

# Ethnography in the Digital Age

ALAN HOWARD and ALEXANDER MAWYER

## Abstract

This essay explores the ways in which ethnography, both as a methodology and a product of research, has adapted to the rapid growth of digital technology and the new venues for research that it has spawned. On the one hand, digital technology affords social scientists new means of recording, storing, and analyzing data. On the other hand, digital media have been responsible for the creation of new venues for research, mostly on the Internet in the form of websites, blogs, social networks, and multiplayer online games. As a methodology, ethnography, with its beginnings in the anthropological study of non-Western societies, has proved to be highly adaptable to the task of making sense of, and giving meaning to, computer-mediated communications in its various forms. This has led to its adoption in the study of online sites by researchers from a number of different disciplines attempting to come to grips with the cultural nuances of digitally formed communities. Ethical problems posed by more powerful forms of surveillance and access to personal information are discussed. The boundaries between public and private domains have become increasingly blurred, resulting in complex issues relating to informed consent. As a product, digital ethnographies allow for nonlinear, hyperlinked presentations that permit new forms of engagement between authors and readers not afforded by traditional published monographs.

## INTRODUCTION

One may well ask, what are the features of “the digital age”? When we speak of the stone or bronze ages, of the ages of iron and industry, we have material points of reference, forms of political organization, social structures, and modes of life that are well supported by evidence from archeology and history. These make it far easier to cast understanding back in time, to specify the features and characters of an age retrospectively as opposed to identifying and representing the characteristics and features of the now or of the imminent now. When it comes to “the digital age,” we lack not only the hindsight history provides and a sense of what will succeed it but even the certainty that it is the most appropriate appellation for the time we live in. What we do know is that digitalization has profoundly affected the way we

work, communicate, and organize our lives, and that the quest to understand those changes is a challenge worth pursuing.

Ethnography, the established tool of sociocultural anthropological fieldwork, more recently embraced by a host of disciplines, has a long tradition of grappling with the imminent now. *Ethnography* is a term that applies both to a method of doing research into the social and cultural lives of groups and to the product of that research in the form of monographs or peer-reviewed research articles. As a method, ethnography is based on participatory observation, on the immersion of the researcher in a group's activities with the goal of comprehending the cultural logic that informs and lends meaning to their behavior, beliefs, rituals, social roles, and other aspects of their lives as members of particular groups. In its modern form, ethnographic methods were pioneered within the discipline of anthropology by researchers who traveled to non-Western field sites and aspired to provide holistic accounts of the people they studied, usually over periods extending for a year or more. The results of such studies inspired researchers in other disciplines such as sociology, history, and cultural, ethnic, and gender studies, to adopt the method as a favored form of qualitative research. As the product of such research, ethnographies present accounts of identifiable social or cultural entities. Until the mid-twentieth century, many anthropologists were the only ones responsible for reporting on a particular society or cultural group. They were therefore under pressure to provide "holistic" accounts, which often included historical background gleaned from archival sources, geographical information, census counts, material culture, folklore, and so on, in addition to, or as background for, their empirical observations as recorded in field notes. As the number of unstudied populations declined, and a diverse body of professional anthropologists emerged, re-studies of previously researched populations came into vogue, as did a research turn toward Western and nontraditional cultural sites. The result has been a growth of focused studies of particular topics as well as a divergence of theoretical perspectives guiding research and informing the published output. Such accounts vary significantly depending on the viewpoint of the ethnographer, resulting in a multitude of disciplinary conversations. This expansion of topical research has attracted researchers in other disciplines to adopt ethnographic methods as a means of coming to grips with the nuances of meaning for the people they study. For examples of the adaptation of ethnographic methods to a wide array of topical issues, see *The Journal of Contemporary Ethnography*.

Given the utility of ethnographic methods to identify, record, and reflect on the character and quality of lived experience, and given the dramatic emergence of digital media in recent decades, it is hardly surprising that ethnography has been reaffirmed by anthropologists and other researchers

interested in observing, describing, analyzing, interpreting, and theorizing the role and significance of digital technologies in contemporary lives. The value of ethnographic methods has been lent further credibility by research to date that strongly suggests that a *prima facie* or absolute distinction between digital and nondigital, online and offline, virtual and actual, or human and post-human domains is illusory and misleading. Thus, as long as digital media are in the hands (and minds) of human beings, and as long as meanings are attributed to actions when engaging such media, ethnography will likely be a primary tool for studying such phenomena. This point notwithstanding, specific practices and ways of being human are as likely to differ between online and off, between one form of online activity and another, as between physically located cultures (Wilson & Peterson, 2002).

#### DIGITALIZATION AND THE STUDY OF GROUNDED POPULATIONS

The advent of digital media has provided ethnographers researching grounded populations with opportunities to collect data supplementary to their fieldwork from a wide variety of sources that were previously unavailable, or accessible only by visiting archives, museums, and libraries scattered around the world. The Internet is replete with websites, blogs, social media (SM), chat rooms, listserves, photos, videos, and other sources that often contain rich, in-depth insights into a people's world. The near-universal use of digital technology also provides ethnographers with opportunities to study the ways in which new media are being used by grounded populations, how cultures are being modified in response, and the implications increasing reliance on digital media has for social relations, ethnic and personal identity, socioeconomic inequality, and other aspects of social life—studies encompassing what might generally be termed “the ecology of digitalization.” In addition, access to digital technology has opened up new opportunities for ethnographers to collect and process data, with increasingly sophisticated still and video cameras, handheld computers, and cell phones, that not only can be used to record information but can also store and share it in digital form on the Internet and on servers in the “clouds” (Wang, 2012).

The Rotuma Website ([www.rotuma.net](http://www.rotuma.net)) is an example of a venue that serves as a storehouse of historical and contemporary information about people from the South Pacific island of Rotuma. The website was created by Howard in 1996 as a service to the people he had been studying since 1959. It was conceived as a means of providing Rotumans, now scattered around the globe, with a place in cyberspace where they could do things such as keep abreast of news from their dispersed communities, including the home

island and those resulting from migration abroad; locate one another via a searchable database; discuss various matters of interest on a forum; and post items on a bulletin board announcing events, asking for information of various kinds, expressing thanks, and so on. The site has grown to over 14,000 files and includes a monthly archive of news items dating back to 1996, including an array of newspaper and other Internet postings as well as news items contributed by Rotumans; an interactive translator between Rotuman and English words; biographical sketches of nearly one hundred individuals; recorded accomplishments of contemporary Rotuman artists and athletes; and contributions from Rotumans to sections on humor, recipes, music, and youth and school activities. Of major importance for ethnographic purposes, the site contains an archive of historical and contemporary photo collections as well as most of the literature that has been published about Rotuma and Rotumans since the early nineteenth century. The site is searchable, so it is possible to access information from multiple sources concerning a wide range of topics. Hyperlinks are used throughout to connect sections of the website as well as to link to relevant external sources. The intent is to make the website a permanent digital archive that can be used as a kind of ethnographic database. Online sites can also be used as complementary to published works, further blurring the boundary between ethnographic archive and monograph (see, e.g., Fabian, 2008).

The work of Daniel Miller and his colleagues (e.g., Miller D., 2011; Miller & Slater, 2001) concerning the use digital media among Trinidadians is an example of the distinctive manner in which a particular grounded (although dispersed) population has adapted to the global arena of the Internet. The Internet provides a venue where traditional cultural values such as the importance of kinship, national identity, freedom, and entrepreneurialism are expressed in transformative ways by Trinidadians, not only as members of a particular ethnic group, but also as participants in global youth culture, transnational religious groups, and other pan-ethnic Internet communities.

#### ADAPTATION OF ETHNOGRAPHIC METHODS TO DIGITAL DOMAINS

Available hardware and software technologies facilitate and constrain the cultural dynamics of online communities. By presenting opportunities not otherwise available to dispersed members, new technologies offer individuals and the collectives that depend on them extraordinary opportunities to engage and interact with one another and to participate in fundamental human activities in ways not previously available because of temporal or spatial limitations. Concurrently, emergent digital media present new restrictions by channeling information in particular ways. For instance, in SM such as Facebook, people tend to expose more of themselves than they would in

face-to-face communities investigated by an ethnographer, in part because they are generally addressing “friends” and close relatives with most of their postings. It is also the case that, in addition to expressing aspects of their natal cultures, they are also being influenced by Internet culture and the cultures of the particular technologies that they use to express themselves.

As the editors of a recent handbook on online research note, “Ethnography is a flexible, responsive methodology, sensitive to emergent phenomena and emergent research questions” (Boellstorff, Nardi, Pearce, & Taylor, 2012, p. 6). It is therefore eminently suited to digital, virtual, online, networked worlds. Moreover, there is an expansive range of research objectives for ethnography in a digital age, including the artistic dimension of new tools and techniques; the amplification of issues in human communication including the fabrication, circulation, and consumption of information; new forms of social engagement and the means for extending existing forms of engagement for purposes of civic life, community maintenance or transformation, or political life, ranging from participation to unrest, rebellion, and terror; the transformation of childhood and adult education; the recentering of the play and gaming dimensions of human life; the disestablishment of place and the digital possibilities for making new places; relationships between globalization and post-industrialization; issues in new capitalism and property rights; and issues of human rights.

Because the term *ethnography* corresponds both to a research practice and a form of writing, and because of the vast range of possible objects of inquiry, there is ample room for disagreement about the proper categorization of *digital ethnography*. Coleman (2010) identifies three broad categories. Ethnographers of digital media, she notes, can attend to the cultural politics of digital media; to the emergence, maintenance, and transformation of digital vernacular cultures; and to “the prosaics of digital media,” in reference to careful ethnographic attention to the everyday practices, experiences, and understandings of persons engaged in online behaviors, including how those persons draw on and extend cultural beliefs and values and ways of being from other cultural domains into the digital realm and vice versa.

Somewhat differently from Coleman, we suggest that ethnography of digital media be categorized in terms of (i) modes of inquiry, (ii) sites of inquiry, (iii) objectives of inquiry, and (iv) results of inquiry.

#### MODES OF INQUIRY

Digital technology offers researchers radical new means of conducting ethnography. The miniaturization and vast expansion of the storage capacities of digital media at greatly reduced costs have reshaped modes of ethnographic inquiry, and the pace of such change is unlikely to diminish.

Transformative possibilities of data collection and manipulation include autoindexing recording devices such as Google Glass™, which give fieldworkers a tool for recording their visual field over the course of an entire field season; sophisticated databases that transform opportunities for and practices of data collection and processing; and increasingly efficacious transcription and translation software. Even more basically, one notes the astonishing, nearly unimaginable quantities of intimate, highly salient, and revelatory data made available by SM and social networking sites (SNSs) and made accessible (sortable, manipulable, transposable) via search mechanisms. Through digital media, ethnography has entered the age of “big data.”

Such technology-entwined methods pose ethical questions about the conduct of research in new ways and in new arenas. Research ethics in the age of digital media requires renewed attention to familiar issues of informed consent, minimal-harm doctrine, and the role of peer-review committees. The emergence of digital media as a significant venue of human activity on an increasingly global scale has made apparent vexing issues of privacy and anonymity; recruitment; principles of consent, practices, and procedures; the establishment of trust and credibility; ethical dilemmas regarding the use of accessible revelatory data sets; issues of returning findings to origin “communities”; and finally, the ethics of publication.

In their report of a workshop on ethical and legal aspects of human subjects research on the Internet, Frankel and Siang (1999, p. 1) sum up the dilemmas as follows: “The ability of both researchers and their subjects to assume anonymous or pseudonymous identities online, the complexities of obtaining informed consent, the often exaggerated expectations, if not the illusion, of privacy in cyberspace, and the blurred distinction between public and private domains fuel questions about the interpretation and applicability of current policies governing the conduct of social and behavioral research involving human subjects.”

The question of when information that can be identified with specific persons should be treated as public or private is particularly vexing, with some researchers arguing that messages posted in blogs, chat rooms, listserves, and any other accessible online forums should be treated as in the public domain and not requiring informed consent, while other researchers have argued that the mere fact that such information may be accessible online does not preclude the possibility that participants may consider it as private, or limited to a restricted audience, and that informed consent should be required.

The common use of pseudonyms and anonymity in Internet postings poses additional problems for ethnographers seeking to obtain informed consent, because personal characteristics such as age, gender, and ethnicity can be masked, making it difficult for researchers to assess a subject’s understanding

of the risks involved. Furthermore, online identities, even though they may be pseudonyms, can be invested with all the attributes of personal names in the offline world, so practices of identifying or not identifying research subjects require the same high degree of care and closely principled management as in the offline world.

Furthermore, groups with an online presence may vary in the degree to which they are willing to disclose information to outsiders. For example, groups dealing with sensitive topics, such as medical conditions or what might be regarded as behavioral aberrations in some quarters, may wish to control access. Although “lurking” (observing a venue without making one’s presence known) may make surveillance possible, it raises serious ethical issues regarding the use of data obtained in this manner. In contrast, if their purposes are to disseminate information to the widest audience possible, some groups may openly welcome observers. The issue of informed consent thus takes on quite a different aspect depending on the group being studied.

#### SITES OF INQUIRY

Digital media provide ample opportunities for extending nondigital sites of human engagement in new ways by disestablishing space-time boundaries for structured and unstructured social interactions. At the same time, they have provided a means for fabricating new venues of human engagement such as blogs, virtual communities, SNSs, MMORPGs (massively multiplayer online role-playing games), SM feeds, and so on. Ethnographers of digital media are thus in a position to identify, document, and begin to interpret the dimensions of human engagement and significant experience of these spaces.

Digital ethnography is thus a very large umbrella, covering all kinds of human engagements with digital technology. Scales vary from micro-technological practices such as mobile phone use in Japan leading to the emergence of a new young girls’ language and forms of kanji (Miller L., 2011), to the transformation of otherwise everyday spatial practices (Keating, Edwards, & Mirus, 2008), to the circulation of audio and video in the mediation of community (Eisenlohr, 2004; Miller, 2007), to the study of particular sites of SM and social networking (Miller D., 2011), to massively multiparty platforms for online communities that now number in the millions or many millions (Boellstorff *et al.*, 2012), to studies of the very technological platforms upon which digital life rests (Kelty, 2008).

Despite the lack of clear boundaries between online and offline domains, researchers have observed significant features of digital culture that contrast with nondigital cultures. For instance, the boundaries between contexts of

play and nonplay, or play and labor, long implicit in conventional approaches to the topics, are becoming increasingly fuzzy in digital arenas. Nowhere is this more visible than in online synthetic or virtual communities, the study of which has forged a particularly dynamic community of researchers. Regardless of whether they begin as games (World of Warcraft™) or as “serious” collective intellectual endeavors (Wikipedia), engagement in such contexts appears to have both a play quality and a productive quality. As the undergirding technologies have become more potent, early attention to “virtual communities” (Rheingold, 2000) and “cybersocieties” (Jones, 1998) has shifted to “virtual worlds,” “second lives” (Boellstorff, 2008), and “synthetic worlds” (Castronova, 2005). And as online venues have become more sophisticated, issues of identity, agency, power, economic activity, expression of affect, education, community, and the relation between online and offline experience for individuals and collectives have come to the fore.

Another significant site of digital ethnography focuses on attempts to make sense of the transformation of economic activity, including human and artificial labors, the production and circulation of consumables, the functioning of virtual markets, and emergent possibilities for types of currency used in transactions from virtual commodities and currencies in synthetic worlds to Bitcoins, markedly digital currency with increasing purchase in daily material transactions. Robert Kozinets (2010) credits marketing and consumer research (which he characterizes as an applied, interdisciplinary field open to the adoption of new techniques) with pioneering research into technologically mediated social interaction occurring on the Internet and other digital technologies. While embracing traditional ethnographic methods, business researchers have adapted its techniques to suit their own purposes. Their focus has been on gathering detailed information from digital media, enabling companies to develop comprehensive databases including cultural, geographic, age-related, and lifestyle variables that can inform their marketing and innovation strategies. Kozinets has coined the term *netnography* in reference to ethnographic research techniques adapted to online experiences. He bases the need for a new term on the recognition that “online social experiences are significantly different from face-to-face social experiences, and the experience of ethnographically studying them is meaningfully different” (2010, p. 5).

#### OBJECTIVES OF INQUIRY

Theory may be thought of as selective interconnectivity. That is, out of the total range of possible associations in a thoroughly interconnected universe, a theory chooses to single out some linkages as particularly important for understanding a phenomenon of interest while ignoring the rest. In the

past, theory has been constrained by our inability to grasp multiple simultaneous connections and has therefore been practically limited. Perhaps as important a limitation has been the sequential media we have been using to communicate with one another. Sequential media simply do not lend themselves to apprehending phenomena of great complexity. It is no accident, we believe, that elegant simplification has been touted as the hallmark of well-formulated theory. To communicate scientific understandings effectively in sequential media requires simplification. Human experience, however, is anything but simple. As social scientists we have therefore been forced onto the horns of a disconcerting dilemma. In order to achieve the luster of polished theory we are forced to simplify, but in doing so we sacrifice the very textures that are the essence of humanness. The advent of hypermedia may help to resolve this dilemma or at least to mitigate its more pernicious aspects. Multimedia nonsequential presentations can be informed by several different theoretical propositions at the same time and can be poised to illustrate them when required.

A parallel predicament that has confronted theorists concerns the degree to which the context of events ought to be included when seeking generalizations. The more context one includes, the more difficult it is to generalize; but by excluding context, the main basis for attributing meaning to events is eliminated. If we were to have available a bank of linked hypermedia ethnographies, comparative analyses would be less constrained by the necessity of making a singular choice with regard to context inclusion or exclusion. A comparative analysis might furnish several navigational paths through the data, providing more context for some purposes or generalizations than for others. In addition, readers would be able to browse at will into nested contextual information for particular cases and therefore be in a position to make better informed judgments about the credibility of generalizations or ethnographic statements contained in individual accounts.

The adaptation of ethnographic methods to the study of digital phenomena has by no means altered the long-standing objectives of ethnography—elucidating research subjects' visions of their world, spelling out the underlying cultural logic of a people's beliefs and behaviors, or offering credible interpretations of symbols, rituals, and other components of sociocultural systems of meaning. All of these goals remain a hallmark of ethnography to a broadly founded social science. However, a particularly significant conversation has developed around the long-standing ethnographic quest to make sense of what it means to be human. In an age in which new technologies challenge fundamental conceptions about personhood to such a degree that some researchers posit the approach of an historical singularity—a time when technological progress outstrips humanity's ability to comprehend it, and when machine intelligence will

be billions of times more powerful than all human intelligence combined (Kurzweil, 2006), or a post-human age (Whitehead & Wesch, 2012), the age-old question of what constitutes human nature appears to be taking on a new significance.

The interface between humans and digital technology is the main concern of an emergent field of research that has been labeled “cyborg anthropology,” which was formalized as a subspecialty within the American Anthropological Association in 1993. Its focus is on how humans interact with nonhuman devices, and how that interaction changes culture. The use of the term *cyborg* (shorthand for *cybernetic organism*) emphasizes, in the words of an early, central figure in this research, “a fusion of the organic and the technical forged in particular, historical, cultural practices” (Haraway, 1997, p. 51), with such devices as mobile phones and handheld computers being treated as integral extensions of human bodies. Tools are as much a point of interest as people, with different tools proffering different powers and opportunities. Rather than being treated strictly as skin-bound autonomous organisms, human subjects are seen as much a function of machines, machine relations, and information transfers as they are machine producers and operators. Cyborg anthropologists apply traditional ethnographic methods to topics such as mobile computing and digitally mediated interconnectivity. Again, as Haraway notes, “The interface between specifically located people, other organisms, and machines turns out to be an excellent field site for ethnographic inquiry into what counts as self-acting and as collective empowerment” (1997, p. 52).

#### RESULTS OF INQUIRY

To date, ethnographers have rarely taken advantage of the opportunities afforded them by hypermedia. In large measure this is the result of academic evaluations, which continue to overvalue linear narratives in book, or monograph, formats. If the constraints that book formats place on our ethnographic accounts were limiting in earlier eras, in recent times they have become even more severe. Production costs and marketing considerations have induced publishers to restrict the length of books, severely limiting the amount of data we can use to construct our accounts. Furthermore, such restrictions are being imposed just as the level of complexity of ethnographic analysis has taken a quantum leap. We need more space now than ever to produce compelling accounts.

Aside from these limitations, exacerbated by a marketing mentality run rampant, the written medium imposes constraints by virtue of its linear format. Writers are forced into a sequential mode and are compelled to chose which aspects of a total experience are to be placed first, second, third, and so

on. The only way to vitalize interconnections that are nonsequential, or multi-sequential, is to refer back to previous pages. Where the connections between phenomena are as interrelated as they are in human communities, the job of orchestrating even a limited degree of interconnectivity in the written media is a struggle at best. The situation is all the more difficult for a reader, who is at the mercy of an author's ability to guide him or her through the maze of possibilities. It is usually next to impossible to do one's own exploration of relationships, especially because restrictions on space make it inevitable that significant chunks of primary information be omitted. The writer of an ethnographic text is thus induced to seek prestige by selecting one path through the material and dramatizing its significance. Data that support the design are chosen for inclusion; other materials are pruned away in the interests of brevity. The reader is forced into a passive mode, dependent on the writer's literary skills for a tour of this new territory. One is helpless to explore questions that might be of special interest to oneself, to seek other avenues of connection. And furthermore, one is summarily deprived of the richness of experience the ethnographer encountered. At best, the written word, in the hands of a true artist, can excite one's imagination, but because written ethnographies are necessarily limited in scope, much of the context required for an experiential recreation cannot be provided.

By providing the ability to link information via hypermedia, digital ethnographies provide new opportunities for creativity. Even within theoretical frameworks, multiple branching possibilities are possible. It is difficult to anticipate all of the ways in which an author might influence how readers wend their ways through information, but it is certain that the challenge will stimulate creative solutions. Of perhaps greater significance, however, is the ability readers will have to pursue connections of their own choosing, to impose their own order on the materials. In short, hypermedia has the potential for establishing an entirely new kind of relationship between authors and readers, one that is much less dependent on an author's literary ingenuity for serving the readers' needs and goals. At first blush one might assume that these circumstances will diminish the prestige of authorship or that they will result in less intelligent, less elegant presentations. We do not think that will be the case. There will still be room in digital ethnographies for literary eloquence, and superior wordsmiths will be every bit as likely to earn their readers' esteem (while the burdens of turgid writing will probably be reduced considerably). The challenge will be to provide readers with multiple pathways based on theoretical—or perhaps more accurately, meta-theoretical—conceptions. To do this well, an author will have to possess a sense of interconnectivity that is based on a theory of multistranded relationships.

Hypermedia are having revolutionary effects on the distribution of ethnographic accounts. Previously, only a small portion of ethnographic research could be reflected in print publications. Electronic publishing removes most of the constraints that inhibit the sharing of so much that we have learned from our fieldwork. Furthermore, electronic publications do not have to assume a final, never-to-be altered form. Authors have the option of presenting materials in changeable formats, so that they can be updated, added to, and corrected. In addition, an author might perceive new connections between data that can be incorporated into a revised commentary. Even more radical are the possibilities for knowledgeable readers to contribute their own data or interpretations to the total corpus. In place of book reviews, critiques and commentary can be ongoing in blogs, on websites, or various forms of SM. Indeed, the subjects of an ethnography can be invited to submit their responses, making their views accessible to readers. This can transform ethnography from an endeavor producing fixed, static texts, to one that is continuous, and one in which we can realize the stated ideal that our subjects take on the role of active partners in research. Thus, while in their print form ethnographies are *closed*, in their electronic form they can be *open*. It is quite likely that some of the most exciting new ethnographies will be composite products, constructed out of information and interpretations from multiple contributors. To the extent that this vision is realized, of course, it will revolutionize the status structure of academia. The selectivity that currently operates with regard to publication—the main source of academic prestige—will be diminished in favor of a more open and hopefully more egalitarian structure. Whether this will result in lower quality ethnographies remains to be seen, but we suspect that the openness of ethnographic accounts in the electronic media will lead toward a practice of *progressive refinement* replacing the current limiting system of write—review—rewrite—edit—publish.

#### THE FUTURE OF DIGITAL ETHNOGRAPHY

Good ethnography not only lays bare the cultural logic of a group of people, it also is able to convey to an audience a feeling for what it is like to be a participant in that culture. To do that, the ethnographer must appeal to the audience's senses, the more the better. Until recently, ethnographic productions have been limited largely to sight (photos, movies, videos), sound (audio recordings), and vivid textual narratives. The senses of touch, smell, and taste have been experientially absent. But it is clear from current trends that technological innovations are moving ever more rapidly toward filling the gap, toward making it possible to recreate smells, taste, and touch via digital mediation, and in so doing bringing us closer to the possibility of

replicating the sensual experience of a distant physical place. Computers will likely be outfitted with applications capable of copying and transmitting odors, while 3-D printers (already on the market) will be able to produce items from transmitted codes, making it possible for distant audiences to touch, and possibly taste, replicated items. Such technological advances will allow ethnographers to more fully immerse their audiences in the ambience of the places they have studied.

While technology will no doubt instigate changes in cultural patterns, it will not be a matter of direct causality. Rather, technology and culture(s) will coevolve into a variety of forms as people find new ways to adapt technological innovations to their own lifestyles, values, and worldviews. We anticipate that sooner or later just about everyone will develop the skills to engage with digital media, creating a universal cultural overlay to their local cultures, whether those cultures are located in cyberspace or on the ground. What this suggests is that just about everyone will become multicultural in some sense, with degrees of sharing ranging from nearly universal to highly localized. For future ethnographers, this will provide both expansive opportunities and interesting methodological challenges.

New technology is changing the means for participation in the sites ethnographers study, as well as modes of observation, which together constitute the hallmark of ethnographic method. In the study of online communities, it is now possible in many instances for researchers to employ multiple avatars, and to occupy a variety of venues simultaneously. We can anticipate that avatars will become increasingly sophisticated in their capabilities, coming closer to emulating their physical world counterparts. Holographic representation may even become possible in physical settings. At the same time, the instruments of surveillance are becoming more sophisticated, allowing ethnographers to observe intimate behaviors surreptitiously. Innovations such as Google glasses allow taking photos and videos unobtrusively, and someday in the not-too-distant future cloaking devices may permit researchers invisibility. All of this will require a careful rethinking of privacy issues and ethical standards for social research.

As a final dimension for the ethnography of digital media, we note that a fundamental set of questions at the heart of any ethnographic inquiry has been, and will continue to be, a significant feature of ethnographies of digital media: Do digital media merely extend existing cultural systems into new technosocial spaces? Or, do digital media foster emergent possibilities for cultural formations without presenting new issues for humans to respond to? Or further, do digital media create entirely new frameworks within which human beings can find new ways of being human? Old wine, new glasses? New wine, old glasses? New wine in new glasses?

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#### ALAN HOWARD SHORT BIOGRAPHY

**Alan Howard** is professor emeritus of anthropology at the University of Hawai'i–Manoa, where he taught for 37 years. He has done more than 50 years of research on people from the South Pacific island of Rotuma and in 1996 created the Rotuma Website, which he continues to manage, as a service to the now-global community of Rotumans. He is an author or editor of 14 books and monographs and author or coauthor of over 100 articles and book chapters, including a 1988 article on “Hypermedia and the Future of Ethnography.” In 2007 he was elected an honorary fellow of the Association for Social Anthropology in Oceania, an organization for which he also created and manages a website, in addition to a number of other websites.

#### ALEXANDER MAWYER SHORT BIOGRAPHY

**Alexander Mawyer** is Assistant Professor in the Center for Pacific Islands Study at the University of Hawai'i–Manoa. He has conducted cultural and linguistic fieldwork in the Gambier and Society Islands of French Polynesia focused on language at the intersection of culture and history. He served as one of the coeditors of *Varua Tupu: New Writing from French Polynesia*, the first anthology of Tahitian literature to appear in English and is currently the Book and Media Reviews Editor for *The Contemporary Pacific: A Journal of Island Affairs*. In 1995 he was night-manager of one of the world's first Internet Cafes, the Internet C@fe in Honolulu, and has developed and maintained several online databases since the late 1990s.

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