

LANGUAGE REVITALIZATION AND NEW TECHNOLOGIES: Cultures of Electronic Mediation and the Refiguring of Communities

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■ **Abstract** Recently, language activists and linguists have begun using new technologies in projects aimed at revitalizing the practice of lesser-used languages. This review explores related work, emphasizing how practices of electronic mediation enabled by such technologies both shape and are informed by linguistic ideologies, which in turn crucially influence the possible revived use or abandonment of linguistic varieties. New technologies are treated as part of cultures of electronic mediation, connecting sociocultural valuations to mediated discourse. Their use often has important political implications, given that projects of language revitalization are often linked to claims of ethnolinguistic recognition. Finally, because documentation of lesser-used languages using digital technologies also results in the production of new cultural objects to be stored, displayed, and circulated, attention is also focused on the forms of sociality sustained by the creation and exchange of such electronic artifacts.

INTRODUCTION

New technologies enabling the electronic mediation and mass circulation of discourse have recently become the focus of much interest in activism on behalf of minority or lesser-used languages, which raises the question of how practices of electronic mediation are situated within the sociocultural processes of language obsolescence and revitalization. Generally speaking, there is a striking gap between expert discourses seeking to mobilize Western public awareness of widespread language loss across the world today and the concerns motivating users or former users of a linguistic variety to engage in practices of linguistic revitalization. This difference also has important consequences for a critical evaluation of the use of new technologies of electronic mediation in situations of language revitalization, that is, in “attempts to add new linguistic forms or social functions to an embattled minority language with the aim to increase its uses or users” (King 2001, p. 23).

Recent scholarly concerns about the diminution of linguistic diversity around the world have frequently taken as a model the discourse on biodiversity. Against the background of a long-standing tendency in linguistics to identify languages with organisms dating back to Franz Bopp (Koerner 1983, p. xxix; see also Schleicher 1983 [1863]), the large number of languages reported to be abandoned by their speakers are often explicitly compared to biological species, whose demise would constitute an irreplaceable loss for humanity as a whole (Crystal 2000, p. 32–33; Krauss 1992). Another key theme in recent expert writings on language endangerment is cosmopolitan concerns about the diminishing of human knowledge expected by some linguists as a consequence of language loss (Hale 1992, Nettle & Romaine 2000). Identification of the loss of linguistic diversity with the disappearance of intellectual heritage also has been expressed in terms of popular Whorfianism in writings on language revitalization, according to which “each language reflects a different unique world view and culture complex, mirroring the manner in which a speech community has formulated its thinking and its understanding of the world” (Wurm 1999, p. 163). From this perspective language loss also implies a gradual loss of a comprehensive human view of the world. As other researchers argue, the use of metaphors such as “endangered languages” or “language death” likens languages to organisms attributed with agency, with a tendency to obscure the sociocultural processes ultimately accounting for language maintenance and loss (Gal 1996). The focus on languages as quasi-organisms contributes to the disjuncture between expert discourses and local concerns about language revitalization. Although the combination of cosmopolitan, popular Whorfian and quasiecolological concerns in expert discourses has been directed to Western reading publics, as well as funding agencies (Hill 2002), these justifications for language revitalization are much less prominent in the contexts of actual efforts of prominority language activism. In other words, the question “Why bother?” has been answered in different ways by experts and local activists.

An overview of more successful cases of reversing language shift (Fishman 1991, pp. 287–336) in languages such as Hawaiian (No’eau Warner 2001, Warschauer 1998; see also Friedman 2003), Hebrew (Hagège 2000, Kuzar 1999, Spolsky 1996), Welsh (Jones 1998a, Williams 2000), and Catalan (DiGiacomo 2001, Woolard 1989) suggests that ideas about biodiversity or the general impoverishment of human knowledge have had little relevance in these scenarios. In contrast, some ideological link between what is identified as a language to be revitalized and desirable notions of community and identity, often conceived in ethnic terms in a politics of recognition, is vitally important to the creation of these movements of language activism geared toward language renewal and language shift reversal. Situations of language loss are often only widely registered, reported, and experienced as problematic if a set of linguistic practices is (a) isolated, a denotational norm established and labeled as a “language” (Silverstein 1998, 2003a), and (b) in some way made relevant for processes of identity formation. Local language activists and professional linguists may hold divergent views on what it means to “have” a language and, therefore, of what should be revitalized to begin with,

as in the case of the Tolowa of Northern California, where a focus on words as evocative of cultural knowledge and memories of place conflicts with an academic privileging of grammatical structure as the core of what both sides refer to as the Tolowa language (Collins 1998).

Thus, questions of language, community, and identity are central to an investigation of language revitalization processes, including the use of electronic mediation. The issues at stake may certainly be expressed by experts in terms of popular Whorfianism or positively valued diversity of language organisms, when it is in fact more the perceived dangers to the reproduction of ethnic or other forms of groupness that often motivate activism on behalf of a lesser-used language. Therefore, it is necessary to situate practices of electronic mediation in contexts of language activism within linguistic ideologies of community and identity.

ELECTRONIC MEDIATION AND LANGUAGE REVITALIZATION: AREAS OF CONVERGENCE

Scholars often ascribe a key role to mass mediation and circulation of discourse in the creation of communities transcending face-to-face interaction. In this respect, linguistic diversity frequently has been understood as having a key impact on the shape and boundaries of the communities created, as it intervenes in the relationship between mediascapes (Appadurai 1996) and the projection of communities. For example, Anderson's account of nationalism, in its stress on the role of print capitalism, accords differentiation among vernacular languages of Europe a major role in defining the boundaries of national communities (Anderson 1991). Analysts often conceive of modern practices of mass-mediated communication as fostering linguistic change, most notably the spread of unified, nationalized standard languages (Gellner 1983). In this sense, the relationship between cultures of discourse circulation and linguistic change is indeterminate and needs to be grounded in particular sociohistorical contexts.

Studies of language loss and revitalization frequently stress the important role electronic mediation of discourse can play in situations of language shift. In particular radio and television broadcasting in dominant languages has been described as contributing to language shift away from lesser-used or minority languages, making the task of reestablishing the latter as a routine medium of everyday interaction more daunting (Dixon 1991; Dorian 1991; de Graaf 1992; Rouchdy 1989; Grenoble & Whaley 1998, p. 53). Pessimistic perspectives on the relationship between the reproduction of linguistic diversity and electronic mass mediation have even culminated in assessments such as those describing the impact of electronic media on the maintenance of lesser-used languages as "cultural nerve gas" (Krauss 1992, p. 6). Activists have expressed similar views: A production coordinator of the Canadian Inuit Broadcasting Corporation likens the effects of mainstream television to those of a neutron bomb (David 1998, p. 36). In contrast, recent work on minority language broadcasting has stressed the potentially helpful effects of

using electronic mediation for the maintenance and renewal of such languages. A central concern of the use of lesser-used languages in electronic mediation is not only encouraging language maintenance and revitalization by providing speakers with opportunities to hear and maintain skills in the language, but also is achieving a transformation of ideological valuations of the language so that the lesser-used language is viewed as part of the contemporary world and as relevant for the future of a particular group (Brandt 1988, McHenry 2002).

Lately there also has been great interest in using computer technology in practices intended to further the maintenance and revitalization of lesser-used languages (Bernard 1992, Darquennes & Weber 2001, Grenoble & Whaley 2002, Kroskirty 2002, Salinas Pedraza 1996, Warschauer 1998). One obvious use of digital technology is that it provides comparatively inexpensive and effective ways of recording linguistic practice in lesser-used languages, especially in situations where language shift is almost complete and the last remaining persons competent in the relevant language are old, and intergenerational transmission of competence in the lesser-used language has failed so far (Bennett 2003, Hinton 2001, Kroskirty 2002, Kroskirty & Reynolds 2001, Parks et al. 1999). Such recordings of sound and image can provide richer and more multidimensional records especially in the fields of phonology and prosody, as well as in performative and interactional contexts of use as compared to print media. These records are then available for future reconstruction of linguistic practices in the lesser-used language at a time when no proficient speakers are living, providing material for the relearning of the linguistic variety in question.

Another area for the use of computer technology is the teaching of lesser-used or minority languages, in particular the search for easier and less costly ways of creating and disseminating teaching materials in endangered languages, such as books, sound recordings, and digital material combining text, sound, and graphics components. Electronic forms of mediation thus become part of techniques of literacy, which are often, though not always (Kroskirty 2000), crucial to obtaining the status of a language valued enough to warrant its reproduction for the variety to be revitalized (Bernard 1996, Errington 2003, Salinas Pedraza 1996, Silverstein 2003a). Developed out of computer-assisted language learning (Chapelle 2002, Levy 1997), telecollaboration in foreign language learning (Warschauer 1996), interactive CD-ROMs, Web sites, and computer networks provide contexts where the computer poses tasks to students, evaluates their responses, and decides on the next task on the basis of their progress. In this respect, the role of the computer as a tutor in language learning may be particularly appropriate in cultural contexts with no role of a formal teacher in society (Auld 2002). Instruction in lesser-used languages using these techniques does not need to be tied to a particular locale anymore and is also accessible, provided computers and the skills for using them are available, to relatively small groups of geographically dispersed language learners, such as Native American groups in North America (Haag & Coston 2002), Hawaiian language learners linked by the *Leoki* computer network (Warschauer 1998, 1999), or Maori in New Zealand (Benton 1996).

Much of the focus in the emerging literature on the use of digital technologies in minority language activism has been on the instrumental advantages for documentation and pedagogical dissemination of discourse in such languages, primarily the ability to record, integrate, and circulate more discourse data across multiple dimensions and the possible economic advantages over previously used technologies. However, the ideological dimensions through which the enabling characteristics of such practices are perceived are crucially important in evaluating the use of digital mediation in these contexts (Kroskrity 2002). To analyze the significance of computer technology for minority language activism, one must understand not only instrumental-technical possibilities but also the sociocultural interpretations of electronic mediation practices; one should analyze cultures of digital mediation analogous to the work carried out on cultures of print (Hall 1996, Warner 1990). After all, any assessment of potential advantages of digital technology is finally mediated by the processes of ideological valuation and interpretation in such cultures of digital mediation. That is, television and radio broadcasting, as well as the creation of digital material in endangered languages for purposes of language revitalization, are informed by ideologies of language (Woolard & Schieffelin 1994) formulating relationships between linguistic practice and modes of social and political belonging and different sociocultural valuations of linguistic forms and varieties (Dorian 1994, 1998). This embeddedness of electronic mediation practices in lesser-used languages in such ideological processes raises the following questions: What assumed relationships between language and community inform practices of electronic mediation intended to promote a lesser-used language? To what extent do local evaluations ascribed to various practices of electronic mediation per se become part of the revitalization process? What relationships of power characterize the multilingual field in which such forms of electronic mediation are located? What are the strategies by which proponents of lesser-used languages seek to achieve a transformation of an ideological field through electronic mediation? What are the limitations imposed by particular technologies on practices of mediation? And finally, how can we account for the ultimate efficacy of such practices, that is changes of potential speakers' attitudes motivating them to engage in regular use of the linguistic variety across generations?

ACCESS, POWER, AND DIGITAL 'LEXICOGRAPHIC REVOLUTION'

Long ago, Fishman distinguished between unmobilized and mobilized modes of language maintenance (Fishman 1972 [1968], pp. 97–98), seeking to draw a distinction between the continued use of a linguistic variety among groups of relatively isolated, marginal speakers and the continued use of a language based on conscious mobilization of material and political resources. The use of electronic forms of mediation for purposes of language revitalization seems to fall mainly into the latter category of language maintenance because it presupposes the intervention of

middle classes, state, or nongovernmental institutions with control over resources typically exceeding those of the rural and marginal speakers Fishman had in mind.

Using electronic mediation in language activism implies not only the sheer availability and affordability of access to electronic mass mediation, but also some political and economic control over production and dissemination of electronically mass-mediated discourse. This problem is at the center of debates about whether the spread of digital technology will either support more evenly distributed modes of democratic participation in public discourse and political processes or result in new forms of social inequality and control (Ess & Sudweeks 2001, Loader 1998, Smith & Kollock 1999). Concerns that linguistic differentiation will put many people at a disadvantage in emerging digital public spheres led the European Union, for example, to fund a project to set up digital debating platforms for four minority language groups (Williams 2001). In this respect, access to computer-based electronic mediation in particular implies not only the availability of a material infrastructure of computers, software, appropriate character sets (Godwin-Jones 2002), and Internet connections, but also the skills and attitudes crucial to make successful use of Internet and other computer resources (Wilson & Peterson 2002, p. 457; Villa 2002), such as an understanding of dominant online interaction orders (Kirshenblatt-Gimblett 1996, Crystal 2001) and literacy in dominant languages (Keniston 2001). Such differences regarding interest and attitudes toward digital mediation practices are frequently, but not necessarily, related to divergences in wealth and education (Rey 2001).

Nevertheless, many populations interested in reestablishing the practice of a lesser-used language often are least likely to engage in digital mediation practices (Buszard-Welcher 2001). The use and availability of such technologies often depend on support from state institutions, nongovernmental organizations, or a local middle class willing to use its economic and political resources to protect a language. As a consequence, the use of electronic mass mediation, especially television and digital technology, is often shaped by the power relations between state institutions and populations with an interest in language revitalization or, alternatively, on the ability of such groups to generate the necessary resources independently from state assistance, either through the presence of a middle class (Woolard 1989) or though their ability to attract support from nongovernmental organizations. Also the ideological climate defining the relationships between nation-states and communities associated with lesser-used languages is important. Even those groups of small size with limited resources may gain state support for electronic broadcasting or digital mediation if their cultivation of an ethnolinguistic identity is ideologically compatible or even desirable within the national imaginaries in which they are located, such as in the cases of Sorbian in the former German Democratic Republic (Marti 1990, pp. 54–55) and the lesser-used “autochthonous” languages in the contemporary European Union countries (Arntz 1998, Counc. Eur. 1993, Ó Riagáin 2001, Poche 2000).

Nevertheless, questions of power in language revitalization and new technologies are not just about fighting for access to electronic mediation but also may

involve struggles about its restriction. For example, the creation and circulation of interactive CD-ROMs for language learning or the creation of websites with multimedia content in lesser-used languages may face resistance (Villa 2002), questioning the appropriateness of making text or sound in the language available to a wider public beyond what are understood to be the boundaries of the community with an ideological link to the language. Brandt notes that objections to writing and recording discourse among several Native American groups in the Southwest of the United States are often grounded in perspectives that emphasize the cosmologically creative power of speech. Accordingly, speech needs to be properly controlled, something that writing, recording, and mass mediating of discourse does not allow for because it is susceptible to potentially limitless reanimations and recontextualizations (Brandt 1981). Investigators have reported, among the Hopi (K. Hill 2002) and the Western Apache (Adley-SantaMaria 1997), such objections to exposing outsiders to discourse in lesser-used languages. Against the backdrop of such concerns, the wide circulation of discourse in a minority language through mass mediation of any sort can also be viewed as a danger to its value and authenticity and therefore to a central ideological credential as an emblem of community (Dauenhauer & Dauenhauer 1998).

Finally, especially regarding the use of digital technologies as media in language revitalization, questions of access and power are also raised by the fact that digital documentation and collection function as the material equivalent of earlier modern technologies and sites of storage and display, such as the museum and the archive. The latter in turn are closely connected to the rise of nationalism (Anderson 1991). This problem is often overlooked in writings stressing the necessity of “saving” lesser-used languages within discourses of biodiversity, cosmopolitanism, or popular Whorfianism, as outlined earlier in this review. Given that projects of language revitalization and claims for ethnolinguistic recognition often go hand in hand, this link to earlier technologies of the nation-state also puts the linguist-expert’s role in a new light. Far from occupying a politically neutral position and concerned only with preserving intellectual assets for “humanity,” the processes of selection and collection in documenting “endangered” languages in digital format often end up producing the “heritage” of a people, in a process of “antiquarian curating” (Silverstein 2003b). Because technologies of storage and display of objectualized “heritage” are an important part of what constitutes ethnonational entities in many instances, the linguist and ethnographer as expert may occupy a pivotal role in shaping credentials for ethnolinguistic recognition (Silverstein 2003a). Experts’ decisions of inclusion and exclusion of linguistic material in electronic artifacts intended for documentation of lesser-used languages therefore may have profound political consequences in shaping the boundaries and internal setup of communities vying for sociopolitical recognition in a way recalling the activities of nineteenth-century nationalist proponents of a “lexicographic revolution” in Europe, a “golden age of vernacularizing lexicographers, grammarians, philologists and litterateurs” (Anderson 1991, p. 71; see also Hobsbawm 1990, pp. 54–63). Thus, to contextualize the analysis of electronic mediation in

lesser-used or minority languages within the history of linguistic ethnonationalism is important, especially because the use of computer media for activism on behalf of lesser-used languages is often centered on the production of the paradigmatic genres of dictionaries, textbooks, and other teaching material, as well as collections of traditional verbal art (Bennett 2003; Benton 1996, p. 194; Cazden 2003; Ka'awa & Hawkins 1997; Kroskrity 2002; Miyashita & Moll 1999; Parks et al. 1999; Salinas Pedraza 1996), which continue to play a ubiquitous role in political regionalisms and nationalisms.

ELECTRONIC MEDIATION, NEW GENRES, AND THE RECONTEXTUALIZATION OF DISCOURSE

One of the consequences of electronic mass mediation is the creation of new genres of linguistic entextualization (Briggs & Bauman 1992, Silverstein 1998, Spitulnik 1996) to which many languages to be revitalized have not before been linked. In numerous instances, this has led to conflicts among speakers regarding the appropriateness of such new genres of linguistic practice. For example, much of radio broadcasting is organized around a set of widely shared generic conventions (Scannell 1991): Programs often start and end in one-hour or half-an-hour intervals, speaker's voices are clearly audible to all, and there are only brief pauses in speaking and turn-taking between speakers, all of which may conflict with the preferred linguistic practices and generic conventions for public linguistic performance among speakers of some lesser-used languages (Browne 1996). The relationship between speech genres in practices of electronic mediation and those otherwise current in local language communities can be understood as the handling of "intertextual gaps" (Briggs & Bauman 1992) that appear when new speech genres linked to electronic mass mediation are viewed as differing from or even as being at odds with those genres of public speaking favored by users of a language considered in need of revitalization. Such a scenario arose from the emergence of a genre of "Broadcast Navajo" in the Southwest of the United States, where radio listeners' expectations derived from the experience of English-language broadcasting enter in conflict with the desire of others to promote "traditional" Navajo linguistic practices (Peterson 1997). In contrast, in his work on Nahua in Mexico Flores Farfán (2002) reminds us that electronic practices of mediation may achieve some continuity with preexisting genres of linguistic entextualization. He describes how a revitalization project in the Nahua Balsas region of Mexico centered on the use of video-taped discourse in Nahua achieves recognizable overlap with locally prized speech genres such as riddles and *amate de historias*, a narrative genre. Similarly, bilingual radio broadcasters in the Mexican state of Chiapas have adopted *spatlab'il sk'ujol*, a traditional face-to-face speech genre of requesting other persons to convey greetings in Tojolab'al Mayan (Brody 2000). Nevertheless, a partial overlap between preelectronic speech genres and new broadcasting genres is not always the goal of minority language activists. With respect to borrowing English-language broadcasting genres by Irish broadcasters, Cotter notes adopting such genres for

use in a minority language also can be interpreted as enhancing the authority and ideological valuations of the language to be revitalized by minimizing the intertextual gap between radio discourse in a minority language and prestigious generic models familiar to listeners from mainstream radio broadcasting (Cotter 2001).

COMPETING LINGUISTIC NORMS, AUTHENTICITY, AND EVALUATIONS OF LINGUISTIC CHANGE

Apart from the question of new linguistic genres, linguistic differentiation among users of a lesser-used or minority language, such as dialectal variation and orientation toward multiple linguistic norms, is sometimes an issue of contention once radio or television programs in such languages are broadcast. If purist insistence on a single linguistic norm is used as a model for determining the choice of varieties in broadcasting, the implied hierarchization of linguistic varieties often accentuates conflict among speakers about the value of alternative linguistic norms (Hornberger & King 1999). Such hierarchization may lead to alienation of large numbers of speakers of a lesser-used language, causing the failure of language revitalization as a social movement (Dorian 1994). Researchers have linked the emergence of rival norms of linguistic authenticity, often involving a generational split in situations of language revitalization, to processes of language standardization intended to counter language shift by teaching and producing written material in the lesser-used language. This is the case in activism for Irish (Hindley 1990), Breton (Jones 1998b, McDonald 1990), and Quechua (Hornberger & King 1999), and a similar picture is also developing for Gaelic in Scotland (Dorian 1994, McEwan-Fujita 2003). In these scenarios, a new standard variety explicitly constructed for purposes of language revitalization, such as the linguistic standard decided on by the Irish government in the 1950s and the Breton variety used by urban-based *néo-bretonnants*, is favored by predominantly younger, middle-class speakers who have acquired Irish or Breton as a second language through schooling and cultivate it as an emblem of positively valued ethnic identity. The usage of these standard varieties is often confronted with conservatism by older speakers of various dialectal varieties who tend to be rural and working class in their backgrounds, hold ambivalent perspectives on the value of speaking Irish or Breton, and often consider the new standard artificial and inauthentic. Divergent views about “correct” norms are even at the center of contemporary efforts to reestablish Cornish as a spoken language after a two-century hiatus, pitting two rival factions against each other who base their claims of authenticity on different literary sources (Dorian 1994; Jones 1998a, pp. 338–46).

Conflicts centered around multiple linguistic norms have also been reported from contexts in which the use of a minority language in electronic mass mediation is part of a political process of promoting particular ethnic or national identities through language activism. Already in the 1940s and 1950s the first Breton-language radio broadcasts in France were characterized by the familiar opposition previously mentioned above, pitting the use of a purist, literary standard

favored by intellectuals using Breton as a second language against the increased use of dialectal varieties from 1946 onward (Thomas 2001). More recently, conflicting views about the appropriate variety of Catalan for the electronic media also have led to public debate in Catalonia, where protagonists of “heavy” Catalan, a more purist standard showing a greater degree of avoidance of Castilian Spanish lexicon and syntax, have criticized what they see as a growing predominance of “light” Catalan, exhibiting more tolerance toward Spanish linguistic influence in Catalan-language television and radio (Gardner et al. 2000). Here, conflicting views on the appropriate variety of Catalan as “light” or “heavy” are mediated by iconicity, that is stereotypic images of qualitative likeness of the preferred variety (Irvine & Gal 2000). Language policy at state-run Catalan-language television is influenced by a commission of “linguistic normalization,” whose recommendations put more emphasis on the usage of “heavy” Catalan (Vallverdú 1995). In contrast, “light” or even “bivalent” usage straddling the boundaries between Castilian and Catalan is found in Catalan radio broadcasting (Woolard 1998), whereas the producers of Welsh television and radio programs also strive for a compromise between the use of the *Cymreg Byw* standard created in the 1970s and various dialectal varieties (Jones 1998a, pp. 273–78). This situation is similar to the case of contemporary Corsican radio stations, which foreground the hybridity and fluidity of linguistic practices on Corsica in a way obviously at odds with the purist ideologies of some Corsican language activists, incorporating both considerable dialectal variation and bilingualism with French (Jaffe 1999).

In contrast, practices of electronic mass mediation also can decisively contribute to a reinforcement of purist ideologies of language and community or even initiate a process of ethnicization of language. The decision to broadcast television programs in a sanskritized variety of Mauritian Bhojपुरi, characterized by purist avoidance of otherwise very commonly used Mauritian Creole loans, and intended to reverse language shift to Creole, supports the transformation of Mauritian Bhojपुरi from a language of Indo-Mauritians, regardless of religious affiliation, into an ethnic language of Hindus (Eisenlohr 2004). Nevertheless, efforts to highlight the purported link between language and community through electronic mass mediation may have unintended consequences when large numbers of users are ideologically excluded. Such has been the case with Mauritian Bhojपुरi, where sanskritizing the language has alienated Muslim speakers (Eisenlohr 2001).

Nevertheless, various language revitalization efforts relying in part on electronic mass mediation find ways to mitigate conflicts surrounding the selection of certain linguistic varieties for broadcasting in the face of great diversity of usage and norms within what has been identified as a language to be revitalized. In Ireland, the programs of the Irish-language *Raidió na Gaeltachta* have followed a policy of “scheduled regionalism” (Cotter 2001), rotating broadcasts from the three major dialect regions of the *Gaeltacht* throughout the day, using varieties different from the linguistic standard devised by the Irish government in the 1950s for the compulsory teaching of Irish in schools. In the Andean region, the producers of the Quechua-language satellite radio network *Red Quechua Satelital Continental*, which is explicitly dedicated to language revival, similarly have avoided

institutionalizing one variety as broadcast standard in this area of vast dialectal variation. While maintaining shared production facilities, broadcasting centers rotate on a yearly basis between Peru, Bolivia, and Ecuador, thereby avoiding the privileging of one particular regional variety (Luykx 2001). Basque-language radio broadcasters in France try to counter what they see as the downside of a trend toward a “more or less standardized Basque” by sending correspondents’ reports five times a week from five different areas within the French Basque region to accommodate dialectal variation (Browne 1990, p. 40). Another way to avoid the potential pitfalls of inducing hierarchization among linguistic varieties of lesser-used languages with regional affiliations through broadcasting preference and selection is to observe a principle of “strict locality,” as reported by Hale (2001), with regard to television and radio broadcasts in Australian aboriginal languages such as Warlpiri. A similar approach is followed by *francophonie*-funded rural radio networks broadcasting in local minority languages in the Democratic Republic of the Congo (Edema 2000) and by the *Société de communication Atikamekw*^w—*Montagnais* in northeast Canada, which runs a network of 14 local radio stations broadcasting in Innu (Montagnais) and Atikamekw across a large region with a widely dispersed population (Hervieux 2001).

Views about the appropriate linguistic norms in practices of minority language electronic mass mediation are part of wider ideologies of linguistic differentiation and authenticity, which shape concepts of community and identity in the ethnic minority contexts mentioned above. These ideologies of authenticity also include evaluations of how broadcasting influences linguistic change. Broadcasters may be tempted to impose changes, such as lexical innovations in the field of “modern” terminology, for media broadcasts without regard to whether such changes may be accepted by the people among whom broadcasters seek to promote the use of the language to be revitalized. Broadcasters of *Radió na Gaeltachta* following a strict Irish-only policy cannot rely exclusively on the recommendations of official boards producing new Irish terminology when confronted with the exigencies of live news broadcasting, but also must develop Irish terms “on the spot.” They also have resorted to asking listeners for suggestions, such as in the case when a department store in Western Ireland installed the first escalator in the region and finally adopted the lexical innovation for the technical device most frequently suggested by listeners who called in (Browne 1992, p. 425). This is an example showing how radio broadcasters make use of the new genre of call-in shows to seek compromise and flexibility in questions of linguistic diversity and change, thereby avoiding ideological pitfalls of purism for projects of language revitalization.

These studies commonly show the range of stances on authenticity, purism, and compromise in electronic mediation practices in lesser-used languages as contesting language ideologies (Woolard & Schieffelin 1994) of community and identity. Because of their exemplary status as media often indexing ideas of power, status, and modernity, electronic practices of mediation have become a salient field of struggle and production of ethnolinguistic identity and community. As the studies reviewed here show, even if compromises are made, often revitalization activities involve some degree of linguistic unification and standardization of the

variety to be promoted. Consequently, a crucial issue for the success or failure of such movements is whether speakers' allegiances shift toward such new standards used in broadcasting or are predominantly attached to local varieties, perceiving no need for a new standard that they associate with middle-class activists and second-language learners, in other words whether "they perceive themselves as parochial communities rather than a national unit" (Jones 1998a, p. 326).

ELECTRONIC MEDIATION AND THE REFUTATION OF LANGUAGE IDEOLOGIES OF CONTEMPT

Linguistic ideologies devaluing the use of minority languages, whether in the guise of a national standard language ideology, doubts whether the continued use of such languages finds divine favor, as reported from some users of Tlingit and Haida in Alaska (Dauenhauer & Dauenhauer 1998) and speakers of other Native American languages in the Southwest of the United States (Zepeda & Hill 1991), or the portrayal of bi- and multilingualism as onerous or unnatural and casting a dominant language as the more sophisticated and naturally adapted vehicle for representing reality (Dorian 1998) are reported to play a key role in many situations of language loss. The question posed here is how new practices of circulating discourse in lesser-used languages using postprint technologies articulate with dominant linguistic ideologies unfavorable to the maintenance and revitalization of such languages.

One of the reasons for the enthusiasm with which such forms of electronic mediation are often initially adopted is that such recontextualization of the practice of a lesser-used language in an electronic medium is frequently interpreted as a refutation of prevalent "ideologies of contempt" (Dorian 1998, Grillo 1989), suggesting that a lesser-used language and the people indexed by it are backward, inferior, or otherwise unfit for modernity (McEwan-Fujita 2003). Stereotypes portraying a language and its associated people as unmodern often involve processes of iconicity, the images of modernity and backwardness thus created frequently constituting key components of language ideologies (Irvine & Gal 2000). Also, ideologies of language directed against the practice of using lesser-used languages frequently work through chronotopes (Bakhtin 1981) of distancing and removal (Kuter 1989), indexically relegating such linguistic varieties to spatially and temporally dislocated and distant positions, away from geographical centers and the temporal present.

By counteracting this spatiotemporal "lag" (Dorian 1980) ascribed by dominant ideologies of language, the existence of radio and television broadcasting (Browne 1996, Cotter 2001) or computer-based mediation (Brandt 1988, Cazden 2003, Kroskrity 2002, Miyashita & Moll 1999, Ouakrime 2001, Warschauer 1998, Williams 2000) in a lesser-used language is often expected to raise valuations of the linguistic variety in question, associating it with notions of prestige and modernity. The valuation-enhancing effect of practices of electronic mediation common to these situations is that they often contribute to a transformation of the ideological

field, previously putting the continued use of a lesser-used language at a disadvantage by denying the temporal coevalness (Cotter 2001) and spatial centrality of lesser-used languages and the populations indexed by them. This strategy of combating allochryony (Fabian 1983) through associating values of modernity and orientation to the future (McHenry 2002) with a lesser-used or minority language by circulating discourse through electronic mass mediation can also be seen as a departure from or even contradicting earlier ideological strategies of language revitalization. This applies particularly to the use of Romantic imagery, as in the case of Irish in electronic media, which in some ways only reinforced the semiotics of spatiotemporal removal of ideologies of contempt (Ó Riagáin 1991). The production of a contemporary television soap opera in Gaelic for broadcast in Scotland (Cormack 1994), the production of a CD-ROM for adolescents about ice hockey in Ojibwa (Williams 2002), the creation of a Frisian-language internet portal and news service (Falkena 2001), the creation of internet and CD-ROM-based courses in Welsh (Jones 1998a, p. 20), and the dubbing of the movie *Bambi* into Arapaho (Greymorning 2001) can be considered attempts to counter linguistic ideologies of contempt by transforming the temporal and spatial indexicality working through them. Here it seems that much of the appeal of electronic mediation practices, in particular in their digital forms, lies precisely in their potential to minimize experiences of spatiotemporal distancing in a way not afforded by the circulation of print (Harvey 1989, Tomlinson 1999). That is, the reindexing of such varieties by ideologically moving them away from peripheral, rural, and obsolete positions in space and time through the use of electronic mediation is a way to contest ideologies of contempt and to formulate alternative ways of ideologically mapping linguistic differentiation on time and space.

Therefore, temporal and spatial indexicality plays a central role in such conscious attempts to reestablish use of a lesser-used language involving the practice of electronic mediation. In particular, proponents of digital technology in lesser-used languages see an opportunity to integrate the use of such languages with the lifestyles and consumer preferences of younger generations, even drawing on an ideology of “coolness” as important for enhancing the attractiveness of using a language to be revitalized among younger speakers (Buszard-Welcher 2001, pp. 337–38; Guardado 1997, p. 58).

INDIGENOUS MEDIA AND ETHNOLINGUISTIC RECOGNITION

Recent anthropological investigations of indigenous media have described such media as an area of political struggle in which indigenous media producers seek visibility and legitimacy for ethnic identities and the political concerns of indigenous groups vis-à-vis the larger national imaginaries in which they are located (Ginsburg 1993). By appropriating technologies of electronic mediation previously monopolized by the nation-state and powerful corporations in order to “talk back,” projecting alternative representations of indigenous groups and their

concerns, indigenous media producers are also engaged in a social process of constantly refashioning indigenous identities. As Ginsburg notes, such media makers simultaneously address members of their own communities as well as a larger nonindigenous public while fashioning and negotiating images of indigenous ethnic identity and the political concerns of such groups across multiple cultural boundaries not only regarding group membership of producers and audiences, but also regarding aesthetic regimes and conventions of media consumption and valuation (Ginsburg 1994). Although from an analytical perspective the concept of “indigenous” remains elusive, such as that concerning indigenous qualities of media practitioners and content of indigenous media (Spitulnik 1993), it is clear that claims to indigenous identities have powerful political implications and that media strategies foregrounding ethnic identity and cultural difference from the dominant mainstream societies of the respective nation-states can also revolve around questions of linguistic differentiation.

The renewal and highlighting of linguistic difference can constitute a central component in such strategies of ethnic activism in a politics of recognition (Silverstein 2003a), given that many indigenous media producers are explicitly committed to the promotion of indigenous cultural and linguistic traditions and have established transnational support networks for the realization of these goals (Ginsburg 1994). Also, because the reproduction of linguistic difference often supports claims of indigenous alterity and authenticity, which are often central in such forms of cultural activism executed through indigenous media, language revitalization can be a key element of such electronically mediated struggles of recognition vis-à-vis the nation-state and its institutions. Such has been the case with the use of minority languages in indigenous electronic media networks in Canada (David 1998, Meadows 1996), Greenland (Stenbaek 1992), Australia (Hale 2001), New Zealand (Browne 1996), and Morocco (Almasude 1999). In the contemporary European Union, claims of indigenous status for a minority language are a crucial mechanism of exclusion and inclusion and a precondition for obtaining official support, including media broadcasting rights, which in contrast is largely denied to widely used immigrant minority languages such as Arabic, Gujarati, and Turkish (outside Greece) (Cheesman 2001, Cormack 1998, Counc. Eur. 1993). In this way electronic mediation practices aimed at the reproduction of linguistic difference in situations of advanced language shift can be part of struggles of recognition of ethnic groups vis-à-vis national and transnational publics primarily conducted through electronic media production and circulation.

TECHNOLOGY AS IDEOLOGY: REVITALIZATION AND THE MEDIATION OF COMMUNITIES

The changed economics of publishing material in a lesser-used language made possible by using computer technology are accorded supreme importance by some authors assessing the consequences for language revitalization (Bernard 1992,

1996; St. Clair et al. 1999). Nevertheless, as others have argued, an increase in teaching material or otherwise published discourse alone does not necessarily lead to language revitalization in the sense of increased use of a lesser-used language in everyday contexts (Fishman 1991, King 2001). To reverse language shift, the new avenues for publishing and circulating discourse also must be linked to an ideological transformation among speakers, inducing them to reestablish routine use of a language especially when interacting with children and adolescents.

One of the ways in which practices of electronic mediation may support such ideological transformations is through promoting what Henze & Davis (1999, p. 4) call the “ownership” of revitalization efforts by the speakers themselves. Digital technology provides relatively easy possibilities to include local voices and viewpoints in the production of electronically mediated discourse in these languages for purposes of education (Hornberger 1996, Salinas Pedraza 1996); that is, the lower cost and changing modes of access to publishing using digital technology in a lesser-used language may facilitate local input in the production of such material (Warschauer 1998), providing the possibility of authorship to a potentially larger circle of people than is often the case with nonelectronic publishing. This potentially expanded participation may also be the case when compared with the production of most radio and television broadcasting, with the notable exception of the call-in/talk-back genre of radio broadcasting, which can be regarded as a model for “interactive” modes of computer-mediated communication such as chat rooms and email lists. For example, *Fabula*, a computer software program funded by the Multimedia Software Program of the European Union for the creation of bilingual books in Welsh/English, Irish/English, Basque/French, and Catalan/Spanish, is designed to enable children to take part in the writing process (Edwards et al. 2002). Thus, the teaching and promotion of lesser-used languages can be more easily supported by locally produced material; this may possibly result in ways of teaching such languages that are more attractive and relevant to learners, a goal also targeted by community-based education in indigenous languages using multimedia technology (Hornberger 1996b). By facilitating local participation in designing material to promote the language, proponents of digital technology hope to encourage identification not only with language revitalization efforts but also with the language to be revitalized. Nevertheless, so far there has been little investigation of the ways in which the introduction of these forms of electronic mediation relates to the use of language to be revitalized outside formal learning situations.

However, reframing discourse in an endangered language through digital forms of mediation is often intended to establish an indexical relationship between the notions of power and prestige frequently ascribed to forms of electronic mediation, that is to technology per se, which may for example be experienced by the display of technological objects in homes and other living spaces (Silverstone et al. 1992, Spitulnik 2000), and a lesser-used language (Brandt 1988; Edwards et al. 2002, p. 59). As mentioned previously, this shift frequently is based on a renegotiating of temporal and spatial indexicality, highlighting the relevance of the linguistic variety

in question to the present and future constitution of an ethnicized community. However, the question remains how precisely this reindexing of a linguistic variety in the process of being abandoned by its speakers actually results in a greater measure of everyday interaction in the lesser-used language. Taking a skeptical perspective, some researchers have reported a fetishization of technology among speakers of lesser-used languages, who locate the agency to “save” their language in technology instead of in themselves, thereby further undermining revitalization efforts (Dauenhauer & Dauenhauer 1998).

Nevertheless, hopes often are placed on the link between language and community as in the case of indigenous education, where promotion of a language is part of a larger project of empowerment that “confirms indigenous identity, language, and culture,” whereas promotion of indigenous languages is reported to have “helped indigenous communities to identify themselves as indigenous communities, supporting their self-definition and self-valuation” (Hornberger 1996b, pp. 361–62). Digital mediation may convey greater ideological value for the language being used, which also would be linked to a greater willingness to highlight an indexical link between this linguistic variety and positively valued ethnic groupness (Salinas Pedraza 1996), possibly resulting in a greater motivation to reestablish its use. In contrast, as studies of language and community show, there is no necessary relationship defined between the valuation of a language as an emblem of group identity and its use as a predominant medium of interaction (Eisenlohr 2004, Gal 1995, Urla 1988), although such a relationship is often presupposed in European linguistic ideologies of the “Andersonian” variety (Silverstein 2000). An important issue here is that it is entirely possible for members of a language community to highly value and identify with a language without actually knowing it well and without using it in routine interaction, something already suggested in Joshua Fishman’s early remarks about an “attitudinal halo-ization” of heritage languages among descendants of non-English-speaking immigrants to the United States (Fishman 1966, p. 397). Thus, whether any boost in valuation through practices of digital mediation will actually result in increased use of a lesser-used language in everyday conversation crucially depends on its articulation with linguistic ideologies about languages of group identification current within a particular context.

Another advantage often stressed by proponents of the use of digital forms of mediation in situations of language revitalization is that their use facilitates networking and community building among people interested in the language. Computer technology is indeed a widely used means of interaction among language activists, whether in the form of email lists (<http://www.u.arizona.edu/~cashcash/ILAT.html>) or in the sharing of knowledge and concerns through Web pages across different groups (Almasude 1999, McClure 2001, Warschauer 1998). Assuming an interest in language revitalization, here also is the question of whether the forms of community that such modes of interaction support are linked to an increase in everyday linguistic practice in the lesser-used language (Villa 2002, Hinton 2001). Recent anthropological studies in the formation of communities through online

interaction have conceptualized such forms of sociality as communities of exchange of treasured electronic artifacts with prestige values (Lysloff 2003, Miller & Slater 2000, Slater 2000). Miller & Slater, for example, draw a direct parallel between the pride felt by Trinidadian users of the Internet about the perceived popularity of electronic items signifying Trinidad, measured, among others, in terms of the number of “hits” a Web site receives, and the “fame” constituted through the possession and circulation of prestige objects in earlier anthropological studies of systems of exchange (Miller & Slater 2000, pp. 20–21). This example raises the possibility that the exchange and circulation of valued electronic artifacts in a lesser-used language may become the prominent modes in the formation of communities based on an allegiance to a respective language. Such a scenario contrasts with a dynamic more familiar to studies of language and community—the establishment of a new mass-mediated public in which a language of ethnonational identification is also the medium of communication presumably uniting the community and separating them from others (Anderson 1991). That is, the use of electronic mediation in reversing language shift points to well-established anthropological concerns such as systems of exchange and prestige economies.

From such a perspective, practices of electronic mediation in language revitalization involve the production of new cultural artifacts, which, by virtue of their circulation and a sense of shared consumption and appreciation of these objects, can emerge as a focus of community. However, such communities of exchange do not necessarily imply the actual (re)learning and adoption of the lesser-used language as a means of everyday interaction. Nevertheless, they may introduce a new dimension of objectification on the basis of which elements of endangered languages, in particular lexical items, actually can be treated like valued antiques (Silverstein 1984) or “objectualized” as things of value” (Moore 1988, p. 467), or can interact with neoliberal attempts of commodification and “branding” of minority cultures and languages (McEwan-Fujita 2003). Again, the predominant ideological formulations of the link between language and community play a crucial role in determining whether practices of digital mediation in a lesser-used language will promote off-line or off-screen routine use of the language. Especially in those cases where language and processes of group identification are centered on the idea of an ancestral or heritage language (Moore 1988, Eisenlohr 2001) the separation between languages of group identification and languages of everyday interaction may not be challenged by practices of digital mediation.

This perspective on digital mediation practices in language revitalization also may be reinforced by formal properties of some electronic objects and artifacts in lesser-used languages. Many Web sites and CD-ROMs featuring text and sound content in lesser-used languages often use English or another dominant language as a framing device, distinguishing the parts of the Web page or CD-ROM needed to gain basic information and understanding about the artifact and how to navigate through its components from its actual texts or sounds in the lesser-used language to be revitalized (Cotter 2002, Dyck 2002, Kroskrity & Reynolds 2001, Parks et al. 1999). That is, in their often necessarily bilingual setup frequently a formal division

exists between contextualizing discourse needed to interpret the electronic artifact using English or another dominant language and the digitally mediated text and discourse in a lesser-used language. It is therefore possible to meaningfully circulate and appreciate such electronic artifacts without actually knowing much of the lesser-used language. The way different linguistic varieties are thus mapped on the distinction between text and discourse with different functions in the setup of these electronic artifacts, whose circulation is intended to foster language revitalization, may well interact with local ideologies of language and group identification in such a way that it reinforces a conceptual separation between linguistic varieties relevant for purposes of group identification and those predominant in everyday interaction so widespread in situations of advanced language shift and language obsolescence.

CONCLUSION

In this review I treat new technologies as enabling practices of electronic mediation, which both intervene in and become part of ideological constructions drawing links between linguistic practice, social identities, and sociocultural valuations. In analyzing how such practices become both constitutive and transformative of linguistically indexed valuations, especially those concerned with the projection of communities, it also is important to note that such electronic mediation results in the creation of artifacts, as in the storing and documenting of elements of lesser-used languages, which themselves may become objects of value. That is, new technologies in language revitalization not only mediate linguistic practice but also may bring about new sites of cultural materiality and objectification with properties independent from those of mediated discourse (Keane 2003). Also, as the discussion of communities created through digital mediation shows, the circulation and exchange of such electronic objects and artifacts may give rise to forms of sociality of their own, independent from those sustained by any empirical revival of a lesser-used language. Whether the use of new technologies in language revitalization results in reversal of language shift away from lesser-used languages can only be answered by considering both the practices of discourse mediation and the production of new cultural objects the use of new technologies engenders as it becomes part of ideological processes establishing links between language and sociocultural values.

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