New Technologies and Language Change:
Toward an Anthropology of Linguistic Frontiers

Susan E. Cook

Department of Anthropology, University of Pretoria, Pretoria, 0002,
South Africa; email: sue.cook@up.ac.za

Key Words   global hip hop, youth culture, global English, urban hybrids,
  globalization

■ **Abstract**   Research to date on the relationship between new communications
technologies and language emphasizes linguistic and social differences between online
and off-line interactions and the impact of global English on the non-English-speaking
world. These studies conclude, for the most part, that computer-mediated communica-
tion reproduces the social, political, and economic relations that exist in the real world.
Related areas of research, including ethnographies of global hip hop and studies of
urban hybrid language varieties, offer important models for using anthropological ap-
proaches to advance our understanding of the interconnections and situated-ness, of
language, new technologies, global media, and social change.

INTRODUCTION

How, as anthropologists, do we conceptualize the relationship between conven-
tional forms of verbal interaction and those mediated by new technologies such
as the Internet, satellite transmissions, and cell phones? If Crystal is correct in
saying that the Internet constitutes a new frontier in human social interaction on
par with the inventions of the telephone and telegraph, and even print and broad-
cast technologies (Crystal 2001), then those scholars of language use, language
change, and ideologies of language must surely explore and interrogate the ef-
fects of these technologies on traditional modes of communication, the impact of
our new capacity to communicate instantly anywhere in the world, and the mean-
ing of language contact as it is taking place in cyberspace. Most of these tech-
nologies, notwithstanding constant new advances in computer-mediated graphics,
are text or voice based. To say "[i]f the Internet is a revolution, therefore, it is
likely to be a linguistic revolution" may not be an exaggeration (Crystal 2001,
p. viii). The "if" in that statement bears closer scrutiny, and, as some have sug-
gested, anthropologists are in a strong position to do this work (Wilson & Peterson
2002). It is surprising, therefore, that relatively few ethnographic studies of the im-
pact of new technologies on language use have been published. Whether because

anthropologists cleave too tightly to "notions of community, fieldwork, the body, nature, vision, the subject, identity, and writing," which are insufficient for understanding and analyzing "cyberculture" (Escobar 1994), or because it is not easy to site such inquiry, determine its boundaries, and relinquish the "romance of spatial confinement" (Gupta & Ferguson 2001), (linguistic) anthropology has produced few empirically grounded examinations of the relationship between language use, language status, or language ideologies and new technologies. This chapter thus approaches in two ways the task of reviewing the current state of the art of knowledge about new technologies and language change. First, I expand the scope of inquiry to provide a brief overview of scholarship from other fields and disciplines that attempt to understand the chicken/egg question about language and technology: Do communication technologies change the way people speak/write, or do these media reflect established patterns and norms of verbal interaction? Certain limitations of these approaches suggest important avenues for future anthropological study. Second, I look to related areas of ethnographic study to point the way toward a more creative, contemporary, yet still solidly anthropological approach to the issue of language, technology, and change: studies of cultural and linguistic frontiers as they relate to youth cultures and global media. By insisting that any examination of new technologies be situated within the economic, social, and political contexts where the information and images they convey are consumed, circulated, and signified, these studies demonstrate that anthropology is particularly well suited to investigate the social (and symbolic) dimensions of new technology.

COMMUNICATION TECHNOLOGIES AND LANGUAGE USE

Scholars from a wide range of fields, including psychology, applied linguistics, computer sciences, sociology, and cultural studies, to name a few, have begun to explore the social and linguistic dimensions of technologies such as email and the Internet. Much of the recent scholarship is focused on the promise of new communications technologies to subvert social boundaries such as race, gender, and ethnicity through text-based media that withold certain identity markers. Others have considered the role of communications technology in promoting social justice, economic equality, and democratization. However much new communications technologies alter our ability to represent ourselves, develop new hybrid forms of interaction, or increase the speed at which we exchange information, much that is old exists in new technologies. Not quite a broken promise, the notion of cyberspace as an emancipatory sphere has been updated by many scholars to reflect the fact that by changing the way we do things, we do not necessarily change the things we do (Wilson & Peterson 2002).

The previous statement is not meant to reassure those who lack up-to-the-minute knowledge of the latest communications technologies that they are not missing anything. In fact, email and the Internet represent a whole range of

linguistic innovations, from a substantial lexicon that needs constant updating (Glowka et al. 2003) to new styles, conventions, and modes of written expression (Crystal 2001, Baron 2002) and entire new language varieties, such as Netspeak (Crystal 2001, p. 92). From an anthropological perspective, though, the more interesting question lies in the ways that computer-mediated communication actually alters the way we interact as social beings. Are the constraints placed on conventional modes of interaction—rules of discourse, identity markers, conventions of use—significantly altered in cyberspace (Paolillo 2001)? What types of social relations result from these computer-mediated interactions? Can new communications technologies change the way we interact and see ourselves in the real world (Richardson 2001)? Scholars approach these questions from various angles, an overview of which follows.

Sociolinguists interested in the social aspects of computer-mediated communication have investigated this sphere of interaction with reference to conventional social divisions, such as gender, race, and class. Studies of the gendered aspects of Internet communication include an examination of (gender) accommodation theory in email (Thomson et al. 2001) and studies of male-versus-female approaches to Internet communication (Dickerson 2003, Shaw & Gant 2002). Other scholars adopt a more overtly feminist stance toward the gendered aspects of new communications technologies. Examinations of gender in Internet discourse (Smith & Balka 1991, Herring 1993, Herring et al. 1995) and textual (as well as visual) representations of the body via new technologies (Cutting Edge Women's Res. Group 2000) have followed claims that the Internet is a male-dominated space [on the basis of user profiles as well as Web site content descriptions (Dickerson 2003)].

The role of language in computer-mediated identity construction is the focus of numerous studies (Waskul & Douglass 1997, Warschauer 2000, Jacobs-Huey 2004). Similar to gender studies, most studies of race and computer-mediated communications take as their starting point "the cyberself as embedded in language" (Kolko et al. 2000, p. 6), and the Internet is as fraught with problems and issues of race as is face-to-face communication, despite the fact that it is an environment where visual and aural identity markers are absent. In their volume *Race in Cyberspace*, Kolko and her colleagues note that, unlike in the real world, race is either turned on or turned off in cyberspace; that is, it is either the direct focus of discourse and debate or completely invisible (p. 1). Where it is on, expressions of race on the Internet can assume different or exaggerated forms of what could occur in face-to-face interactions, such as "passing" (Nakamura 1999), "crossing," (for example, "those gansta-talking websites . . . being run by rebellious, back-talking, suburban white kids looking for some model, any model") (Lockard 2000, p. 178) and overt racism (Ronkin & Karn 1999). But in the end, there is little evidence that the Internet, or other forms of computer-mediated communication, serves to mitigate the pernicious effects of racism. Kolko and her coeditors put it thus: ". . .the virtual reality that is cyberspace has often been construed as something that exists in binary opposition to 'the real world,' but when it comes to questions of power, politics, and structural relations, cyberspace is as real as it gets" (Kolko et al. 2000, p. 4).

This conclusion also emerges from studies of other social and political aspects of computer-mediated communication. Although scholars note the democratic aspects of email and the Internet (Nelson 1974, Herring 1993, Ess 1994, Baron 1998) and the possibilities of creating ethnicity-neutral chat spaces (Kadende-Kaiser 1999), a broader view of these new technologies in society reveals that access to the language, hardware, and technological cultures of new communication technologies remains inaccessible to many. The digital divide in the United States finds Blacks, Hispanics, and those with household incomes under $30,000 per year underrepresented among Internet users (Lenhart 2003). The worldwide divide is predictably much more stark. This finding may be, in part, a result of specific language issues such as the status of English as the predominant language of the Internet (Crystal 2001, Lockard 2000).

LANGUAGE CONTACT IN CYBERSPACE

Nearly all of the above-mentioned studies that deal with how communications technologies alter our social interactions, both online and off-line, are based on, and in, Western, English-speaking societies. If we broaden the scope to consider the impact of these technologies on language and communication in other parts of the world, the question of global English quickly emerges. The literature on new technologies and language revitalization is reviewed separately in this volume (Eisenlohr 2004, in this volume), but the inverse of the revitalization process is also a subject of study and debate: the spread of English throughout the world, often at the expense of other languages. (I do not review related literature on "new Englishes.") Although non–English language Web sites are rapidly increasing in number (Crystal 2001, p. 216), most of the Web's contents are in English (Lockard 2000, p. 178). This is certainly not the only reason for the rise of global English, which is seen by many as a threat (Tsuda 1997) and by others as an inevitable by-product of globalization or just plain being "in the right place at the right time" (Crystal 1997, p. 110). As Judy points out, the rise of global English must be attributed not only to the fact that membership in the cyber community is based on competence in English, but also to "the complex relationship between the organization of knowledge, economic and political forces, and ideology" (Judy 1999, p. 5). In countries like Tunisia (Judy 1999), Malaysia and Algeria (Judy 1997), and Switzerland (Economist 2000), where English is not a natively spoken or officially sanctioned language, it meets Crystal's definition(s) of a global language: one that "develops a special role that is recognized in every country" (Crystal 1997, p. 2) and one whose "usage is not restricted by countries or . . . by governing bodies" (p. 130). The shift in Crystal's criteria for global language from those "recognized in every country" to those "not restricted by countries or . . . by governing bodies" is telling; state sovereignty and national-level language policies are increasingly irrelevant to implications of the language of the Internet (i.e., English) on societies around the world.

The problem with analyzing this impact in any kind of empirically grounded way is, of course, that mentioned at the beginning of this review: how to site global information flows, how to participate in the process of computer-mediated interaction, and how to observe the new means and modes of deploying global English. One study considers the way consumer magazines in South Africa deploy English together with indigenous forms of African auriture/orality to index contemporary Black middle-class sensibilities. Though fascinating as literary criticism, the study lacks data about readers' responses to these magazines that would ground the authors' conclusions in lived experience (Laden 2001). Conversely, a study of the displacement of English among native speakers in Argentina concludes that the language is losing ground, except for instrumental purposes such as workplace interactions and international communication. Drawing conclusions based solely on attitude surveys, this study can only be regarded as suggestive, rather than empirically sound (Cortes-Conde 1994). A final example concerns a global mega trend of language change, i.e., the spread of the "be like" quotative system from the United States to the United Kingdom and Canada (Tagliamonte & Hudson 1999). After describing this linguistic feature as it occurs in the three countries, the authors stop short of even speculating about the mechanisms by which the process of international diffusion occurs. This study, like the other two, speaks to local instances of the globalization of English without offering much insight into how, precisely, "the global" and "the local" intersect to produce change and what role new technologies play in the process.

THE WAY FORWARD: PUTTING LANGUAGE AND NEW TECHNOLOGIES INTO CONTEXT

With a few notable exceptions, the scholarship reviewed above focuses either on the linguistic patterns that characterize new technologies or the effects of increasingly globalized communications on whole languages. From an anthropological perspective, most of this scholarship fails to provide either (*a*) an empirically grounded picture of individual experience of these technologies, understood in reference to our entire range of communicative acts, or (*b*) the broader social impacts of these phenomena. The scarcity of studies on the relationship between new technologies and changes in language use, status, and distribution does not, however, mean that ethnographic methods are inadequate for exploring this subject. On the contrary, recent work in related areas, such as the anthropology of global pop culture, exemplifies ethnographic study that is at once fine-grained and attentive to wider transnational issues, trends, and dilemmas.

Studies of global hip hop are a case in point. Tasked with the challenge of understanding the worldwide spread of a musical aesthetic rooted in 1970s urban America (Dimitriadis 1996, Smitherman 1997), ethnographers of global hip hop have confronted a range of methodological and analytic challenges similar to those facing scholars of new technologies. From deciding what the object of study is

(an art form? a political ideology? a generational movement?) to deciding the best way to conceptualize the local and global dimensions of hip hop in any particular context, the study of hip hop and rap around the world has produced some ground-breaking work. Condry (2000), for example, understands Japanese hip hop as being inspired by American urban Black music but not bound by its defining ideologies, specifically those related to race, class, and gender. His study of the performers, fans, venues, and producers of Japanese hip hop around Tokyo convince him that this "generational protest" is a reaction to local sociopolitical realities and bears little resemblance, beyond some common compositional features, to American hip hop (Condry 1999). "Global pop culture," as a concept and an experience, then, ceases to have meaning when "all cultural politics is local" (Condry 2000, p. 181). Other work on European rap (Mitchell 2003), Columbian rap (Wade 1999), Gabonese rap (Auzanneau 2002), and hip hop in Sydney, Australia (Maxwell 1997), also demonstrates the possibility of describing and analyzing contemporary global trends without sacrificing either the "situated-ness" of everyday life or the "out-of-sited-ness" of media flows.

Scholars of global hip hop must resist the tendency to essentialize "local," "foreign," or "global" culture (Condry 2000, Mitchell 2001). By understanding hip hop as originating (symbolically, at least) elsewhere, mediated by global communications (including satellite, film, and the Internet, in addition to print media), but produced and signified locally (with room for variation there as well), these scholars are meeting Gupta & Ferguson's (1992) challenge to explore "the processes of production of difference in a world of culturally, socially, and economically interdependent spaces" (p. 14). The implications for the study of new technologies and language change are three. First, studying technologies with global reach and global impact does not require or justify foregoing attentiveness to situated practice and localized meaning. The term global should be understood in the sense that new communication technologies are notable for the speed with which they can transmit information around the globe. Ethnography reveals that the information itself, or the cultures it conveys, does not permeate all societies simultaneously, nor is it consumed in an identical fashion everywhere (or anywhere). The impact on language and communication of these technologies, then, is necessarily context-specific, with comparison across contexts being not only appropriate but desirable.

Second, global hip hop is not the sum total of its products: its songs, dances, and graffiti images. Focusing only on the linguistic patterns, trends, and artifacts of new technologies does little to inform us about the lived experience of communicating via these new modes. The physical, material, economic, ideological, social, and cognitive dimensions of reading, writing, speaking, and listening in technologically mediated ways are highly relevant to our emerging understanding of how these technologies affect our interactions.

Third, young is as young does. One can infer from the studies of hip hop around the world that global flows of aesthetic forms, cultural movements, and political stances (especially those mediated in some way by new technologies) are centered around youth. This seems both logical and obvious. Youth are more willing to

explore new technologies, and they are prone to experimentation with the new and resistance to the conventional. But studies of global hip hop (and other aspects of global media) suggest that the social significance of these cultural phenomena need not be seen only in terms of generational issues (Ginsburg et al. 2002). This is important to bear in mind with reference to language and new technologies.

YOUTH CULTURE AND LINGUISTIC FRONTIERS

The idea of "youth" as a social category and "youth culture" as somehow distinct from the surrounding society's practices, understandings, and beliefs dates to the 1960s when North American and British social scientists became interested in drawing distinctions between cultures, subcultures, and "contracultures" (Yinger 1960, Schwartz & Merten 1967, Dorn 1969, Lewis 1976). Over time, the link between media, language, youth, and social change has become a taken-for-granted social fact (Bucholtz 2002). It stands to reason, then, that youth are the vanguard of linguistic changes resulting from new technologies (Bucholtz 2000). This assumption unfolds in the literature. For example, in discussing the language of virtual worlds on the Internet, also known as multiuser domains, Crystal notes that most users are males between the ages of 19 and 25 (Crystal 2001, p. 174). Youth identity construction through language is inextricably tied to mass media, for girls as well (Barker 1997, Currie 1997). Many other studies point to the convergence of youth, media, and linguistic change, including examinations of linguistic innovation (Roth-Gordon 2002), identity construction through "crossing" (Rampton 1995, cf. Hill 1999), slang (Sornig 1981, De Klerk 1990), and in-group codes (Eble 1996, Bucholtz 2000).

The perception that youth are on the frontier of language change could obscure other social, economic, or political fault lines that are equally important to understanding technology's impact on human interaction. One particular group of studies exemplifies both the pitfalls and the promise of exploring language change and youth: studies of hybrid language varieties in Africa. Recent studies of language change in African cities place youth—most often young men—at the center of attempts to document and analyze language varieties that can loosely be termed urban hybrids. These language varieties are best known for their incorporation of lexical material from different languages, extensive code-switching, and a young, urban orientation. Though not a vast or necessarily cohesive literature, these studies nevertheless make an important contribution to our understanding of the role youth play in linguistic change and are especially suggestive of the sometimes overlooked role of media/technology in language change.

Sociolinguistic phenomena such as language contact, creolization, and code-switching have been studied in reference to historical factors such as labor migration, racial segregation, and urbanization in different parts of Africa. Owing to South Africa's particular political and economic history, as well as to the specific contours of its academic sector, many of these studies have been based in,

and on, South African language varieties. Studies of African urban hybrid languages can be divided roughly between those that are more sociolinguistic in approach and those that are more anthropological. Many studies in the first category are concerned either with classifying hybrid varieties according to established sociolinguistic categories (Janson 1984, Makhudu 1995, Ntshangase 1995, Childs 1997) or with exploring the implications of these varieties for debates related to multilingualism, such as code-switching (Myers-Scotton 1993, Slabbert & Myers-Scotton 1996, Finlayson & Slabbert 1997; see also Slabbert & Finlayson 1999 for an excellent overview), accommodation theory (Slabbert & Finlayson 2000), and diglossia (Abdulaziz & Osinde 1997).

Although these sociolinguistic studies of urban hybrids in Africa have successfully (and not without controversy) subverted the neocolonial tendency to study only the structural elements of African languages (in which languages are presumed to exist in isolation from one another), they have not given adequate attention to the social, economic, and political dynamics that underlie, and may even be driven by, these language varieties. Often short on data based on naturally occurring speech, and consequently heavily reliant on information derived from self-reported language behavior or "staged" speech, most of these studies reproduce as empirical fact the ideological assumption that urban hybrids are primarily youth-oriented codes. From an analytic perspective, this finding may point to the importance of young people's speech as the vanguard of linguistic change; from another perspective, however, it renders these language varieties irrelevant to language policy debates because they amount to little more than "kids' street slang" (McWhorter 1998).

Conversely, anthropological studies have begun considering more closely the relationship of hybrid language varieties to broader social, political, and economic shifts in urban(izing) contexts in Africa. Spitulnik's work (1996, 1998a) on language, media, and urbanization in Zambia combines analysis of the origins, uses, and characteristics of Town Bemba, an urban hybrid emanating from the capital, Lusaka, with ethnographic accounts of the media's role—specifically radio broadcasting—in altering the linguistic and communicative repertoires of Zambians. If radio is viewed as a new technology in parts of the world where it has only become prevalent in the past 50 years or so, then Spitulnik's work stands as an important example of ethnographic work on new technologies and language change that measures not only the linguistic impact of these innovations, but also the social-symbolic and political-economic aspects of new modes of communication (Spitulnik 1998b, 1998/1999, 2002).

Studies of Senagalese urban language varieties also address important theoretical issues: for instance, calling into question the theoretical premises of the code-switching debate (the presence of distinct codes versus the emergence of hybrid identities expressed in wholly new codes) (McLaughlin 2001, see also Woolard 1999), as well as pointing to the important role of global pop culture in the spread and legitimization of urban hybrids (Swigart 2001). Given the prominence of Senagalese rap on the African continent [an estimated 3000 rap crews are

based in the capital Dakar alone (Kwaku 2000)], the convergence of global communications technologies, youth culture, and hybrid language varieties in Dakar offer rich grounds for ethnographic exploration. South Africa, which produces the largest number of African hip hop artists and recordings (in a form known locally—and now internationally—as *kwaito*), also offers opportunities to document the relationship between language change, generational cultures, and new means and modes of communication. Work on similar phenomena in Kenya (Samper 2002) already is beginning to document these connections and draw parallels with other parts of Africa.

Most of the above-mentioned studies of African urban hybrid languages draw a connection between these language varieties and young, usually male, speakers. Whether based on selective observations, reliance on self-reported data, or pure conjecture, this widespread assumption bears closer examination. Ethnographic approaches to communications technologies may prove useful in this regard.

Urban hybrids may be urban in an ideological, more than a geographical, sense (Cook 2002). Similarly, these varieties' relationship to maleness and youth may reflect a social, political, or economic orientation (or aspiration) more than a description of (s)he who uses them (Cook 1999). In the quest to achieve a state of modernness, "urban," "young," and "male" are often aligned in contrast to "rural," "old," and "female" (Appalraju & de Kadt 2002). Although this has important implications for understanding the significance of certain symbolic behaviors, we should not stop observing closely who is really doing what, as distinct from what people think or say they are doing. In the context of urban Africa, attention to the growth of global media and new communications technologies will likely reveal that foreign TV, film, pop music, advertising, and video games, in addition to cell phones, email, and the Internet, are implicated in the growth and spread of hybrid language varieties as much as discourses of "the street," to which much of the emergence and popularization of urban varieties has been attributed to date (McWhorter 1998, Cook 1999; see also Crane 2000, p. 92). Or perhaps there is not as radical a distinction between global media and the cultures emanating from the streets of local cities, townships, and even villages of Africa as these (often racist) discourses would have us imagine (Hill 1999).

CONCLUSION

Anthropologists have ample opportunities to investigate the ways global media, new communications technologies, and language figure into the construction of identities, advancement of political agendas, and emergence of new interactive modes. On the basis of this necessarily incomplete overview of work in related fields and disciplines, the challenge for anthropologists of language and technology clearly is, first, to adopt the broadest possible understanding of "new technologies" in order to examine not only the linguistic aspects of the techniques themselves (computers, email, World Wide Web), but also the impact of the information flows

and mediascapes (Appadurai 1996) conveyed by them. Second, anthropological principles such as observing lived experience, combining different data-gathering techniques, and juxtaposing practice and ideology are important tools in the quest to achieve a multidimensional understanding of the mutually constituting relationship between technological innovation and symbolic interaction. Situated, empirically rich ethnography placed on a broad conceptual canvas can produce a deeper and more detailed picture than we have to date of the complex world of language, technology, and social change.

The *Annual Review of Anthropology* is online at http://anthro.annualreviews.org

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