

# Commentary

## *Preserving Language Diversity*

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In 1987, Jesús Salinas and I conceived a plan for the development of a center in Mexico where Indian people could learn to read and write their own languages using microcomputers. More importantly, they would be able to print and publish their own works, in their own languages, on topics of their own choice. The idea was to make it possible for Indian people to save their languages from extinction.

This paper is about how that center came about, and about how we hope to extend the work to help preserve thousands of native languages throughout the world. First, though, I address the issue of why I believe anthropologists must work to preserve linguistic diversity.

### *The Problem*

Depending on how you count them, there are between 3000 and 6000 languages spoken in the world today. Only 276 languages, however, are spoken by a million people or more.<sup>1</sup> About 80–90% of all languages are spoken by indigenous peoples like the Zuni, the Samoans, and the Jívaro. Taken together, all these peoples comprise less than 10% of the world's population.

In other words, about 80–90% of all linguistic diversity is today vested in 10% of the world's population. A few native language communities, like the Aymara and the Tswana, are large and robust. Most are small and fragile. Languages are vanishing quickly.

Languages have always come and gone. Neither the language of Jesus nor that of Caesar are spoken today. But languages seem to be disappearing faster than ever before. My guess is that there are about 15% fewer languages today than there were in 1500 AD.

As an anthropologist, I'm alarmed at this prospect. It's not

that I worship language diversity for its own sake. Nor do I want to preserve a lot of cultural-linguistic groups for my own (or my colleagues') pleasure of studying them. I'm concerned instead that humanity itself, the species *H. sapiens*, may be at evolutionary risk. The wholesale disappearance of languages, and what I will argue is the consequent reduction of cultural diversity, may threaten our survival.

I say "may threaten" because I have no way to test my hunch. But consider: 40,000 years ago, there were no more than 15 million humans in the world (Cohen 1977:54). Today, there are over 5 billion of us. We have occupied the Americas, the string of smaller Pacific Islands, Australia, New Zealand, and Greenland. We've adapted to jungles, deserts, and the arctic. By any reasonable measure, *H. sapiens sapiens* is an evolutionary success story.

It is practically an article of faith in anthropology that the adaptive success of our species was due to "culture." Culture implies ideas and the communication of ideas through language. Linguistic diversity, then, is at least the correlate of (though not the cause of) diversity of adaptational ideas—ideas about transferring property (or even the idea of property itself), curing illness, acquiring food, raising children, distributing power, or settling disputes.<sup>2</sup>

By this reasoning, any reduction of language diversity diminishes the adaptational strength of our species because it lowers the pool of knowledge from which we can draw. We know that the reduction of biodiversity today threatens all of us. I think we are conducting an experiment to see what will happen to humanity if we eliminate "cultural species" in the world. This is a reckless experiment. If we don't like the way it turns out, there's no going back.

### *Tribal Languages Remain Unwritten*

Before 1500 AD, reading was an extremely rare skill. Since Johannes Gutenberg's improvements in the printing press, however, literacy and printing have been spreading around the world. (See Eisenstein 1979 for a review of the effects of printing on the West.) Still, more than 500 years after Gutenberg, most languages of the world remain unwritten—without any literary tradition, without books.

It's not for lack of writing systems. Virtually all indigenous languages have writing systems, usually alphabets. Some alphabets are more and some are less standardized, but missionaries and linguists over the past 500 years have seen to it that every extant language can be written. A few indigenous literary traditions have flourished in the past or are flourishing now (Zulu, Xhosa, and Luo in Africa; Cherokee and Navajo in North

America; Quechua and Aymara in South America, to name a few), and a great many peoples have two or three books in their native language: a formal grammar, a dictionary, and a translation of the Bible.

Still, what most native languages lack is native authors who write books in their own native languages. They lack *popular* literacy, where people read newspapers and books regularly and write letters to one another as a matter of course. I argue that without popular literacy, all but a few native languages will soon disappear. And when nonwritten languages disappear, they disappear forever.<sup>3</sup>

### *Bilingual Education and Writing*

There are, to be sure, many bilingual education programs in the world. In those programs, native children learn to read and write in both their first language and in the major national language of their country. In Africa, Latin America, North America, Asia, and the Pacific Islands, governments spend millions of dollars every year on such programs. In Mexico alone, there are 56 Indian languages, spoken by 8–10 million people, and there are bilingual (Indian/Spanish) school programs in half of those languages.

In Canada, there are 70 Indian and Eskimo languages, with active literacy training programs in Cree, Ojibwa, Montagnais, and Inuit (Eskimo), among others. (Burnaby 1985 offers an excellent overview of how native writing is taught in Canada.) There are nearly 38 American Indian languages still spoken by more than 1000 people each in the US. There are bilingual education programs in schools on most major Indian reservations.

These programs do not produce popular literacy, however—at least not in the native language. Children typically learn to read primers and, in church-related programs, the Bible in their native language. They learn special alphabets and spend hundreds of hours of their childhood composing simple sentences, but they don't grow up to write books in that language. The tribal languages of the world therefore remain largely unwritten. Bilingual education programs do not produce true native literacy, because they are not, in general, meant to produce true native literature.<sup>4</sup>

### *Why Tribal Languages Remain Unwritten*

There are several reasons why bilingual education programs have failed to produce either popular literacy or sustained traditions of native literature:

1. Many people who speak nonwritten languages believe that by giving up their language—by not speaking it at home—they will impart some economic advantage to their children. They reason that the minority language creates an indelible mark that prevents people from getting jobs in the economic mainstream.<sup>5</sup>

There is some truth to this reasoning. Native peoples are almost everywhere discriminated against when it comes to competing for jobs in national economies. Giving up one's language and culture, however, does not automatically bring economic benefits. I'll have more to say about this later.

2. In some cases there are competing alphabets. People argue about which alphabet to use and don't get down to the

serious business of writing. Different alphabets are often the result of missionaries from different faiths or denominations competing for the allegiance of native people. I have seen competing interest groups (both native and foreign) battle for decades over how best to represent a particular sound in a particular language.

3. Even when there is just one accepted alphabet, it may be too complex. I have seen alphabets so unwieldy they cripple the efforts of native people who want to write native language books.

This problem is particularly common in alphabets devised to write tone languages. Euroamerican missionaries and linguists find it next to impossible to read tone languages correctly unless tones are marked. They make up cumbersome writing systems, and insist that tone be marked. Then they convince native people that the language cannot be written "correctly" unless tones are marked.

Native speakers of tone languages usually don't need to see tones marked in writing.<sup>6</sup> They discern the correct tones from the context. Consider the sentence: "The man /bit/ /sit/ /kit/ /lit/ his lip" and suppose you had to choose one of the words in brackets. No native speaker of English would fail this test. Similarly, native speakers of a tone language can usually choose the right meaning of a word in context.

We could, of course, devise more ambiguous examples, such as "The child was quite /mad/ /bad/." This is the sort of example used, in bilingual teaching materials around the world, to convince native people that they have to mark tones. But people rarely have to make choices among such ambiguities in isolated sentences. Instead, sentences and thoughts occur in the context of paragraphs and whole texts.

Even if ambiguous sentences do create problems once in a while, that's a small price to pay for the ability to write. In my experience, it comes down to this: if native people have to write tone languages by marking all the tones, they simply don't write at all. I'll return to this later, too.

4. It costs too much to print books. Despite these problems, there are native speakers of tribal languages who want to write books. There are even some who have written lengthy texts. Those books remain unpublished because the costs of modern printing technology are too high.

If a speaker of, say, Mixtec, in Mexico, wrote a 200-page manuscript in that language, no commercial printer could afford to produce the book. It would require a complete new family of type. Even if individual characters could be manufactured (an expensive item), no typesetter could understand the text and the proofs would be riddled with errors. Correcting those errors would take a lot of time and expense.

A realistic print run for a book in Mixtec might come to 300- or 400 copies. The cost per book, assuming 150 pages of text, would be around \$8, just for photoreproduction and the least expensive binding. That figure leaps to about \$15 when the costs of typesetting and editing are included. That's about 45,000 Mexican pesos, or two days' wages for a laborer in rural areas of the country.

### *Microcomputers and Native Literacy*

Beginning in 1971, I taught Jesús Salinas Pedraza, a Nāhñu Indian from the state of Hidalgo in Mexico, to read and write

his own language.<sup>7</sup> We used a modified version of an alphabet that had been developed by missionary linguists (from the Summer Institute of Linguistics) some years before.

During the 1970s, under support from the National Science Foundation and the National Endowment for the Humanities, Salinas wrote a description of his own, Nāhñu, culture. I translated and annotated his ethnography and entered the text into a mainframe word processor. Two bilingual (Nāhñu-English) books resulted from that effort. One was a volume of folk tales (Bernard and Salinas 1976), and the other was a volume on the ethnography of the Nāhñu people (Salinas and Bernard 1978).

In order to use the mainframe word processor, I had to make some adjustments. The existing alphabet contained several symbols that did not appear on a standard terminal keyboard. So, for example, the letter ä in Nāhñu sounds something like the “aw” in the word “paw.” That sound is written with a character that looks like a backwards c in the International Phonetic Alphabet. Since the letter c is not needed in Nāhñu, I used it to represent the “aw” sound.

The problem was that Salinas and other Nāhñu bilingual educators didn’t like the compromised writing system that I’d concocted. I thought it would be easy for people to use whatever letters were available on the IBM keyboard to represent the sounds of their particular language. I was annoyed when Salinas and other Nāhñu educators balked at using the standard IBM keyboard to write their language. I insisted that they adjust their needs to the available technology. They insisted that the technology should serve their needs, not the other way around.

They were absolutely right, but it was only 1981. The then-current wisdom in linguistics was that writing systems for previously nonwritten languages should be constructed from characters available on standard keyboards. The idea, of course, was to make writing systems accessible (Fishman 1977:xiii). Word processors were still pretty clumsy. Hardly anyone thought about using them to write Spanish or French, much less the exotic, nonwritten languages of the world.

A couple of early word processors for the Apple II series allowed the user to build new characters that would appear on the screen, and print them exactly as they appeared on the screen. One of those word processors, appropriately called *Gutenberg*, also had its own programming language that gave the user control over page layout, and it took advantage of the downloading capacity of the early Apple dot matrix printers to permit the use of multiple type fonts. The Apple II/Gutenberg system of the early 1980s made it possible (with a lot of effort) to do basic desktop publishing.

I used that system to design a Nāhñu word processor and taught Salinas to use it. The system contained all the characters that Salinas and his colleagues had asked for, and Salinas wrote an ethnography of more than 250,000 words on the Nāhñu word processor. The annotated translation of that ethnography appeared in Bernard and Salinas (1989).

I cannot emphasize enough the importance of our being able to produce the Nāhñu alphabet on the screen. Suppose you want to produce the character . It’s not in ASCII, but you can still program any reasonably sophisticated word processor to construct that character. First, create a macro so that striking  $\hat{u}$  (Control-u) produces the string u\$@ on the screen. Second,

define the dollar sign (\$) as the ASCII character for the backspace, and define the ampersand (@) as the ASCII character for underline. The macro would be interpreted during printing to produce the underlined u.

This works, or course, but it is aesthetically unpleasing. It is so unpleasing, in fact, that people won’t use it unless they have to. (For a long time in the evolution of word processing, American programs required the use of this clumsy, ugly procedure even for writing Spanish and French.) Using Gutenberg, Salinas could write the special characters of Nāhñu directly to the screen in 1981. By 1984, he was so comfortable writing Nāhñu on the Apple II that I began to consider how we could extend the technology to others.

### *Extending the Technology to Other Languages in Mexico*

That’s how we came, in 1987, to develop a plan for a center where Indian people could learn to read and write and publish books in their own languages using microcomputers. The center is sponsored by four organizations: The National Directorate for Indian Education (the part of Mexico’s Ministry of Education in charge of bilingual, Indian-Spanish education programs); the Interamerican Indian Institute; the Center for Advanced Studies in Social Anthropology (CIESAS); and the Department of Anthropology at the University of Florida.

The native literacy center began operation in August 1988 at the Oaxaca, Mexico headquarters of CIESAS. The head of CIESAS in Oaxaca, is Salomon Nahmad. The literacy center has received funding from the Jessie Ball du Pont Foundation and a grant of equipment from Apple Computer, Inc. Salinas runs the center, together with Josefa González, a Mixtec Indian from the state of Oaxaca. (Seven language families are represented in the state of Oaxaca, with 16 major Indian languages spoken by more than a million people.)

In the first phase of the project (which ended in May 1991), Indians applied to spend up to three months at the literacy center. The trainees were mostly bilingual school teachers. They were already literate in Spanish, so they needed only to transfer the technology of literacy to the creation of documents in their previously nonwritten languages. They found it very easy to do, once they learned to use a word processor that produced the characters they needed.

In other words, Mixtecs learned to use a Mixtec-Spanish word processor; Chinantecs learned to use a Chinantec-Spanish word processor; and so on. While at the center, the Indian teachers produced a chunk of original writing (prose or poetry) on a topic of their own choosing (ethnography, biography, etc.). In the second phase of the project, now underway, those literary works are being edited, published, and distributed to the people of the various language communities. There are plans to select a few of the works for expansion, translation into Spanish, and publication in bilingual editions for wider distribution.

Even now, the Oaxaca native literacy project relies on the old Gutenberg software and the Apple II series hardware, but change is coming. In the current, second phase of the project, we are setting up a complete desktop publishing center, based on IBM-compatible hardware (and Windows), capable of handling all the various characters needed.<sup>8</sup>

So far, 60 people, representing ten different Mexican languages, have trained at the Oaxaca native literacy center. They have produced works in Nāhñu, Mixtec, Zapotec, Chatino, Amuzgo, Chinantec, and Mazatec. In every case, the trainees wrote directly in their own languages. In the next stage of the project, the authors-teachers will use their books to teach adults and children of their home regions to read.

The microcomputer has *not* made it possible for most Indians in Mexico to afford books. It has made it clear, however, that many native people want to write books. People everywhere want to read. Since there is no more potent force for literacy than an author (who quite naturally wants others to read his or her work), it follows that if we want to help people become literate we should help as many of them as possible become authors.

### *Extending the Technology to South America*

In April 1989, Salinas and I presented a demonstration of our work at the meeting of the Society for Applied Anthropology in Santa Fe, New Mexico. Norman Whitten, Professor of Anthropology at the University of Illinois, offered to help bring this new technology to Ecuador. During the summer and fall of 1989, E. Chango, a trilingual (Shwara-Quichua-Spanish) school teacher from Ecuador spent three months at the center in Oaxaca. Salinas and González taught Chango using the common medium of Spanish, just as they have taught Mexican speakers of Chinantec to write Chinantec.

Chango was supported by the Sacha Runa Foundation. During his stay, he produced a 50-page text, in Ecuadorean Quichua, about Shwara culture. (Quichua is spoken by about 5 million people in Ecuador. It is different from Quechua, which is spoken by about 6 million people in Peru and Bolivia.) In 1990, according to Whitten, Chango acquired a computer system of his own in Ecuador and began teaching others to read and write Quichua and Shwara.

### *Extending the Technology to Africa*

In July 1988, Salinas and I presented a demonstration of our work at the XIIth International Congress of Anthropological and Ethnological Sciences held in Zagreb, Yugoslavia. Paul Nchoji Nkwi, head of anthropology at the University of Yaoundé, Cameroon, suggested that the technology might be used to help the Kom people of Cameroon to write books in their language, too.

The Kom kingdom is part of the North West Province of Cameroon, an area formerly controlled by the British. Kom is spoken by about 127,000 people, and Nkwi is himself a Kom. Almost all Kom people are bilingual in English and Kom, and all educated Kom people are fully literate in English. According to Nkwi, many Kom people would read Kom books—if any were available.

Nkwi and I applied to the Wenner-Gren Foundation for Anthropological Research for funds, and in August 1989, I spent two weeks training five speakers of Kom to use a microcomputer and to produce text in their native language. The five participants in the two-week course included two bilingual

(Kom-English) school teachers, a recently graduated lawyer from the University of Yaoundé, a graduate student of anthropology, and a Catholic priest.

### *The Tone Problem*

Like most nonwritten languages, Kom has an alphabet, but it has little else in the way of an orthography. An orthography is a set of rules for writing a language. English orthography, for example, consists of an alphabet plus a massive set of conventions for spelling words in the language, another set of conventions for syllabification of words, another for punctuation, and so on. All those orthographic rules have developed out of a large body of literature in English. To get an idea of how large the set of orthographic conventions is for, say American English, think of Webster's International Dictionary, where the conventions are listed.

Furthermore, there are different conventions for different dialects of English. For example, "labor" is spelled "labour" in Britain; "night" is spelled "nite" in tabloid newspapers in the US. Rules for placement of commas and quotation marks vary from one English-speaking country to another.

Indeed, conventions for spelling and punctuation change within one country over any reasonably long time, as authors of various literatures take liberties with this and that rule and as the public accepts or disposes of the changes. Until recently, Americans used a circumflex o in the word "rôle"; it's gone now, although some British publishers still use it. The ç in "façade" is almost gone, too, and other changes are going on all the time.

Still, the most basic part of any orthography is the set of characters that are used conventionally to write a particular language—its alphabet. The first alphabet for Kom was developed by German missionaries in the 1880s. Various other religious and secular groups contributed over the years to the evolution of the currently favored Kom alphabet.

The five participants in the Kom language writing project were all familiar with the current alphabet (though none of them had ever written a substantial text in Kom). The task was to transfer their skill in writing English to writing Kom, using the alphabet they knew.

There was an immediate problem, however. Kom is a language with three tones. As I noted earlier, native speakers of most tone languages do not need to see tones in order to read a text correctly. Non-native speakers of English complain bitterly about how hard it is to pronounce words that are written in English. "How does one know where to put the stress on a word?" they ask. Native speakers have some difficulty as children, but adults do not need to see stress marked in writing in order to read English fluently.<sup>9</sup>

Spanish is often mentioned as an example of a "rational" writing system. For the most part, the five vowel letters /a e i o u/ represent five distinct sounds, and the accents in Spanish tell the reader where to put the stress on words that do not have predictable stress. Words in Spanish that end in r, for example, are normally stressed on the final syllable; there is no need to mark stress with an accent unless that rule is violated.

Today, many Spanish writers are leaving out the accent marks.

Will the convenience that this represents to writers and to publishers overcome the force of tradition? Maybe not, but native speakers of Spanish clearly do not need to see accents in order to read their language fluently. Spanish-speaking scholars around the world who communicate by electronic mail are writing messages without accents, since electronic mail systems (like IBM's Bitnet, used by many academics around the world) simply do not permit accents.<sup>10</sup>

The Kom speakers in the Cameroon project learned in school that they had to mark the tones in their writing of Kom if they wanted others to be able to read their work. I programmed a character set that included all the vowels with the tones, and taught the participants how to access these characters. The problem was, of course, that the system was cumbersome. Each sound required its own character.

For example, if the sound /a/ can be pronounced in high, or low, or rising tone, then you need three different characters on a keyboard to represent that fact: á, à, and â, for example. Multiply that by all the vowels that can take different tones (including the vowel ü in Kom, pronounced much as the ü in German), and you can see the problem: to type Kom on a computer keyboard, you would have to learn the placement of dozens of extra keys. And most of those extra keys are going to be hard to access (Control-i, for example, or even Control-Shift-i).

By the third day of the two-week session, all five of the participants had abandoned the tones. One of the school teachers insisted to the end that the tones should be marked; that is, he felt it was somehow more correct to do so. There is no argument against this position, any more than there is an argument against those Spanish speakers who reject the idea of giving up accent marks. Tradition is its own explanation and it must be respected. But the simple fact is that two weeks after we had begun, those five Kom speakers had produced a corpus of 25,000 words of *casual*, *adult*, *literate* Kom.

It was *casual* literature: by the end of the two weeks, the participants would turn on the computer in the morning and just start typing Kom without hesitation. Anything they could say they could write. It was *adult* literature: it was not the sort of thing one sees in school primers ("Paul's father is going to the field to plant corn"), but was instead composed of complex sentences. It was *literate* literature: it was not a bunch of disconnected sentences of the sort one finds in reading tutorials. It was flowing Kom text that ran on for pages and pages, was organized around some theme (the lawyer, for example, had recently married and wrote about customary Kom marriage contracts), and had something to say.

All five participants in the group read one another's texts. At the end of the two weeks, the group held a special ceremony to which two dozen other Kom people were invited. The priest wrote a speech, in Kom, without any marked tones, describing the group's experiences over the preceding two weeks. One of the school teachers delivered that speech, in unhesitating locution, after one preliminary reading.

The evidence so far, then, is that Kom people do not need to mark tones in their writing any more than we need to mark stress or "rationalize" English spelling. We can, in other words, tolerate a lot of ambiguity in our writing systems. Word processing made it possible to test this assertion about the marking of tones in Kom as it had, in fact, in Mexico earlier. (There

are many examples of how much ambiguity human beings can tolerate in their writing systems. Modern Hebrew is written entirely without marking vowels.)

### *Word Processing and Other Orthographic Conventions*

Word processing also made it possible for the Kom people to shortcut the process of convention-building in the rest of their orthography. At one point in the two-week training session, I right justified one of the Kom texts, just to see what it looked like, and the participants asked to learn how to do it. This innovation led to their developing various rules of punctuation. Right-hand justification looks attractive, but if a language uses long words, then there are inevitably big, ugly spaces in right-justified text.

The cure for those spaces is the clever use of hyphens. The user right justifies the text and looks at the spaces in each line. He or she then decides a) whether a line has too many spaces, and, if it does, b) exactly how to hyphenate the first word of the following line. When the word is hyphenated and the paragraph is rejustified, the spaces on the offending line are filled in. The next line may now have offending spaces, and so the process is repeated, all the way through the text.

The Kom participants in the course worked together on putting the hyphens into one text. At each line they discussed how to hyphenate certain words, and whether some words should be hyphenated at all. In some cases, they decided that long words were really composed of two stand-alone words. They separated these words rather than hyphenating them. Taking the development of English orthography as a historical benchmark, decades of convention-building were squeezed into those discussions about how to hyphenate Kom words in order to achieve the prettiest right-justified output possible.

### *Making Dictionaries*

There is a final point regarding the uses of computers in the preservation of previously nonwritten languages. As any language acquires a corpus of literature, it acquires the basis for a growing, context-sensitive dictionary. The first edition of Webster's dictionary of American English was a fraction of the size of the latest edition. That dictionary grew to its enormous present size because the printing presses of the US have churned out so much literature in the last two hundred years. Generations of dictionary builders have combed that literature, searching for newly coined words, new uses for old words, and word obsolescences as well.

By contrast, it is common for a fieldworking linguist to produce a dictionary of perhaps 5000 words after a decade of studying a nonwritten language.<sup>11</sup> Many tribal languages are still without good dictionaries. At a minimum, the 25,000-word corpus of literature that the Kom group produced in two weeks contains 2000 unique words. We can now use a program that collects the unique words in a text, alphabetizes those words, and presents them on a screen for input of the information needed in a dictionary database (part of speech, plural form, conjugations, etc.).

## Discussion

My experience with these projects leads me to two conclusions.

1. Teaching people to read primers and Bibles does not produce authors; it produces readers. Printing presses and publishing houses produce authors. This rule is no different today for nonliterate languages than it was in late medieval times in Europe (Davis 1981, Eisenstein 1979).
2. Teaching a few highly motivated people to *write and print* their own books can help many people become literate. Authors want others to read what they have written and are anxious to help people learn to do so.

Between 1940–1958, Navajo literature and newspapers began to appear, but Navajos themselves were not authors of books and articles in Navajo (Young 1977:469). Programs to promote Navajo were implemented at several universities (Northwestern and MIT, for example). These programs, along with the demonstration school at Rough Rock and Tribal Youth Conferences fostered pride in Navajo culture (Young 1977). Navajo authors began to write books in Navajo. More and more Navajos speak Navajo these days, rather than fewer and fewer. I think this trend is related to the increasing presence of Navajo written literature.

### *What Can We Do?*

The technology of printing is too expensive to make publication of books in most native languages commercially attractive. Microcomputers and desktop publishing reduce the cost of publication, but this technology is still more than most native language communities can afford.

On the other hand, this technology is not too expensive for government agencies, private development agencies, foundations that support literacy training, missionary groups, and local community self-help groups. The technology can even be supplied by individuals: anthropologists or linguists, for example, or native people of means who may want to help local schools.

There are some objections. Clearly, when the choice is between food and computers, the computers must wait. But anthropologists (and missionaries) are not usually faced with such choices.

Some may also argue that insisting on the importance of written literature may make native people “disdain their own discourse” (Verne 1981:302). One response to this objection is that, while both the written and the oral word offer exciting possibilities, in order to gain the power of literacy we must give up the beauty and power of the oral world. “We have to die to continue living” (Ong 1982:15).

Both arguments are wrong. While literacy is today a correlate of more technologically developed peoples, it is debatable whether literacy causes some kind of “great divide” among cultures of the world. Goody (1977:18, 1986) takes the strong position that acquisition of literacy transforms the nature of cognitive processes, as does Ong (1982:15), but other researchers question this conclusion (Cole and Scribner 1981, Finnegan 1988).

Moreover, oral traditions remain strong in the most literate

societies. People pay a lot of money to see a Broadway play, and while the script may exist somewhere as a written document, it has no relevance to most theater-goers whose appreciation of the performance comes from exposure to an oral and visual experience. The same can be said for movies, television shows, and country music. There are differences in spontaneously generated works of music and theater and works that are rehearsed from scripts. But oral/visual performance traditions remain strong even in the most technologically advanced societies.

Even if literacy does cause some kind of fundamental change in the human condition, it is extreme hubris to conclude that, while this transformation has happened to us, it should not happen to still-preliterate peoples.

The critical argument, however, is this: even if literacy causes some irreversible change in thought and culture, it is better to preserve language diversity than to preserve orality.

In the end, it comes to that. There were 260 Aboriginal languages in Australia, but only 40 or 50 were in daily use in the 1970s by just 40,000 speakers (Wurm 1981:23)<sup>12</sup> In the Americas, hundreds of languages have become extinct since contact with Europeans, and many more have only a few elderly speakers left. Our humanistic interest demands that we respond to these facts. Nothing less than the richness of human knowledge is at stake.

If the humanistic perspective is too impractical, and if the species-survival argument too hypothetical, then consider the material implications of language-and-politics events in India, Belgium, Canada, Lithuania, and Estonia. People everywhere apparently understand that cultural uniqueness—ethnicity—reinforces their claim to a share of political power, land, jobs, and other resources in ethnically heterogeneous states. A unique language is a powerful force in legitimating those claims.

Neither literacy nor a unique language is always a key to development, of course. Eastman (1983:86) shows how promoting native languages may be used to deny people access to resources. She points out that in South Africa, many people are given primary instruction in their native languages (Xhosa, Zulu), and then denied further education. Without mastery of English and Afrikaans, native people have no access to those in power, nor even to one another.

More typical, however, is the case of some islands off the west coast of Ireland. According to O'Brien (1979:88), the people there complained in 1977 that they were receiving less state funds because they were English speakers. People of Gaelic-speaking islands, they said, who were in similar social and economic circumstances, were receiving more. This case is particularly interesting because it involves a state that had taken an official stand in favor of developing an ancestral tongue. The efforts to push for the use of Gaelic in Ireland have been less successful than hoped for by language planners, hence the use of the promise of general state revenues to promote the language.

Finally, consider the recent case of a group of Mexican Indians who sued a power company. The company had received funding from an international development agency to build a hydroelectric generator, which required building a dam. The resulting lake in back of the dam was due to flood out thousands of acres of the Indians' ancestral lands. The power company offered to pay for the land, of course, and the government appealed to the Indians to accept the offer.

The government argued it was the Indians' patriotic duty, as Mexicans, to accept the offer and help provide needed electricity for development of the nation. The Indians argued that the offer was inadequate, but they also said that they wanted their land so that they could retain their identity. The lawyers for the power company noted that only a few elderly people in the Indian community spoke the Indian language anymore and that none of the younger generation was learning the language. How, the lawyers asked, did the Indians expect to convince anyone of their claim to special ethnic status if they didn't speak their own language? How, indeed?

#### NOTES

<sup>1</sup> My thanks to Joseph Grimes for the data on which this count was based.

<sup>2</sup> There is an old debate, of course, about whether people think different thoughts *because* they speak different languages. My own position on this debate is that people who speak one language can grasp new thoughts that happen to originate with speakers of another language, no matter what the two languages happen to be. Whatever one's position in this debate, though, it is a matter of fact that language diversity is a correlate of cultural diversity.

<sup>3</sup> A very interesting case of casual, popular literacy without printing of books is found among the Vai people of Liberia. The Vai use a locally invented syllabary for keeping ledgers and for writing letters. They do not, apparently, produce literature with the script (Cole and Scribner 1981).

<sup>4</sup> In the rest of this paper I use the term "literature" to mean only *written* documents. *Oral literature* is neither less valuable nor less interesting than written literature. But it is not a substitute for written literature in my argument regarding language preservation, so I exclude it from further discussion.

<sup>5</sup> Many Americans will recognize this pattern from their own youth, when their parents forbade the use of anything but English in their homes. Price (1979:41) cites a modern example: the women of Bagnols-sur-Cèze in France deny they ever heard of Provençal and forbid men from introducing it into family conversations. The women are concerned that their children won't learn proper French if Provençal is encouraged.

<sup>6</sup> Venezky (1977:39) notes that in 1930, the International African Institute concluded that tones could be omitted from African languages when the context made it clear what the writer wanted to convey. De Francis (1950) concluded that the ambiguity that would result from not marking tones in Chinese would be small enough to leave them out of any alphabetic writing system. In 1958, however, the Pinyin romanization of Chinese was adopted by the People's Republic of China. That system did include four tones. Non-native speakers of Chinese, of course, welcomed the marking of tones. I know of no tests, however, to see whether native speakers of any Chinese language would require tone marking in an alphabetic system.

<sup>7</sup> The Nāhñu are generally known in the literature as the Otomí. The name "Otomí" has negative connotations in Mexican Spanish. Many Nāhñu people today prefer to be known by the name they call themselves.

<sup>8</sup> 286-level technology is now inexpensive, and the latest version of WordPerfect allows users to define any character they need for their text (although one can only see the characters on the screen in "view document" mode). Special characters can be programmed for on-screen display with the Duke Language Toolkit and an EGA monitor. (The Toolkit, from Duke University, works with PC-Write, a popular, full-featured word processor that produces plain ASCII text.) Other software is also becoming available for handling special screen and print fonts.

<sup>9</sup> This does not mean that English spelling is the best it could possibly be, only that it is not as bad as myths would make it.

<sup>10</sup> Lack of the enye /ñ/ is another matter. Spanish speakers with whom I have electronic mail communication use either /ny/ or /~n/. Doing so avoids embarrassing situations like having to write /ano/, "ass," for /año/, "year."

<sup>11</sup> The corpus of text that a linguist collects is oral. In any language, most people get along with 5000 words or less (Ong 1982:107). So a linguist who transcribes everyday speech, or perhaps a few folk tales, is not likely to run into more than about 5000 words. A large body of folk tales is likely to contain many more words.

<sup>12</sup> There are quite a few Aboriginal authors in Australia, and they feel the loss of their ancestral languages deeply (Davis and Hodge 1985:11, 25). They make their living writing in English. Unless they write books in their ancestral languages, those languages are doomed to quick extinction. Should Aboriginal authors, therefore, feel obliged to write in Aboriginal languages? Absolutely not. The Oaxaca project demonstrates that there are many, many potential authors among people who speak languages that have no literary tradition. Providing many people with the tools to write and print books will not guarantee language survival, but it will make language survival possible.

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### *AIDS and US Ethnic Minorities: The Crisis and Alternative Anthropological Responses*

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**Key words:** AIDS prevention, ethnic minorities, applied medical anthropology

In kindergarten this year, my six year-old son has been learning the Pledge of Allegiance. Recently, as he proudly recited at the dinner table, the thought came to my mind to insert the words "and AIDS" after liberty and justice in the final sentence. But the truth is that just as liberty and justice are not equally distributed to all, neither is AIDS. For those who have the least liberty and justice have the most AIDS, and vice versa. And it is no coincidence that this is so.

As Ira Harrison has quipped, "AIDS—poverty strikes again."

And behind poverty in this country, behind the unequal distribution of liberty and justice, lies the issue of race. Behind the issue of race, as W. E. B. Du Bois (1961:v), the renowned black sociologist and author of *The Souls of Black Folk*, so forcefully wrote, "lies a greater problem which both obscures and implements it: and that is the fact that so many civilized persons are willing to live in comfort even if the price of this is poverty, ignorance and disease of the majority of their fellowmen."

In his searing essay, "Skeletons in the Anthropological Closet," which reveals the role of color prejudice in shaping anthropology, William Willis has argued, "It is time for anthropologists to make drastic changes. If they make these changes, then perhaps a new kind of anthropology can survive in a new world in which colored peoples enjoy bona fide freedom and equality" (1974:146). In the light cast by Willis's words, the question is raised: what can and should be anthropology's response to the fact that AIDS is fast becoming the leading cause of death for people of color in the US? How should we, as anthropologists, react to the projection that by the end of this year, 180,000 people in the US will have died of AIDS, more than three times the number of Americans who died in the Vietnam War, and that the percentage of cases among African Americans and Latinos will be more than double their proportion of the total US population. Already among women, 51% of AIDS cases are African American, and another 20% are Latina (CDC 1990). Among children, over 75% of AIDS cases are among ethnic minorities. With the current inner city epidemic of chancroid and other sexually transmitted diseases that are known to facilitate HIV transmission, we can expect that the next massive wave of AIDS cases in the US will be through heterosexual transmission, disproportionately among minority adolescents and young adults. The incidence of heterosexually acquired AIDS is already almost ten times greater for African Americans and four times greater for Latinos than for whites (Aral and Holmes 1991). "[A] disproportionate share of the burden of adolescent AIDS cases is borne by minority youth" (Miller, Turner, and Moses 1990:160). As Briggs (1961:76) says of 19th century cholera in Europe, AIDS is "a disease of society in the most profound sense."

The question of anthropology's response to the AIDS pandemic is raised at a peculiar moment in our discipline's history, one that some have described as a tentative moment, a moment