THE ANTHROPOLOGY OF ONLINE COMMUNITIES

Samuel M. Wilson and Leighton C. Peterson

*Department of Anthropology, The University of Texas at Austin, Austin, Texas 78712;
email: s.wilson@mail.utexas.edu; leighton@mail.utexas.edu*

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■ **Abstract**   Information and communication technologies based on the Internet
have enabled the emergence of new sorts of communities and communicative
practices—phenomena worthy of the attention of anthropological researchers. Despite early assessments of the revolutionary nature of the Internet and the enormous
transformations it would bring about, the changes have been less dramatic and more
embedded in existing practices and power relations of everyday life. This review explores researchers' questions, approaches, and insights within anthropology and some
relevant related fields, and it seeks to identify promising new directions for study. The
general conclusion is that the technologies comprising the Internet, and all the text and
media that exist within it, are in themselves cultural products. Anthropology is thus
well suited to the further investigation of these new, and not so new, phenomena.

INTRODUCTION

In the last fifteen years, the growth of the global computer network known as the
Internet has facilitated the rapid emergence of online interactions of dispersed
groups of people with shared interests. These online groups exhibit a wide range
of characteristics and serve a variety of purposes, from small groups engaged
in tightly focused discussions of specific topics, to complex created worlds with
hundreds of simultaneous participants, to millions of users linked by an interest
in markets or exchange networks for goods and information. These new media
collectives might be mobilized to further particular political agendas or to bring
together dispersed members of familial or ethnic groups, or they might be orga-
nized around commodity consumption or multinational corporate interests. This
article addresses the phenomenon of Internet-based groups and collectives, gener-
ally referred to as online communities. In reviewing anthropological approaches
to these groups, we must raise several questions: How have scholars approached
online communities and online communication in general? Is the concept of com-
munity itself misleading? How are issues of power and access manifested in this
arena? And given that the Internet and the communication technologies based upon
it—as well as all the texts and other media that exist there—are themselves cultural

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products, will an anthropological approach to these phenomena necessarily differ from other types of anthropological investigation?

As is the case in other academic disciplines, anthropology's interest in Internet-based social and communicative practices is relatively new, and a coherent anthropological focus or approach has yet to emerge. Despite the early interest in new media and Internet phenomena and an emerging anthropological literature, there have been relatively few ethnographic works on computing and Internet technologies within anthropology. The relative scarcity of mainstream anthropological research on the Internet and computing reflects the fact that anthropology has not played a central role in studies of mass media in the past; anthropologists have positioned media as peripheral to culture (Dickey 1997) or have viewed technology in general as a context for, rather than a central part of, culture (Aronowitz 1996, Hakken 1999, Latour 1992, Pfaffenberger 1992). As a result, much of our understanding of new information and communication technology comes from other disciplines through research into online computer-mediated interactions within the framework of the Internet, whose locus of interaction has been commonly referred to as cyberspace. Nevertheless, anthropologists remain intrigued, as they long have been, by the nexus of culture, science, and technology.

Indeed, anthropology is uniquely suited for the study of socioculturally situated online communication within a rapidly changing context. Anthropological methodologies enable the investigation of cross-cultural, multileveled, and multi-sited phenomena; emerging constructions of individual and collective identity; and the culturally embedded nature of emerging communicative and social practices. Recently there have been calls for an ethnographic approach to the issues of new media, an approach that is timely and indispensable as we begin to theorize the sociocultural implications of new communication technology (DiMaggio et al. 2001, Escobar 1994, Hakken 1999, Kottak 1996, Miller & Slater 2000). The following sections address anthropological and related research dealing with the following broad investigative topics: the ways in which information technology and media are themselves cultural products, the ways that individual and community identities are negotiated on- and offline, and the dynamics of power and access in the context of new communications media.

THE INTERNET REVOLUTION

Through most of the 1980s and 1990s, the conviction was widespread that the growing and evolving communications medium comprising inter-networked computers would enable the rapid and fundamental transformation of social and political orders. Much of the early literature surrounding the Internet regarded the new technology as revolutionary in both its technical innovation and its broad social and political implications (Benedikt 1991, Gore 1991, Negroponte 1995). Early commentators conceived of a "cyberspace" as a monolithic cyberreality, "everywhere yet nowhere, as free-floating as a cloud" (Economist 2001, p. 9).

Rhinegold's important work *The Virtual Community* anticipated the Internet's "capacity to challenge the existing political hierarchy's monopoly on powerful communications media, and perhaps thus revitalize citizen-based democracy" (Rheingold 1993). Kirshenblatt-Gimblett (1996) argued that electronic communications separate modern and postmodern communication; Poster (1990) discussed the potential of virtual realities in altering our perceptions of reality in a postindustrial world; and Castells (1996) has suggested that information technologies represent a new information age, which is a common perspective among contemporary scholars (Lyon 1988, Webster 1995).

A genre of science fiction known as cyberpunk envisioned even more far-reaching transformations, both utopian and Orwellian, in which much of an individual's social interactions would take place in virtual spaces. Gibson's *Neuromancer* (Gibson 1984) defined and described the idea of cyberspace for a generation of readers. Other works such as Sterling's *Mirrorshades* collection (Sterling 1986) and Stephenson's *Snow Crash* (Stephenson 1992) continued to fuel the popular imagination. These inspired visions resonated in such nonfiction works as Stone's *The War of Desire and Technology at the Close of the Mechanical Age* (Stone 1995), Turkle's *Life on the Screen* (1995), or Dery's *Flame Wars* (Dery 1994) and *Escape Velocity* (Dery 1996). At the beginning of the twenty-first century, however, it appears that salience of the most extreme of these early revolutionary visions is in decline, overtaken by what Margolis & Resnick (2000) call the "normalization of cyberspace."

As Agre (1999) notes with reference to *Neuromancer*, "Gibson famously defined cyberspace as a space apart from the corporeal world—a hallucination. But the Internet is not growing apart from the world, but to the contrary is increasingly embedded in it." By 2002, for example, the same powerful corporations that control offline news content dominated Internet-based news sources, and they accounted for the vast majority of news-related pages served (http://www.nua.com). Some anthropologists have argued that scholarship has echoed too closely the popular discourse and notions of virtual worlds. Hakken points to uncritical appropriations of the popular rhetoric on technology in much of the scholarly Internet research—rhetoric that has created "multiple, diffuse, disconnected discourses which mirror the hype of popular cyberspace talk" (Hakken 1999).

The disparate approaches to new media and Internet studies also reflect the ephemeral nature of the new media, the often elusive and ambiguous constructions of individual and collective identities mediated by these technologies, and the problem of gaining an ontological footing within rapidly obsolescing technologies. Internet interfaces such as multi-user domains (MUDs), MUD, Object-Oriented (MOOs), and Usenet—media in existence before the World Wide Web that have been the focus for scholarly research—quickly can become irrelevant, especially as increasing numbers of users become connected, beginning their Internet experiences with the latest technologies.

Similarly, the optimistic notion that the Internet would inform and empower individuals worldwide, while subverting existing power structures, may

underestimate the power of states to control information access. Although there have been examples of effective use of the Internet by small groups—such as the Zapatista movement's successful use of the Internet to gain support for their cause (http://www.ezln.org) or the survival of Belgrade's web-based Radio B92 in the late 1990s (http://www.b92.net)—in many countries there have been intensive state efforts (of widely varying effectiveness) to regulate and control Internet-based access to information. Among anthropologists, early reactions to visions of online utopia were also skeptical, pointing to issues of class, gender, or race that would impede equal access (Escobar 1994, Gray & Driscoll 1992, Kottak 1996, Pfaffenberger 1988, Robins & Webster 1999), and warned of overly optimistic predictions for egalitarian communication and social change. Others scholars began pointing to the potentially negative effects of continuous virtual experience (Boal 1995, Heim 1993, Kroker & Weinstein 1994), which they feared would lead to further alienation, anomie, and antisocial behavior in postmodern society.

Internet Terminology and Ephemerality

In a newly developing field, terminology presents some problems. The confusion surrounding jargon is compounded by the appropriation of terminology from other academic fields and literary genres, including science fiction and popular culture. For this review, we are reluctant to label or characterize particular technologies or applications with great specificity because they may no longer exist in a few years. At a fundamental level, however, we refer to the infrastructure and uses of the global network of computers, or what is generally defined as the "network of networks" (Uimonen 2001), as the Internet. This substrate supports a number of communication-oriented technologies, including email and the World Wide Web— that is, data in the form of a text and graphic "page" stored on hard drives or web servers, available to anyone running protocol-translating web browser software. In the works we have reviewed, Internet refers to the physical global infrastructure as well as the uses to which the Internet as infrastructure is put, including the World Wide Web, email, and online multiperson interactive spaces such as chatrooms (DiMaggio et al. 2001, p. 308). Communications or interactions mediated by these applications are often referred to as media, which, following Spitulnik (2001, p. 143), is "best defined by what it is not: face-to-face communication" (cf. Hannerz 1992). Media subcategories include mass media, alternative media, and print media. New media as used in this paper is another subset comprising digital-based electronic media—multimedia CD ROMs, the Internet, and video games.

These definitions are necessarily flexible and open to refinement because both the field and the phenomenon are changing so rapidly. As this review was being written in early 2002, the Internet was changing as rapidly as it had in the preceding decade. Internet traffic was doubling annually, as it had been since about 1994, and the demography of online users was also changing. Until the late 1990s the majority of users were located in the United States and other industrialized nations,

but there was a trend toward change. English language use may have been surpassed by other languages in 1999 and as of late 2001, people in the United States and Canada accounted for only about 35% of the estimated 513 million Internet users worldwide (http://www.nua.com/surveys/how_many_online/index.html).

Furthermore, research conducted in the early days of personal computing and Internet access reflects technologies that are physically and semiotically different than subsequent technologies, resulting in an academic dilemma: On one level, we are not talking about the same Internet; on another level, we are talking about similar social processes and practices. In order to address this issue, we are suggesting research that focuses on social processes and emerging communicative practices rather than on specific user technologies. From that beginning, one strategy for research is to explore how and if local users are employing and defining terms such as Internet, cyberspace, and the Web, and to explore "how diversely people experience similar technologies" (Markham 1998, p. 114).

Regardless of the particular media, interface, or application—which will continue to change in the coming years—general categories of communication will persist, including one person-to-one (as in sending an email message), one-to-many (as in publishing a Web page), and many-to-many (participating in a discussion forum). These categories of communication require us to pay attention to the nature of communicative practices and online interactions. The communication technologies that make use of the Internet's infrastructure share some special characteristics. Thus, they offer special possibilities and constraints for communicative practices and social interaction and provide a context for emerging forms of communication.

INFORMATION TECHNOLOGY AS CULTURAL (RE)PRODUCTION

What is missing from new media literature is the link between historically constituted sociocultural practices within and outside of mediated communication and the language practices, social interactions, and ideologies of technology that emerge from new information and communication technologies. In order to address this issue, we should heed those who view Internet spaces and technologies as "continuous with and embedded in other social spaces" that "happen within mundane social structures and relations that they may transform but that they cannot escape" (Miller & Slater 2000, p. 5). For anthropology's contribution to the study of online practices, it may be more productive to follow those who seek to understand the offline social, cultural, and historical processes involved in the global flows of information (Brown & Duguid 2000, Garfinkel 2000) and in the diffusion, development, and acceptance of new technologies (Escobar 1994, Latour 1996, Pfaffenberger 1992, Uimonen 2001, Winston 1998).

Such an approach involves bringing research back from cyberspace and virtual reality into geographical, social spaces, to address a variety of issues such as the ways in which new participants are socialized into online practices; how gendered and racialized identities are negotiated, reproduced, and indexed in

online interactions; and how Internet and computing practices are becoming normalized or institutionalized in a variety of contexts. For anthropology and its developing engagement with new media studies, however, the nature of local transformations of and within these new global media should still remain a question for ethnographic research and analysis, and the recursive relationship between virtual and offline interactions cannot be ignored (Marshall 2001). Local responses to Internet technologies will obviously vary, and even constricting spaces open up room for opposing discourses (Gal 1989), unintended consequences (Bourdieu 1977, Giddens 1979), or new dimensions of social change. It is perhaps too soon to make assertions and value judgments about systems and practices that are only beginning to emerge and for which we lack even a shared semantic framework.

Internet as Media

One way to situate computing and Internet practices is to compare them with previously existing media and communication technologies, as new forms of technologically mediated language and human interaction. An anthropological approach that builds upon the work of visual anthropology and the anthropology of mass media, as well as approaches in media and cultural studies, is one such productive vantage point in which to view phenomena of online interactions.

Much of the work on new media has been interdisciplinary, originating many times in communication and media studies, and often called computer-mediated communication (CMC) research. These scholars revealed changing communicative practices online, which were seen to be either limited (Hiltz et al. 1986) or determined (Rice 1987) by the technology. Like much of the early Internet research, this early work reflects the popular rhetoric of the new medium's virtual potentials and tends to position online communication away from other social interactions. More recent investigations of computer-mediated communication explores how online communication can change interactions and how interactions are shaped by local contexts (Cherny 1999). Such studies, however, remain situated in online communication, analyzed through texts generated in chatrooms, news groups, MOOs, and other multi-user domains (MUDs). These interfaces represent but one of many available mediated communication technologies on the Internet, which include pictures and graphics, online verbal communication, and traditional media like television and radio.

We can productively draw from CMC research while drawing anthropological questions to these phenomena and maintaining important distinctions (Morton 2001). CMC research focuses on social process and communicative practice but has been situated within theories and methods dissimilar to anthropology. Some anthropologists claim that media and cultural studies scholars lack a nuanced understanding of ethnography and culture (Ruby 2000)—methods and concepts which they increasing employ—leading to a focus instead on dichotomies of hegemony and resistance, production and reception, and of mass media and

alternative media (McEachern 1998). This approach hinders the situated analysis of local cultural and media phenomena. Ginsburg (1994a) and suggests an important locus for anthropological contribution to media studies: To "break up the 'massness' of the media . . . by recognizing the complex ways in which people are engaged in processes of making and interpreting media works in relation to their cultural, social, and historical circumstances" (Ginsburg 1994a, p. 8).

In the most-often cited work on the topic, Spitulnik (1993) calls for continuing analyses of power relations, global capital, and the role of subaltern/minority peoples in the emergence of new media processes and products (see also Dickey 1997, Hannerz 1992, Nichols 1994). The term mediascape, coined by Arjun Appadurai (1990), offers one way to describe and situate the role of electronic and print media in "global cultural flows," which are fluid and irregular as they cross global and local boundaries. For Appadurai, mediascape indexes the electronic capabilities of production and dissemination, as well as "the images of the world created by these media" (Appadurai 1990, p. 9). Ginsburg draws from Appadurai to theorize the position of the indigenous media in Australia and argues that mediascapes "helps to establish a more generative discursive space . . . which breaks what one might call the fetishizing of the local" (Ginsburg 1994b, p. 366). This model drawn from Appadurai and Ginsburg has many benefits for analyses of Internet communication, as one way to draw cyberspace back into offline processes and practices and a way to incorporate new media practices with other forms of media.

Community

As has been the case for some time in anthropology, community is a difficult focus for study, generally because it seems to imply a false circumscription and coherence. Individuals belong to many communities, bounded to different extents and in varying ways. In some cases the term suggests, as in the community studies of the 1940s and 1950s, that the defined entity was reasonably complete and self-contained. The assessment then [see Foster's (1953) critique of Redfield's (1947) isolated "folk" societies] and more recently (Gupta & Ferguson 1997) has been that an analytical emphasis on a community's boundedness and isolation usually masks significant interactions between the individuals of that community and others, as well as the heterogeneity of the community itself (Appadurai 1991). A more fluid concept of community fits well within ethnographic explorations in multisited situations with complex, spatially diverse communities (Marcus 1995) and translocal sites (Hannerz 1998). Just as Wolf (1982) rejected the conception of cultural groups as "hard and round billiard balls" bouncing off of one another, and Barthes (1992) recognized the asymmetrical, indirect connections that knit communities together, we simply acknowledge that individuals within any community are simultaneously part of other interacting communities, societies, or cultures.

In the case of Internet-mediated communication within a group, constituted around some shared interest or condition, the problem is compounded. Within

the scholarly literature on Internet communication, a debate has continued about whether online, virtual, or otherwise computer-mediated communities are real or imagined (Bordieu & Colemen 1991, Calhoun 1991, Markham 1998, Oldenburg 1989, Rheingold 1993, Thomsen et al. 1998). This debate explored whether these sorts of community are too ephemeral to investigate as communities per se, or whether the nature of the communication medium made them somehow quite different from the face-to-face groupings traditionally thought of as communities. Rhinegold (1993) suggested that online communities were replacing public spaces such as pubs and cafes as loci of public social interaction. As Agre observed, "[s]o long as we persist in opposing so-called virtual communities to the face-to-face communities of the mythical opposite extreme, we miss the ways in which real communities of practice employ a whole ecology of media as they think together about the matters that concern them" (Agre 1999, p. 4). Indeed, reference to "communities of practice" (Lave & Wenger 1991, Wenger 1998) or "communities of interest" (Brown & Duguid 1991, Uimonen 2001) shows the wide range of disciplinary interest in the nature of online communities, with similar discussions going on in education, management, cognitive psychology, and other fields (Fernback 1999).

We agree that a focus on interactions that take place online to the exclusion of those that do not is counterproductive. The idea that a community was defined by face-to-face interaction was effectively challenged long ago by scholars of the development of nationalism (Anderson 1983) and transnationalism (Basch et al. 1994, Hannerz 1996). An online/offline conceptual dichotomy [for example Castells' (1996) "network society"] is also counter to the direction taken within recent anthropology, which acknowledges the multiple identities and negotiated roles individuals have within different sociopolitical and cultural contexts. We are not suggesting that this point has been completely overlooked in Internet research, as scholars continue to research the development of online communities within the context of geographical communities (Agre & Schuler 1997, Hamman 2000). Specific case studies such as Kuwaiti women's uses of the Internet for political action (Wheeler 2001), American teenage dating practices in chat rooms (Clark 1998), and a study of the norms and practices of community maintenance in an online lesbian café Correll (1995) illustrate how offline social roles and existing cultural ideologies are played out, and sometimes exaggerated, in online communication.

We are suggesting, however, that closer attention be given to deconstructing dichotomies of offline and online, real and virtual, and individual and collective. An important part of the research going on, particularly in communications and sociology, involves the new media's potential for online community building and the patterns this process has taken or might take (Agre & Schuler 1997, Caldwell 2000, Correll 1995, Ess & Sudweeks 2001, Jones 1998, Rheingold 1993, Schuler 1996). Our view, and one that seems most consonant with current anthropological theory and practice, is that the distinction of real and imagined or virtual community is not a useful one, and that an anthropological approach is well suited to investigate the continuum of communities, identities, and networks that exist—from the

most cohesive to the most diffuse—regardless of the ways in which community members interact.

Identity

Within sociology and psychology, as well as in more popular genres, considerable attention has been given to the idea that virtual spaces allow for fundamentally new constructions of identity: Interactive chatrooms and online spaces were often seen to be gender-neutral, egalitarian spaces. Turkle described online interaction spaces as places where an individual could take on multiple identities in ways never before possible and indeed bring about changes in conventional notions of identity itself (Turkle 1984, 1995). Haraway (1993) conceived of entirely new constructions of individuality based on cyborgs, or hybrids of machine and human. This work had implications for the virtual individual, especially in the realm of sexuality, and deprivileges "nature," sexual reproduction, and identity of the discrete, identifiable self (Haraway 1993). Morse investigated the implications of cyberspace for subjectivity, identity, and presence (Morse 1998). With reference to Peter Steiner's famous New Yorker drawing (Figure 1), online identities were seen to be infinitely malleable.

Of course, identities are negotiated, reproduced, and indexed in a variety of ways in online interactions, and these often cannot be understood without considering the offline context. As Agre (1999) notes, "so long as we focus on the limited areas of the internet where people engage in fantasy play that is intentionally disconnected from their real-world identities, we miss how social and professional identities are continuous across several media, and how people use those several media to develop their identities in ways that carry over to other settings" (Agre 1999, p. 4). Several researchers are exploring the ways in which online interactions are influenced by offline power relations and constructions of identity, which involve the exploration of gender (Brook & Boal 1995, Correll 1995, Dietrich 1997, O'Brien 1999, Wellman & Gulia 1999, Wheeler 2001) and race and racialized discourses (Burkhalter 1999, Ebo 1998, Kolko et al. 2000) in a variety of ways. Scholars have also viewed online identities as directly tied to the notion of credibility, context, and frame in the exploration of real vs. virtual identities (Markham 1998, O'Brian 1999). Nevertheless, this is an area in which a great deal more could be done.

Online groups can also be centered around offline ethnic or national identities, and researchers have explored this issue in a variety of contexts—for example, the ways in which Tongans (Morton 1999, Morton 2002) or Inuit (Christensen 1999) create shared spaces in online interaction. The nature of computer-mediated interactions will not merely recreate offline interactions, and "online groups may be significantly different to their offline communities" (Morton 2001, p. 4), and it is important to consider that an Internet user is not always privileging the same national or ethnic identity in every online interaction. Multiple participatory frames and identities are available and used by a wide variety of Internet users in a wide

"On the Internet, nobody knows you're a dog."

Figure 1 Peter Steiner's drawing from the *New Yorker*, July 5, 1993. © 2002 The New Yorker Collection from cartoonbank.com. All Rights Reserved.

variety of contexts. We are suggesting an approach for research in this area, best termed contextualized identities (rather than performed, negotiated, or contested) to break through the virtual/real dichotomy of online identity.

Communication and Practice

Any investigation into the nature of online communities involves language and communicative practice. The most comprehensive overview of the language of

new media is Crystal's (2001) synthesis of emergent communicative practices surrounding the Internet. Crystal states that "if the Internet is a revolution, therefore, it is likely to be a linguistic revolution" (p. x), and notes the importance of language-based research on new media technologies. Using English-language data such as emails, chat room transcriptions, and bulletin board posts, Crystal asserts that new varieties of language are indeed emerging from new technologies, but suggests that cultural and linguistic differences which influence online interactions remain underesearched.

The idea of a speech community is relevant to the study of online communities through interactions between individuals or groups with a variety of sociolinguistic histories, but with shared communicative competence and repertoires. Internet-based speech communities are constructed around socioculturally constituted interactions that, like offline speech communities, "cannot be defined by static physical location" (Morgan 2001). Interacting members of online groups constitute a speech community as they presumably share to some extent communicative practices, beliefs, and norms, since communication would be hindered otherwise. However, much of the research into computer mediated communication has been based exclusively upon the use of varieties of English in text-based interactions, limiting our understanding of this global, multimedia phenomenon. A notable exception is Keating's (2000) research into emergent practices in American Sign Language resulting from Intermet-based video chat relays.

Analyzed through the lens of contemporary approaches in ethnographies of communication, research in multilinguial, multisited internet experiences would contribute to debates in the literature which seeks to position studies of mediated communication and technology in local social and communicative practices (Goodwin 1994; Goodwin 1990; Heath & Luff 2000; Hollan et al. 2000; Keating 2000; Spitulnik 1996, 1998, 2000). Such research might help our understanding of the ways in which speakers incorporate new technologies of communication from existing communicative repertoires, and these technologies influence new and emerging cultural practices. In this sort of investigation, researchers must ask: Where do community members situate computers and other communication and information technologies in their daily lives? How are the tools of new media changing the contexts and frames of communicative practices? Are new forms of communicative competence developing as a consequence of new media tools in offline speech communities? How does technology enhance or displace discourses and practices of tradition? How might new technologies alter novice-expert relations? How do linguistic structures of online interactions affect offline practice?

The emerging framework of distributed cognition (Cole et al. 1997, Hollan et al. 2000, Hutchins 1995, Hutchins & Klausen 1996) has the potential to address these phenomena, moving beyond the initial conceptions of an ungrounded cyberspace and two-dimensional human-computer interactions toward understanding "the emerging dynamic of interaction in a world that contains material and social organization" (Hollan et al. 2000). This framework provides a link between

human-computer interaction, the Internet, previously existing media, and social spaces, and it allows anthropologists to address important issues of the social role of technology, the relationship between language and technology, and questions of access to technologies in traditionally marginalized communities.

Power, Ideology, and Access

Particularly within anthropology, some researchers have attempted to relate online experiences within larger contexts of power and broader social hierarchies. They and others have explored the Internet's potential to advance efforts for social justice (Burkhalter 1999, Downing 1989, Downing et al. 2000, Loader 1998). Within nearly all of the foregoing works, the issue of class has played a significant part, as it does in the research of English-Lueck (1998), Kirshenblatt-Gimblett (1996), Merrifield et al. (1997), and Loader (1998). Hakken & Andrews (1993) for example studied the effects of computing technology on class structures in work environments in England. Ethnographers have also explored the social impacts of technology practices in a variety of innovative ways, including Kelty's (2000) research on the impact of (non)regulation of software development and computer use in healthcare organizations.

Our focus in this review has excluded consideration of the digital divide and other kinds of inequality of access to online communication. Of course, the makeup of online communities rests directly upon the constitution of Internet users, i.e., those who have access. We would note, however, that access includes a great deal more than the right of entry to the places where Internet-based equipment is kept. It also involves some knowledge of technology itself, as well as a facility and experience level, not just in a technical sense but in the sense of the social context of Internet-based media, and the implications of the technology on a wider scale. Others have argued well that equal access is achieved simply by installing computers and fast Internet connections in schools and homes (Burbules 1998, Burbules & Callister 2000, Wilson 2000). The material approach will be insufficient "if prospective users do not also have an opportunity to develop the skills and attitudes necessary to take advantage of those resources" (Burbules & Callister 2000, p. 20). For example, Kirshenblatt-Gimblett (1996) argued that users who don't subscribe to the dominant ideologies of language and technology may not be able to have equal access to Internet resources.

In addressing the complex issue of access, we must also touch on ideology: particularly the language contexts surrounding these new media, the ways in which information and communication technologies are used, and the ways in which individuals' ideologies interact with the ideologies inscribed in technology, and how they combine to create new ways of viewing and talking about the world. In more marginalized communities, discourses of technological empowerment have been shown to influence, but not to determine, local perceptions of technology's potential and strategies for its use (Uimonen 2001). Sherry's (2002) research on computers in Navajo work environments revealed a dialectical, sometimes

conflicting, relationship between ideologies of technology and the discourses of Navajo tradition. Understanding local discourse and ideologies of media technology is crucial since speakers incorporate new technologies of communication from existing communicative repertoires, which influence new and emerging cultural practices (Hutchins 1995, Keating 2000). These metadiscursive practices have broader implications for participation in new public spheres (Briggs and Bauman 1999, Spitulnik 2001), the "social organization of technology" (Keating 2000), and the consequences of shifting spaces for language use and language contact (Crystal 2001). The relationship of ideology to social and linguistic practice is an increasingly important avenue for future research.

ETHICAL CONSIDERATIONS FOR INTERNET RESEARCH

Internet phenomena are leading us to ask new questions, and new media research requires adapting ethnographic methods to new technological environments (Hamman nd, Jacobson 1999, Jones 1999, Markham 1998, Paccagnella 1997, Ruhleder 2000). Within this environment of change, however, we are also in a moment in which the ethical responsibilities of the researcher are far from clear. As Turkle (1995, p. 324) notes, "virtual reality poses a new methodological challenge for the researcher: what to make of online interviews and indeed, whether and how to use them." As Jacobson discusses, when carrying out research online the researcher must be aware of "the identifiability of human subjects, the conceptualization of privacy, difficulties associated with obtaining informed consent, and the applicability of copyright laws" (Jacobson 1999, p. 139; see also Morton 2001, Thomas 1996). As of this writing the American Anthropological Society offers no ethical protocols or standards specific to online interactions in its Code of Ethics (AAA 1998). For some researchers, the statements made in publicly accessible discussion boards or other communication spaces are in the public domain and may thus be freely used by researchers. For others, this is a form of electronic eavesdropping that violates the speaker's expectation of privacy. Our feeling, in keeping with the view that anthropology online is substantially the same as any other sort of anthropological research, is that although the AAA Code of Ethics does not address electronic communication directly, its ethical principles—of showing respect for people under study, of protecting their dignity and best interests, of protecting anonymity or giving proper credit, and of obtaining informed consent—apply online as well as in face-to-face contexts.

CONCLUSION

Although we have concluded that online phenomena share important similarities with other types of human experience and are amenable to relatively conventional anthropological concepts and assumptions, the Internet is still in a period of innovation, experimentation, and rapid change. The ability for groups and individuals

to interact at great distances raises interesting questions for those investigating the construction of identity, social interactions, and collective action—political or otherwise. As noted above, the Web has created a new arena for group and individual self-representation, changing the power dynamics of representation for traditionally marginalized groups such as Native Americans within the discourses of popular culture. It is also an exciting moment for those studying changes in communicative practice, as people invent new forms of communication or adapt old ones to new technologies.

The revolutionary claims made for the Internet and the communications media it supports have faded in recent years. The realization has grown that though online communication may happen faster, over larger distances, and may bring about the reformulation of some existing power relationships, the rapid and fundamental transformations of society that some foresaw have not come to pass. Inter-networked computers are cultural products that exist in the social and political worlds within which they were developed, and they are not exempt from the rules and norms of those worlds.

On the other hand, the social uses of the Internet, in the few years of its existence, have been astonishing and almost completely unanticipated by those who began networking computers in the 1960s (Berners-Lee & Fischetti 1999). These new communicative practices and communities very properly demand the attention of anthropologists, not to invent completely new analytical approaches to virtual spaces, but to bring to bear our existing expertise on human communication and culture.

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