Language has always played an important role in the formation and expression of identity. The role of language and dialect in identity construction is becoming even more central in the postmodern era, as other traditional markers of identity, including race, are being destabilized. In this essay, I will first explore the relationship of language to race and identity in the age of information. I will then examine the particular role that language plays in cyberspace. Finally, I will illustrate these issues by examining the experiences of Native Hawaiians' use of the Internet as a tool for promoting language revitalization.

Language and Identity in the Age of Information

The informational revolution that has begun in the last several decades, accompanied by the process of international economic and media integration known as globalization, has acted as a battering ram against the traditional cornerstones of social authority and meaning. Throughout the world, shifts of economic and political power have weakened the role of the state, new forms of industrial organization have decreased the possibilities for long-term stable employment, and women's entry into the workforce has shaken up the traditional patriarchal family. The political, economic, cultural, and social shifts that are occurring in the wake of the informational revolution are almost as profound, and far more compressed, than those that occurred as a result of the first industrial revolution some two hundred years ago.

But every action brings a reaction. The last quarter century has also witnessed a worldwide surge of movements of collective identity that challenge globalization and cosmopolitanism on behalf of people's control over their culture and their lives. These differ from earlier social movements, which in many parts of the world were based on struggles of organized workers. As Alain Touraine explains:

In a post-industrial society, in which cultural services have replaced material goods at the core of production, it is the defense of the subject, in its personality and its culture, against the logic of apparatuses and markets, that replaces the idea of class struggle (Touraine, 1994, emphasis in original).

Manuel Castells (1996) further explains the central role of identity:

In a world of global flows of wealth, power, and images, the search for identity, collective or individual, ascribed or constructed, becomes the fundamental source of social meaning. This is not a new trend, since identity, and particularly religious and ethnic identity, have been at the roots of meaning since the dawn of human society. Yet identity is becoming the main, and sometimes the only, source of meaning in a historical period characterized by widespread destructuring of organizations, delegitimation of institutions, fading away of major social movements, and ephemeral cultural expressions. People increasingly organize their meaning not around what they do but on the basis of what they are.

Within this situation, the dynamics of race and ethnicity are also altered. On the one hand, race and ethnicity matter as much as ever as a source of oppression. On the other hand, as globalization and economic change blur traditional racial and ethnic boundaries, race and ethnicity increasingly intersect with other identity markers, related to religion, nationality, gender, and language in stimulating social struggle (Appiah and Gates, 1995). This is illustrated by an analysis of ethnic politics in the United States.

Ever since the institutionalization of slavery brought about the racialization of society in the sixteenth century, the principal divide within American society has been between Black and White. African-American identity was forged through a collective history of racism and Jim Crow, and expressed in music, literature, and social struggle. European immigrants, whether indentured servants or wealthy industrialists, were socialized within a generation or two into the "White race". Native Americans, Mexicans, and immigrants from Latin America, the Caribbean, and Asia were socialized as non-White, with their inclusion in that category...
The last thirty years, however, have witnessed a major reshaping of this dynamic. The success of the civil rights movement and affirmative action programs have allowed an African-American middle class to emerge and make significant inroads into economic and political power structures. At the same time, changes wrought by the informational economy - such as the transference of low-skill manufacturing jobs from the US to less developed countries - have severely worsened the social and economic conditions of the majority of African Americans by every conceivable measure (West 1993). The failure of the civil rights movement to improve the lot of most African-Americans, and the increasing gap between the Black "talented tenth" and a large "underclass" have weakened Black racial unity and caused many Blacks to seek out other identities. Whereas the Black struggles of yesterday were symbolized by the 1965 March on Washington - with its powerful call for racial equality - the Black struggles of today are symbolized by the 1996 Million Man March, with its strong religious, nationalist, and gender-based character (which caused it to be opposed by many established civil rights groups).

Within this new mix of Black politics, the role of language and dialect has emerged as a critical issue. The dialect spoken by many African-Americans, Black English Vernacular (also called Black English, African-American English, African-American English Vernacular, or Ebonics) has existed for centuries, but has apparently diverged in recent decades from Standard American English due to increased racial and economic segregation and cultural resistance in the ghetto. Yet the African-American community is bitterly divided over the significance of the Black dialect. This is witnessed by the controversy over the Oakland School Board's 1996 resolution on Ebonics, which asserted that African-Americans faced educational discrimination stemming not only from their race, but also from their language. The resolution was immediately attacked by prominent African-American leaders such as Jesse Jackson, Maya Angelou, and Kweisi Mfume. Whereas the Oakland School Board chose to emphasize the linguistic differences between Blacks and Whites, these spokespersons from the Black "talented tenth" chose to reject the language of the ghetto and emphasize the unity of (middle-class) Blacks and Whites in speaking Standard American English.

The US racial dynamic has been transformed not only by changing identity politics among Blacks, but also by shifting immigration patterns. The large number of immigrants from Latin America and Asia, as well as the relatively high intermarriage rates between those immigrants and Whites, has further blurred the US color line. In recent years, the number of Latin Americans has surpassed that of Blacks. Contrary to earlier expectations, quasi-racial ethnic identities such as "Chicano" or "Latino" have not taken strong hold, with Latin American immigrants divided by class, nationality, and race. To the extent that a US Hispanic identity has emerged (or that national identities such as Mexican/Mexican-American have been preserved), it is once again largely due to language, with Latin American immigrants united by their use of either Spanish or "Spanglish". Parallelling and even overshadowing the controversy over Ebonics, the main political struggle that emerged in 1999 in California was over bilingual education. This struggle emerged not only between Hispanics and Whites, but also within the Hispanic community. While the majority of Hispanic groups and voters supported the initiative, a substantial minority did not. Apparently, a Spanish-language-based identity remains important for a certain section of Latin American immigrants, while a faith in English immersion as a vehicle to American middle-class life overrides that identity for others.

While the above examples are drawn from the United States, the infusion of language into ethnic struggles is by no means a local phenomenon. South African students' battle to learn English rather than Afrikaans helped carry forward the antiapartheid movement and, a few years later, speakers of Zulu launched a counterrevolution in the Natal province. Canadians deal with separatist movements from both French speakers in Quebec and Native American groups who seek to revitalize their languages. Lithuanians, Latvians, and Estonians broke away from the Soviet Union and made language a central component of citizenship only to face revolt from the Russian speakers in their midst. Yugoslavs who previously spoke a single language, Serbo-Croatian, divided into Croats and Serbs who formed new identities based in part on their efforts to forge two distinct languages, Croatian (with a roman alphabet) and Serbian (with a Cyrillic alphabet). Catalans work to build a language-based nation within a nation, while small numbers of Basque speakers wage armed struggle for independence. Speakers of Maori, Hawaiian, Navajo, Mohave, Quechua, and Gaelic work to revive their languages as a way of preserving their culture. And throughout the world, from France to Hong Kong to Malaysia to Kenya, movements have arisen to defend national languages against the encroachment of global English.

It is not surprising that language and dialect have assumed such a critical role in identity formation. The process of becoming a member of a community has always been realized in large measure by acquiring knowledge of the functions, social distribution, and interpretation of language (Ochs and Shieffelin). In most of the world, the ability to speak two or more languages or dialects is a given, and language choice by minority groups becomes "a symbol of ethnic relations as well as a means of communication" (Heller 1982, 308). In the current era, language signifies historical and social boundaries that are less arbitrary than territory and more discriminating (but less exclusive) than race or ethnicity. As Castells (1997) notes:

If nationalism is, most often, a reaction against a threatened autonomous identity, then, in a world submitted to culture homogenization by the ideology of modernization and the power of global media, language, the direct expression of culture, becomes the trench of cultural resistance, the last bastion of self-control, the refuge of identifiable meaning (52).

Language-as-identity also intersects well with the nature of subjectivity in today's world. Identity in the postmodern era has been found to be multiple, dynamic, and conflictual, based not on a permanent sense of self but rather the choices that individuals make in different circumstances over time (Henriquez et al. 1984; Schecter, Sharkou-Tabaoda, and Bayley, in press; Weedor 1987). Language, though deeply rooted in personal and social history, allows a greater flexibility than race and ethnicity, with a person able to consciously or unconsciously express dual identities by the linguistic choices they make - even in a single sentence (e.g., through code-switching; see Blom and Gumperz 1972). Through choices of language and dialect, people constantly make and enforce through antimiscegenation laws.
factors are starting

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educational programs and Blacks (Castells 1998; Novak, Hoffman and Project 2000 Vanderbilt University 1998), yet at the same time, well-crafted educational programs that take advantage of telecommunications have become an important element of antiracist curricula (Cummins and Sayers).

A similar process is occurring with the Internet, although via a more spontaneous and bottom-up process. Whereas more than 90 percent of the early users of the Internet were located in North America, the Net is now growing fastest in developing countries; in China and India alone, Internet access is expected to multiply fifteen-fold over a two-year period to reach 5.5 million users by 2002. In response to this situation, web browsers are being adapted for an increasing number of languages and character sets. Thus, while Internet users around the world still must use English for global communication, today they are increasingly turning to their own language to reach websites or join discussions in their own country or region.

This process is furthered by an important feature of the Internet, which is its multichannel capacity. While producing a bilingual television show or newspaper raises costs dramatically, producing a website in two or more languages is relatively simple and inexpensive. This allows the web to support English as an international lingua franca while simultaneously facilitating the use of other languages, including languages spoken by small numbers of people. Indeed, speakers of a number of languages - from the Maori in New Zealand to the Navajo in North America - have already started to make use of the Internet's capacity to connect isolated groups of small numbers of speakers and to allow low-cost archiving and publishing as a way to promote language maintenance and revitalization (Benton 1996; Bernard 1992; Office of Technology Assessment 1995).

In summary, the Internet is on the one hand a highly restrictive medium, based on the cost of access to computers and connections as well as its historical domination by a White, well-to-do, English-speaking North American community. On the other hand, the Internet is potentially the most democratic medium yet developed, in that it places powers for broadcasting, research and interaction in the hands of greater numbers of people than ever before. Because of this basic contradiction, the Internet can both magnify existing inequalities in society while also facilitating efforts to challenge these inequalities. This is certainly seen in relation to race, where unequal access to information technology is an important factor in heightening the economic divide between Whites and Blacks (Castells 1998; Novak, Hoffman and Project 2000 Vanderbilt University 1998), yet at the same time, well-crafted educational programs that take advantage of telecommunications have become an important element of antiracist curricula (Cummins and Sayers).

A similar situation exists in regard to language. Until now, the Internet has been thoroughly dominated by English. Demographic factors are starting to weaken this domination, while language-rights activists throughout the globe are finding ways to use the net

### Language in Cyberspace

If language is becoming an increasingly important identity marker in the age of information, what then is the role of language in cyberspace? On the one hand, the Internet highlights the role of language while simultaneously masking the role of other identity markers such as race, gender, or class. As the saying goes, nobody on the Internet knows that you’re a dog, nor can they easily determine if you’re Black or White, male or female, gay or straight, or rich or poor. But they can immediately notice what language and dialect you are using - and that language is usually English. As of 1996, some 82 percent of the webpages in the world were in English (Cyberspeech), and most of the early nationally-oriented Internet newsgroups (e.g., soc.culture.punjabi) conducted their discussions in English as well (Graddol 1997).

This state of affairs causes great consternation for many people around the world, whose concerns are well expressed by Anatoly Voronov, director of the Russian Internet service provider, Glasnet:

> It is just incredible when I hear people talking about how open the Web is. It is the ultimate act of intellectual colonialism. The product comes from America so we either must adapt to English or stop using it. That is the right of any business. But if you are talking about a technology that is supposed to open the world to hundreds of millions of people you are joking. This just makes the world into new sorts of haves and have nots. (cited in Crystal 1997, 108)

The early dominance of English on the Internet was due to several factors. First, a high percentage of early users were North Americans. Second, the computer scientists who designed personal computers and the Internet did so on the basis of the American Standard Code for Information Interchange (ASCII), which made computing in other alphabets or character sets inconvenient or impossible. Finally, at a more basic level, by bringing together users in many countries, the Internet has furthered the need for people to communicate in an international lingua franca and strengthened the position of English in that role (“The Coming Global Tongue” 1996).

As it turns out, though, the fears of an English-dominated Internet were premature. Recent analysis indicates that the number of non-English websites is growing rapidly and that many of the more newly active Internet newsgroups (e.g., soc.culture.vietnamese) extensively use the national language (Graddol 1997, 61). Indeed, by one account the proportion of English in computer-based communication is expected to fall from its high of 80 percent to approximately 40 percent within the next decade (Graddol 1997).

Underlying this change of direction is a more general shift from globalization to relocalization. The first wave of globalization - whether in economics or in media - witnessed vertical control from international centers, as witnessed for example by the rise of media giants such as CNN and MTV. But in more recent waves, a process of relocalization is occurring, as corporations seek to maximize their market share by shaping their products for local conditions. Thus, while CNN and MTV originally broadcast around the world in English, they are now producing editions in Hindi, Spanish, and other languages in order to compete with other international and regional media outlets.

A similar process is occurring with the Internet, although via a more spontaneous and bottom-up process. Whereas more than 90 percent of the early users of the Internet were located in North America, the Net is now growing fastest in developing countries; in China and India alone, Internet access is expected to multiply fifteen-fold over a two-year period to reach 5.5 million users by 2002. In response to this situation, web browsers are being adapted for an increasing number of languages and character sets. Thus, while Internet users around the world still must use English for global communication, today they are increasingly turning to their own language to reach websites or join discussions in their own country or region.

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One of the most developed cases of the use of the Internet to preserve and strengthen an indigenous language has occurred in Hawai'i. This example is also illustrative of the complex interrelationship between language, ethnicity, and race addressed earlier in this chapter. For this reason, I will discuss this case in depth, beginning with an introduction to language and race issues in Hawai'i, and then discussing data from an ethnographic study about Internet use in a Hawaiian language program.

Hawai'i is an excellent example of the demographic process of globalization, with high degrees of influx and intermarriage among people of European, Polynesian, and Asian descent. Together with smaller numbers of African Americans and Latin Americans, Hawai'i is one of the most ethnically diverse places in the world. The first US state with a majority nonWhite population, Hawai'i represents the demographic future of the rest of the United States. With expanding Asian and Latin American immigration combined with interracial marriage, first California and then other states will eventually reflect the sort of multiracial ethnic blend now present in Hawai'i.

When people have ancestors of two or three "races" and several nationalities, it is natural that other factors besides race become important in constructing identity and meaning. In Hawai'i, language and dialect are critical factors. This takes place in two ways. First, there is a strong demarcation between those who have "local" origins and values, no matter what their race or identity, and those identified as coming from outside the Hawaiian islands. The most important identity marker of "locals" is the ability to speak Hawaiian Creole English (HCE), more commonly referred to as Pidgin (Sato). HCE grew out of the language of communication between plantation owners and workers in Hawai'i, and soon became the Native language of the children of those workers. Though its vocabulary is largely based on English, its syntax, intonation, and some of its vocabulary all reflect Hawaiian language influences (and perhaps origins; see Roberts 1995). Though HCE has converged with standard English over the course of the twentieth century, it remains a markedly distinct dialect with strong sociocultural connotations. For example, a White person who speaks HCE will be viewed as a local; a White person who speaks Standard English will be viewed as a haole ("outsider" in Hawaiian). Many locals have the same love-hate relationship with HCE that African-Americans have with Black English Vernacular: they use it enthusiastically as a mark of group identity, but feel uneasy about it not really being "correct" English.

A second important marker of identity in Hawai'i is ka ʻōlelo Hawai'i, the native Hawaiian language. Hawaiian is a Polynesian language in the same family as Maori and Tahitian. It was the national language of Hawai'i until the sovereign Hawaiian kingdom was violently toppled by American colonists in 1893. The Hawaiian language was forcibly repressed for some eighty years, resulting in its near complete extinction.

By the 1970s, "pure" Native Hawaiians had been reduced to about 2 percent of the population. Native Hawaiians of mixed ancestry constituted some 20 percent of the population and were generally found in dire social and economic circumstances. Globalized economic development led first to the monopolization and then to the downfall of the agricultural economy on which Hawaiians had long sustained themselves. The development of long-distance communication and transportation systems, especially the jet aircraft, led to the transformation of the Hawaiian economy from agriculture to tourism, relegating most Hawaiians to little more than "exotic" tourist attractions in an economy dominated by major US corporations (Kent 1982). Then, in the 1970s and 1980s, Japanese capital flowed into Hawai'i, drastically affecting real estate values and taxes, and making small-scale farming or home ownership increasingly impractical for all but the wealthy.

In these circumstances, Hawaiians organized to defend their culture, land, and values. A Hawaiian identity movement emerged in the 1970s, parallel to similar movements for minority and indigenous rights which developed elsewhere in North America and throughout the world (Wilson 1998). The Hawaiian movement was active on several fronts, from a political struggle for land and sovereignty to a cultural revival of Hawaiian traditions such as hula, oral chanting, and canoeing. But within this array of efforts, language revitalization has played a key role. Hawaiian activists were able to overturn legal bans on teaching Hawaiian, make Hawaiian an official language of the state together with English, and achieve the creation of a group of Hawaiian immersion elementary and secondary schools within the Department of Education. These schools were launched in 1987 and have recently graduated the first high school class educated in the Hawaiian language in nearly a century.

The impact of the Hawaiian language revitalization movement extends far beyond the few thousand people who speak or are learning Hawaiian. As of twenty years ago, only a few hundred people, mostly elderly and dying, spoke the Hawaiian language. By successfully reviving the language and preventing its extinction, the revitalization movement has sent a powerful signal that the Hawaiian language, culture, and people are alive and are an important force to be reckoned with on the archipelago. This has served as a stimulus not only for the twenty percent of the population that is of part Hawaiian ancestry, but for politically progressive people of all races and nationalities in Hawai'i who seek to control the islands' development for local needs rather than for the needs of transnational corporations.

For the past two centuries, Hawaiian leaders have proven to be pioneers at making use of Western technology to serve Hawaiian ends. Printing presses were brought to Hawai'i by missionaries in the nineteenth century to propagate the Bible. Hawaiians made use of the presses to establish more than one hundred different Hawaiian language newspapers and by the end of the century Hawaiian language literacy rates were among the highest in the world (Schütz 1994).

Today, Hawaiians are similarly trying to take advantage of the Internet for language propagation. In 1994, Hawaiian educators established Leoki ("Powerful Voice"), a graphic bulletin board system entirely in the Hawaiian language. The system has been...
In colleges and universities where the Leoki system is not yet universally installed, Hawaiian educators are making use of other software and Internet tools such as Daedalus Interchange, electronic mail and the World Wide Web, to connect students of Hawaiian language with each other and with the broader community.

From 1996 to 1998, I conducted an ethnographic study of the uses of online technologies in the Hawaiian language revitalization effort (Warschauer 1998, 1999). I observed classrooms and interviewed parents, administrators, teachers, and students throughout the state of Hawai‘i, focusing in particular on one computer-intensive Hawaiian language class at the University of Hawai‘i, "Hawaiian 201". Thirteen of the fourteen students in Hawaiian 201 were Native Hawaiians, as was the teacher, and Hawaiian language computer-mediated communication - including real-time discussions via Daedalus Interchange, an e-mail exchange with a Hawaiian class at a community college, and the development of Hawaiian language webpages - was a central part of the course.

Through the study, I found that interacting in cyberspace in the Hawaiian language provided students with an opportunity to explore and strengthen their sense of individual and collective Hawaiian identity. This seemed to be due to several factors.

First, it gave the multiracial students in the class an opportunity to fully engage in their Hawaiian selves. An excellent example of this is seen in Onaona, a female student in her early twenties. Onaona, of mostly European ancestry, was aware that she had one Hawaiian great-grandparent, but this did not have a profound effect on her early life. Like many people in Hawai‘i, she chose Japanese as a foreign language in high school due to its occupational value as a language of communication with Japanese tourists to the islands. Yet, as she told me, she "began to hate [studying Japanese] because it wasn't something I could relate to in terms of heritage or nationality."

As a university student, she switched to Hawaiian language classes, but she found that her fair skin and European features made it difficult for her to present herself as a Hawaiian and she was sometimes challenged by other students when she attempted to do so. In the class I observed, she was quite shy and didn't interact much in face-to-face discussion with other students. She participated much more freely, however, in the computer-mediated discussions and, like the other students, did so entirely in the Hawaiian language.

It was in the webpage research and publishing project, however, that she really shone. Each of the students in the course was to conduct research on a topic of relevance to Hawaiian life and culture and create a webpage on it. The pages would then be linked in a class website. In the first semester of the course, Onaona created a very attractive and nicely written webpage on the life of one of Hawai‘i's last princesses. In the following semester, she produced a webpage on the history and nature of Hawaiian Creole English (Pidgin), including sound files and sophisticated graphics. Both webpages were entirely in Hawaiian.

Her web work allowed her to project herself as a Hawaiian not only online but "in real life" as well. She explained to me that she showed her webpages to her friends at work, even though they couldn't read them, as a way of signaling the importance of Hawaiian language in her life and in the life of the Hawaiian people.

Onaona’s excitement about communication in Hawaiian in the online realm far exceeded her earlier enthusiasm for spoken Hawaiian, in part because it allowed her to overcome her shyness, in part because it allowed her to try out a new image, but most importantly because it allowed her to combine her growing enthusiasm for Hawaiian identity with the creative expression facilitated by the Internet. By the end of her year in the Hawaiian language classes, she had changed her major to education and decided to become a Hawaiian immersion teacher and dedicate her career to Hawaiian language revitalization.

Onaona’s case also indicates an interesting twist on the example of “race-passing.” Lisa Nakamura illustrates how Whites often assume racial minority identities in cyberspace for the purpose of acting out racial stereotypes. In this case, Onaona used the Internet for an entirely different kind of race-passing. She was able to more fully explore and express a part of her real ethnic heritage that had been partially denied her in real life because she didn't look the part.

**Culturally Appropriate Interaction**

Though Onaona's case was in some ways the most dramatic of the students in the class, it was not unique. Many of the other students had very positive experiences in exploring and expressing their Hawaiian identity. Of course, this was not entirely due to their Internet communications. Many college students explore their ethnic identity, and students in Hawai‘i are no exceptions to this trend. Yet there seems to be something particular to the Internet experience that proved helpful to students’ exploration and expression of being Hawaiian. Many of the students commented to me that they found Internet-based communication and learning consistent with Hawaiian ways of interacting and learning.

An extensive body of literature exists on the cultural mismatch between patterns of interaction in Hawai‘i’s public schools and universities and traditional Hawaiian ways of communicating and learning (see, for example, Au 1980; Boggs 1985; D’Amato 1988; Martin 1996; Sing 1986; Watson-Gegeo, 1989). A number of patterns of Hawaiian interaction have been identified, and these patterns are often at odds with how classroom education is organized. First, Hawaiians learn best through extensive informal social interaction, or what has been referred to as talking story (Au 1980). Second, Hawaiians are motivated to learn, not for individual aggrandizement but to contribute to a broader community network. As Scott Whitney (1987) explains, "it is the feeling of being a member of an extensive and untangled net which represents security and coherence to Hawaiians of all ages" (9). Finally, Hawaiians have traditionally passed on knowledge through a variety of media, including chanting, hula, and hands-on activity,
Native Hawaiians, have suffered what relevance do these issues have for broader questions of race in cyberspace?

In the end, Kamahele did decide to put a chant on the webpage and share it. It's really good to put our papers on the Web. Maybe now if other Hawaiian classes need research, maybe they can look on the Web for research that they need and they can learn how to read it in Hawaiian and get the information in Hawaiian. "Cause we got all ours from English books and we translated it, and so maybe now instead of looking at English books they can look at our Web pages and they can add on their own.

The other element of culturally appropriate learning was the integration of different media. Though many college teachers would blanch at the sight of their language-students spending time on graphic work and design, the Hawaiian 201 teacher gave students full range to explore uses of different media in enhancing their work. For example, Malina was a Hawaiian studies major in her forties. Even though she had a strong commitment to the culture and language, she was having great difficulty learning Hawaiian and had failed a previous class. Malina also had no previous experience with computers and was quite afraid to work with them in the beginning. Yet she began to feel more comfortable with both computers and the Hawaiian language when she seized the opportunity to engage in multimedia design in her final project. She produced a beautifully designed page on Hawaiian wetlands, incorporating a combination of poetry, text, drawings, and photos. She spent a great deal of time in the laboratory perfecting both the text and the overall look. She received a top grade in the course and at the end of the semester shared her feelings with me about multimedia web design:

Even if you don't speak the language, you want to press down and go further because something is happening on that page, you know it's some kind of mana [spirit] coming out of that page. And so, the people in the class wanting to put their stuff on there, that's part of their expression, it's part of their mana. It says not in words, but it says in a different way what they're trying to convey in a piece .... You know, Hawaiians weren't a written culture, and I think there's a reason for that, you know they were very alive with everything, so if [we're] gonna be writing I think this is a great medium because [we] can be alive here.

The match between Hawaiian culture and computing was far from seamless. The students in Hawaiian 201 faced many technical, personal and cultural obstacles in entering the realm of cyberspace. The English language and ASCII interfaces of the university's computers caused many obstacles in Hawaiian language computing and forced the students to resort to complicated procedures to produce and view their work in the full Hawaiian alphabet. Moreover, when the students ventured out into English language websites to gather information for their research projects, they often came across racist stereotypes about Hawaiians. For example, when 'Iolani found a page of Hawaiian photography and went to sign the guest book, she found a comment in the guest book from someone on the US mainland who asked "Hey, where are the girls in the grass skirts?" She decided to politely inform the person about the situation in Hawaii'i, while at the same time showing him that Hawaiians have their own language:

Date: Wed, 23 Oct 1996 14:11:47 - 1000
From: 'Iolani Smith <iolan@hawaii.edu>
To: jonathon@waycon-net

Aloha!
Noho au ma Kane'oe Hawai'i ma ka mokupuni 'o O'ahu. (I live in Kane'ohe Hawai'i on the island of Oahu). There aren't any ladys [sic] walking around here in grass skirts. It really isn't the total paradise that people make it out to be. Of course there are beautiful mountains, beaches, and waterfalls, however due to western contact, much of the original Native beauty is gone. Take care. A hui hou! (Until we meet again) Write back if you want to! =) I just wanted to share a little bit about Hawai'i with you.

Perhaps the most interesting cultural challenge was faced by a young male student named Kamahele. A talented hula dancer and chanter, Kamahele decided to create a webpage about Hawaiian chants, including explanations of the history and meaning of chants as well as sound files of chants that he would record for the page. However, he felt conflicted about his desire to share chants through this medium. As he explained to me:

The Hawaiians have a saying, "I ka 'o'elelo no ke ola, i ka 'o'elelo ke make" - And that's "In the language there is life, in the language there is death." That's like there's so much power in the word.... And when you just give away power and knowledge so easily, then there's no respect for it. But when you actually have to work and earn and go through life experiences to attain that knowledge, then you have more of a deeper understanding and you're more cautious and careful and you'll retain that knowledge. And that's why I was kind of scared to just do some of the traditional chants on the World Wide Web - it was just like, O.K., here, well take our things that we've been holding really carefully and sacred for all this time and passed down and then, O.K. world, here it is!

In the end, Kamahele did decide to put a chant on the webpage and share it with the rest of the class. Soon however, the file became corrupted and no longer worked. Kamahele took this as a sign of what was meant to be, and he didn't replace the file.

What relevance do these issues have for broader questions of race in cyberspace? Many ethnic and racial groups, and not just Native Hawaiians, have suffered from education that is culturally inappropriate (see, for example, Delpit 1988). Some assert that
Finally, I would like to return to the issue of the Internet and minority language revitalization. There are currently some six thousand languages spoken around the world. It is estimated that some 90 percent may die out within the next century (Krauss 1992), representing a loss of stunning magnitude to the cultural heritage of humanity. An individual culture need not die out with its language - witness, for example, the cultural survival of groups like the Jews and the Yaquis, who have shifted languages several times (Spicer 1980). Yet the death of a language does entail the eclipse of certain voices, perspectives and ways of life.

Languages are threatened by "destruction of lands and livelihoods; the spread of consumerism, individualism, and other Western values; pressures for assimilation into dominant cultures; and conscious policies of repression" (Crawford 1994, 5). For Hawaiians, as for many peoples around the world, defense of language means defense of community, autonomy and power. It is a way of asserting that "we exist" in a postmodern world where the most important question is no longer "What do you do?" but rather "Who are you?" (Castells 1997).

According to sociolinguists, the survival of languages depends not so much on numbers of speakers but rather on will and transmission. Simply put, languages will survive if the speakers of the language have the desire to maintain the language and the means to transmit it to the next generation (Fishman 1991). Transmission has traditionally occurred through tight-knit communities passing the language on to their children. In places such as Hawai'i, where globalization and economic change have dispersed Native speakers, communities are experimenting with new media (such as electronic bulletin boards which can bring together widely dispersed groups of speakers) to assist in language transmission.

It appears though, that the most important role of the Internet is not its impact on transmission - which must continue to occur through oral interaction in families and schools - but its impact on will. As noted by Nancy Hornberger (1997), "language revitalization is not about bringing a language back, it's about bringing it forward!" People will fight to maintain their language when they see it as not only an important part of their grandparents' past, but also of their own future. And herein lies the main significance of Hawaiian language computing. As Kamahele explained:

"We're learning how to use new technology and new tools, at the same time we're doing it in Hawaiian language - it looks as if it's a thing of the future for Hawaiian, because maybe there's [only] a few Hawaiian language papers. But you have something that might be just a little bit better, like the World Wide Web."

Kamahele began the semester with a strong sense of commitment to the Hawaiian language. He ended it with an appreciation of how his commitment could be extended via new media. Malina began with an interest in Hawaiian but a personal history of failure in learning it. Multimedia computing helped her draw on her own cultural resources to overcome her fears of both language and technology. Onaona began with an emerging but unexpressed sense of her own identity as a Hawaiian; she ended the academic year prepared to dedicate her life to revitalizing Hawaiian language as a Hawaiian language educator. For each of them, Hawaiian language computing took on an important symbolic value, allowing them to say to themselves, and to the world, that they are Hawaiian and proud of it.

Conclusion

In the postmodern era, traditional cornerstones of authority and meaning - from family to job, from nation to race - have been shaken up. While race still matters as a source of oppression, the dynamics of race have been altered by the fast-paced social and economic changes of the informational era. New patterns of immigration, marriage, employment, and interaction mean that the ethnic dynamic in the US is no longer principally Black versus White, but rather a complex web of multiple and conflicted identities shaped by nationalism, religion, gender, race, and culture. Language plays an important role within this new mix, as it represents a powerful and flexible medium for assertion of identity against cultural homogenization.
Hawai‘i in some ways represents a special ethnic dynamic, but in other ways is not unique. The multiracial ethnic mix that exists in Hawai‘i, where no single racial group dominates and large numbers of people have interracial backgrounds, will likely become the norm soon in California, Washington, New Mexico, Texas, New York and other states. The increasing prominence given to language issues in North America is seen in the recent battles over bilingual education and Ebonics as well as the ongoing conflict over Quebecois sovereignty. Just as Hawaiians have sought to assert their language rights in the online realm, other groups will increasingly do so. Indeed, Native American groups are already bringing their own language revitalization efforts into cyberspace (Office of Technology Assessment 1995) and there are signs that Internet contact with Latin America is creating opportunities for language-based identity formation among US Hispanics (Lillie 1998). One important area of research in the future will be the use of Black English Vernacular and other nonstandard dialects of English in cyberspace.

Sherry Turkle suggests that the identity question posed by cyberspace is "Who am we?" If Hawai‘i is an indication of future trends in America, and I believe it is, then "we" is increasingly someone who uses standard English in certain Internet forums but chooses alternate languages or dialects in other online domains, and for whom the exercise of this choice represents an act of cultural resistance against the homogeneity of a White, monolingual America.

Notes

I would like to thank the Hawaiian students and teacher discussed in this essay for their openness, in inviting me into their class and community. I also would like to thank Richard Kern, who provided very helpful comments on a previous version of this paper.

[2] Translation of this quotation from the original French is provided by Castells (1997).
[3] “Jim Crow” is a name taken from a minstrel show routine, which came to refer to laws enforcing racial segregation in the Southern States of the USA from the late nineteenth to the mid-twentieth century.
[4] The names of the students have been changed for the sake of anonymity.

Bibliography


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