduction of voice into Second Life, residents participating

in group interviews with Tom had lively discussions about its risks and benefits. This included the issue of voice possibly making social interactions too linked to physical world identities, and how voice would effect persons with hearing disabilities versus visual disabilities. Tracking this range of debate through group interviews helped Tom understand the cultural meanings of voice in *Second Life*; indeed, the image in his book of a resident with a “no voice” protest sign was taken in his *Second Life* home during a group interview.

One final important point: while all our transcriptions form a core corpus of our data, we will end up using direct quotes from only some of our conversations. Direct quotes bring our participants to life, foreground the specificity of ethnographic research, and add authenticity to our characterization of cultures. However, long interview quotes without analysis or interpretation do not “speak for themselves.” Thus part of our job as scholars is to comb through the mass of data and identify and analyze effective excerpts to share with readers. As we examine our data we should pay careful attention to (and notate so we can rediscover!) particularly strong passages or quotes we can use to ground our arguments as we move into the writing stage.

10.7 WORKING WITH IMAGES, VIDEO, AND TEXTUAL DATA

Most ethnographers gather images, video, and textual data. If a research project is concerned with video, imagery, or questions of archives and history, these kinds of data will be central to the analysis, and we should approach them using the same fine-grained attention to detail and thematics described above with reference to participant observation and interview data. However, if (as is often the case) such data supplement participant observation and interview data, then the question is how to use images, video, and textual data in a manner that effectively supports and illustrates key points without overwhelming the analysis.

Sometimes a short segment of inworld video yields rich data. For example, Bonnie analyzed the properties of text in *World of Warcraft* by studying a one-minute video segment of a raid encounter. She observed that in-game texts were quite different from the typical printed page or webpage; the texts were ephemeral and mobile, occurring all over the screen, and were positioned by players according to their own personal preferences. The texts were rendered in blazing colors, often with accompanying audio. They were multi-authored, originating from the game software as well as multiple software modifications. To analyze such texts

it was necessary to use video data, as many properties of the text could be observed only by watching the shifting of the texts as they moved across the screen and viewing the texts’ temporal flow as they alternated between visibility and invisibility during a raid encounter.

We might want to go through screenshots after making an initial pass at the written material, watching for images that might usefully illustrate a theme or point. In some cases (as when Tom discussed basic features of *Second Life* or Celia described the avatar creation mechanism of each of the games in her study), we might return to the fieldsite to take screenshots that will clearly reflect the overall narrative. T.L. tends to print out particularly evocative images so she can add them to thematic piles; the images help her remember related points in the fieldwork data. Screenshots of player-created artifacts played a major role in Celia’s research on the productive play practices of members of the Uru diaspora. They enabled her to compare multiple user-created instantiations of the same Uru artifact alongside those from the original game, revealing the emergence of a hybrid style that replaced the realism of Uru with the cartoon aesthetic of *There.com*.

The kinds of textual data gathered during virtual world fieldwork can be very diverse, including text from popular press articles, FAQs, forums, blogs, wikis, books, news aggregators, and virtual world newspapers and magazines. Regardless, during data analysis we should organize this material thematically, highlight key phrases and statements, and link it to other forms of data.

In some cases analysis hinges on gathered textual materials, such as Bonnie’s studies of digital documents regarding Chinese gold farmers or her analysis of *World of Warcraft* theorycrafting. Here analysis proceeds much as it does with fieldnotes: we assemble a corpus of texts and scrutinize them in detail. It may be necessary to limit the corpus of online materials since many websites contain vast stores of data. The general procedure is to discover what the websites are about (which may involve reading them for months) and then to use exemplars from the texts to illustrate key points.

Even when focusing on video recordings or texts, our analysis should be deeply informed by the cultural knowledge we have gained through participant observation. As in Bonnie’s example above about analyzing raid video, it is far easier to understand why raid texts are coming and going so quickly when we understand the activity of raiding itself. Sound participant observation research acts as the core of an ethnographic approach and can thus link a range of analyses that draw on data collected through other methods.

10.8 THE END OF THE DATA ANALYSIS PHASE: FROM THEMES TO NARRATIVES AND ARGUMENTS

At what point should we consider our data analysis complete and move on to the final synthesis of our findings? One effective way to know when we have reached this point is that as we review the data, we are not seeing new patterns emerge. We are nearing the end of data analysis when we know the key themes to which our data speak, and even such details as which pile or section contains certain quotes or stories, or which folder on our computer holds prized images. Reaching this point is no small feat, and we should not shortchange this stage of ethnographic research. Our journey of data analysis moves from systematizing our data, to generating core thematics, to developing narratives and arguments that bring us to larger theoretical and conceptual points.

For instance, during preliminary analysis of his participant observation data, Tom noted when place and time shaped Second Life resident interactions—an argument over an ugly billboard next to someone's virtual home, or lag causing people at a dance to get out of sync with the music. But this examination of the data was merely a first step. Only after extensive analysis did Tom realize he wanted to claim that place and time are as central to virtual sociality as identity or embodiment. This broad conclusion arose not just from Tom's notations about virtual billboards and discos, but because of his knowledge of literatures on identity and embodiment. His participant observation enabled him to evaluate and critique notions in that literature and to develop, with the rigor of a sound empirical base, new conceptions of what constitutes social experience in virtual worlds.

Bonnie's analysis regarding how World of Warcraft players view work and play began late one night when she noticed a player discussing, with dread, her work schedule, noting the exact time she had to be at her job in the morning and how little time she had left for the pleasurable activity of playing World of Warcraft. The emotion in the player's chat conversation struck Bonnie as interesting and led her to Dewey's critique of aspects of modernity (including notions of work and school), which was surprisingly similar to sentiments expressed by many World of Warcraft players, as documented in Bonnie's corpus of interviews and chatlogs.

One of the most significant findings of Celia's Uru research was the discovery of "intersubjective flow." This concept merged Csíkszentmihályi's psychological theory of "flow" (1990), play theorist Bernie DeKoven's

concept of co-liberation (1992), and the principle of "intersubjectivity" (Blumer 1969) to create a more social interpretation of how the psychological phenomenon of "flow," or optimal experience, is enhanced through group play.

As T.L. came to see the ways players invested their time, energies, and passions into the game of EverQuest, she became struck by the game developer's use of the phrase "You're in our world now!" which was meant to evoke a sense of stepping into a fantasy space. Yet it signaled something more. Players spoke of their investment and connection to their digital characters, experiences, and communities yet also at times wrestled with the idea that the game was in some sense not fully theirs, that it was still owned by a company. As she read literature around intellectual property and cultural life, T.L. found herself more fully exploring this critical theme, reflecting on otherwise disparate data piles (avatar auctions, game tag lines, end user license agreements, fan fiction, player investment) in a more cohesive way to link up with this much broader contemporary conversation ranging well beyond virtual worlds.

Much of what we have described in terms of data analysis involves systematically reviewing our data and moving to discrete thematic formulations. The final step is crafting a narrative around these themes, presenting evidence and argumentation to convey larger points to our readers. This process of distillation facilitates "getting our head around the data"—realizing what we have and how we might organize our insights and supporting evidence to craft the ethnography itself. A helpful technique for this initial stage of identifying a key argument is devising an "elevator pitch"—a few sentences to try out on a partner, colleague, friend, or whoever will listen. If we cannot succinctly and effectively sum up what we want to address, further clarification of the ideas is needed. For example, Bonnie's book on World of Warcraft is about "the aesthetics of play in a digital medium." Tom was eventually able to say, "My book is about what culture in a virtual world tells us about culture more generally." We move toward deciding what our written account will emphasize. Given the page limits of conference papers and journal articles—and the need to not spend the rest of our life writing that book!—we must make decisions. What is the argumentative heart of what we want to say? What do readers really need to know about what we have discovered? These decisions can be bittersweet because a well-executed ethnographic project will produce more data and insights than can appear in any written work.

To facilitate this process it is helpful to sit down and brainstorm outlines of the argument, mapping out potential sections of an article or

book. T.L. sketches out possible components of the argument, linking outlined points to the themed piles of data she has already organized. Bonnie starts by writing out key points she wants to make in a few sentences each, and then deriving sections and subsections from the points. Tom's favorite approach is to use the outline function of Microsoft Word to group related points, examples, and references together since this makes it easy to move items around and also to collapse the outline so as to see the overall flow of an argument. Celia begins by writing a brief description of the key patterns that have emerged from the data analysis.

From these outlines and sketches, we feed in material from our fieldwork and interviews to bring life to arguments. This is where extensive and well-marked data gained through fieldwork provide robust evidence. Our data serve as the raw material, but we lean as well on our knowledge of the literature and provocative ideas we glean from informants themselves. Central to establishing the value of ethnographic data is linking it to broader analyses. Ethnographic evidence and argumentation presents itself in the form of compelling incidents, cases, stories, quotations, and vignettes, interwoven with theoretical and conceptual points. It is through the rich detail of our fieldwork in concert with rigorous argumentation that we create social scientific knowledge out of our ethnographic practice. We discuss various forms of ethnographic writing in more detail in chapter 11.

10.9 GENERALIZATION AND COMPARISON

When analyzing ethnographic data we focus on the rich specificity of fieldwork: persons, events, memorable statements, arresting images. However, from that specificity we craft an analysis whose value goes beyond the particular incidents we encountered. We seek patterns and logics—the ways of thinking, believing, and doing that make cultures and societies possible. This scoping outward need not end at the boundaries of the culture or cultures we study, not least because cultures are never neatly bounded in the first place. From the earliest days of fieldwork practice, ethnographers have extended their claims past any one culture. We have sought to generalize. As the eminent anthropologist Edmund Leach noted, “When we read Malinowski we get the impression that he is stating something which is of *general* importance” (1961:1, emphasis in original).

This analytic move is perhaps one of the most misunderstood by those unfamiliar with ethnographic research, who still sometimes see such research as limited to a small locality. This misunderstanding, linked to the myths we discussed in chapter 3, is problematic because it can lead to

devaluing ethnographic work as simply providing “local color,” or illustrative anecdotes for other methodological approaches that would presumably provide the generalizations. For this reason an important analytic task is to think about how our work speaks to broader contexts and cultural conversations. If we study a single server, or even a single guild, on what basis can we say that the research also applies to similar entities? If we undertake an in-depth project on avatars in one virtual world, does what we find apply to other spaces? How do the processes of cultural production inworld help us speak about offline issues? In this section we discuss three issues relevant to this question of generalization: situating and scoping the fieldsite, comparison, and falsifiability.

Situating and scoping the fieldsite

Any fieldsite is an example of a larger class of similar entities: guilds, servers, online universities, and so on. Ethnographers will need to think through how their fieldsite links up to more general issues and phenomena present in the larger class. Are we making claims about our own guild, or the larger class “guilds,” or perhaps a more restricted set, for example, family guilds in that specific game? A claim is a statement that we can substantiate with our findings with respect to the scoped entity. The data must be robust enough to sustain claims as new data (collected by us or other researchers) are added to the record. Our data regarding the general issues and phenomena we wish to link to must be at the right level of generality. We should be wary of overgeneralizing, but at the same time we should not be afraid to point to phenomena that are likely to have broader implications.

One argument that frequently shapes concerns with regard to ethnographic generalization involves statistical significance. Many quantitative methods are designed to account for generalization via the statistical technique of random sampling. If (and this is often a bigger “if” than commonly acknowledged) there exists a discrete population from which a random sample can be drawn, and if the target population meets the assumptions underlying a particular statistical test, quantitative researchers can state with a degree of confidence that their claims are generalizable to the population as a whole. However, random samples or large-scale projects are not the only approaches available to researchers. Ethnographers generally seek to explain a holistic unit such as a community or activity—a learning activity in a classroom, skilled performance in a raid, guild interactions, or the operation of a photography club in Second Life.

Because we do not deal in “variables” but in relations between people and things, our sample is not random in the statistical sense.

Because we are not relying on a random sample, we situate our field sites by explaining their historical specificity and describing aspects that may be relatively idiosyncratic versus representative of broader patterns (Markham 2009). It is up to us as ethnographers to develop a sense of the universe of possibilities, and to locate the work within that universe. For instance, if we study a single guild on a single server we may learn something valuable, but we must also be careful to explain the kind of guild, the type of server, and other matters delineating the study group. Tom worked in his data analysis to situate Second Life in the context of other virtual worlds (including those structured as online games), video games, and other internet-related phenomena like social networking sites and blogs. It is noteworthy that all four of us have traveled across various regions of cyberspace in our investigations, examining our questions of interest in multiple contexts.

Once we understand the universe of phenomena of which our field site is an example, we can appropriately scope our claims. For instance, it may be reasonable to say that players of fantasy-themed multi-user virtual worlds form certain player typologies (Bartle 1996), but it would be unsatisfactory to generalize this model without a consideration (through either primary or secondary data) of players in other game genres, or even within the fantasy genre. In some cases we may scope our claims in the sense of focusing on the specific communities we have studied. Often we forget the value in careful, detailed analysis of specific cultures without any claim to broad generalization.

Another way to scope our claims is to use “moderatum generalizations” (Williams 2000; Payne and Williams 2005). These are moderate claims, “not attempts to produce sweeping sociological statements that hold good over long periods of time, or across ranges of cultures . . . they are moderately held, in the sense of a political or aesthetic view that is open to change. This latter characteristic is important because it leads such generalizations to have a hypothetical character. They are testable propositions that might be confirmed or refuted through further evidence” (Payne and Williams 2005:297). Recognizing this middle ground between speaking only of individuals, on the one hand, and making sweeping statements, on the other, is very effective to help scope our claims. For example, during his Second Life research Tom became interested in the phenomenon of being “away from keyboard,” or “afk.” This occurred when residents left their computers for a time without shutting down the Second Life program, so that their avatar remained in the virtual world. Tom observed

afk practices in many social contexts and discussed it in individual and group interviews. Indeed, afk was so pervasive that it was coded into the Second Life client, both as an alert that residents could use to indicate they were away and as an automated animation in which avatars appeared to nod off. In addition, it was clear that afk had implications—for instance, the possibility of presence without immersion—that were not only highly revealing about Second Life but relevant to other virtual worlds, where afk was also pervasive. When Bonnie did her research on U.S. servers, she used North America as the delimiter for her claims about World of Warcraft because she played on several North American servers. She consistently observed common patterns across the servers and reported her findings as pertaining to the United States and Canada.

Another issue of scope is that ethnographers excel at discovering dimensions or variables of interest that may be useful to other researchers using a variety of qualitative or quantitative techniques (see Fidel 2012). For example, an ethnographer could learn about the existence of gay guilds in a virtual world. That could lead other ethnographers to look for that possibility in other virtual worlds, or for a statistician to include a question about gay guilds on their survey. In other words, the “scope” is not merely a single site where an ethnographer has conducted research, but the discovery of important dimensions of the community or activity under study. Dimensions of social life that ethnographers discover can be analyzed with qualitative techniques, or they can be operationalized as variables for statistical treatment (such as correlating age, gender, player type, and time in-game; see, e.g., Debeauvais et al. 2011).

Overall, then, when ethnographers make claims, we are balancing two sets of considerations. On one hand we do not wish to argue that all those we study believe or act in the same way. Rather we are able to show that a cultural logic or norm is widely shared and teaches us something of value beyond the specific individuals we studied. On the other hand we realize the circumscribed character of our field site in relation to all other possible sites (and thus, indeed, the entire world). We stay attuned to the specificities of our research yet simultaneously seek moments of larger cultural generalization where viable.

Comparison

Drawing on the work of other researchers, particularly other ethnographers, can also be useful for building arguments. Generalization is not the only valid path to scientific inquiry; ethnographers can also contribute

through comparison (Paccagnella 1997). While a quantitative researcher might conduct research in a large number of virtual worlds, this is impractical for ethnographers, though it is of course possible to do research in more than one virtual field site during a given project (as Celia did with her Uru research).

However, to study every instance of anything is impossible. Ethnographers can also generate valuable insights by working in a comparative mode, analyzing similarities and differences between our research and the work of our colleagues. Science is cumulative: it is by the accretion of new data and analyses that we formulate a better picture of the phenomena under study. One reason the notion of the "lone ethnographer" is false is that even in those cases where we are not working as part of a team, we should draw comparatively on the work of others when formulating generalizations. For instance, when developing his generalizations about the afk phenomenon, Tom not only analyzed patterns in his own data but corroborated his findings by consulting scholarly discussions of the phenomenon in other virtual worlds.

Falsifiability

Finally, it is worth noting that as we think through the question of generalization and ethnographic research, we grapple as well with broader issues of falsifiability in social science. In this case we are talking not about how we might generalize, but how we might use our work to problematize existing generalizations, even our own. In such contexts our work may provide a valuable counterpoint to that of other researchers whose overgeneralized claims may be in need of better specification. Ethnographic research is particularly well suited to contribute to this fundamental aspect of social scientific theory building. Indeed the grounding of such research in everyday experience can provide theoretical and conceptual rigor: "[Karl] Popper himself used the now famous example 'all swans are white' and proposed that just one observation of a single black swan would falsify this proposition and in this way have general significance and stimulate further investigations and theory building. The case study is well suited for identifying 'black swans' because of its in-depth approach: What appears to be 'white' often turns out on closer examination to be 'black'" (Flyvbjerg 2006:228).

For example, T.L. identified forms of speech and patterns of behavior in her early work on virtual worlds that indicated embodied experiences within them. At a time when the dominant rhetoric was of disembodied

minds floating in cyberspace, this was a solid research finding to complicate emerging theories about life online (Taylor 2002). Ethnographic work is well suited for falsifying established claims because ethnographers deal with emergent social situations during research and must be prepared to rethink original assumptions and research design based on what we encounter. This stance makes us open to recognizing behaviors or cultural patterns that act as "black swans," problematizing existing generalizations. Such counterexamples that trouble established paradigms are sometimes termed "critical cases" (Flyvbjerg 2006; see also Kitayama and Cohen 2007).

This discussion of situating and scoping the field site, comparison, and falsifiability shows that as ethnographers, we should not assume that we cannot speak with authority about broader patterns in the cultures we study, or about more global issues. We need not cede generalizations to other disciplines and approaches that face methodological conundrums of their own. With critical reflection and appropriately delimiting our claims (essential practices for researchers employing any methodology), an ethnographic study of a virtual world will say much about that virtual world, and if done effectively it will also have value for thinking broadly about virtual worlds and other online social forms, and even social practices outside virtual worlds. This movement between the rich specificity of ethnographic data and various forms of generalization is in fact a classic strategy, a "continuous dialectical tacking between the most local of local detail and the most global of global structure in such a way as to bring them into simultaneous view" (Geertz 1983:68).