

# WORLD·WATCH

WORKING FOR A SUSTAINABLE FUTURE

## Last Words

by Payal Sampat

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# Last Words

*As cultural homogeneity spreads over the Earth, thousands of human languages are headed for extinction.*

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by Payal Sampat

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MARATHI. GUJARATI. HINDI. ENGLISH. KUTCHI. In Bombay, where I grew up, I used these languages every day. To get by on the streets, to get directions, to interact with people—I had to be able to speak Marathi. To go to a corner store to buy rice or tomatoes for dinner, I had to speak a little Gujarati, the language of many local shopkeepers. Kids in my school came from so many different linguistic backgrounds that we conversed either in English, the language of instruction, or Hindi, India's most widely-spoken tongue. And my grandparents spoke Kutchi, the language of our ancestors, who came from the deserts of western India.

Despite their best efforts, I did anything I could to avoid responding to my grandparents in Kutchi. After all, they could converse fluently in a number of Bombay's working languages. And I sensed from a very early age that Kutchi wasn't useful in any obvious way. It couldn't help me make friends, follow what was on TV, or get me better grades. So by default, I abandoned the language of my ancestors, and chose instead to operate in the linguistic mainstream.

Marathi, Gujarati, Hindi, and English are each spoken by at least 40 million Indians. Kutchi, on the other hand, has perhaps 800,000 speakers—and that number is declining as more and more Kutchi-speaking young people switch to Gujarati or English. This decline makes the language increasingly vulnerable to other pressures. Last January, western India suffered a catastrophic earthquake, which had its epicenter in Kutch. Kutchi lost an estimated 30,000 speakers.

India is a densely polyglot country. Estimates of the number of languages spoken there vary widely, depending on where one draws the line between language and dialect. But a conservative reckoning would put the number of native Indian tongues at roughly 400; of these, about 350 are rapidly losing speakers. The same is true for thousands of other languages all over the world. And most of these fading tongues don't come anywhere near Kutchi in terms of the number of speakers: of the world's 6,800

extant languages, nearly half are now spoken by fewer than 2,500 people. At the current rate of decline, experts estimate that by the end of this century, at least half of the world's languages will have disappeared—a linguistic extinction rate that works out to one language death, on average, every two weeks. And that's the low-end estimate; some experts predict that the losses could run as high as 90 percent. Michael Krauss, a linguist at the Alaskan Native Language Center and an authority on global language loss, estimates that just 600 of the world's languages are "safe" from extinction, meaning they are still being learned by children.

It's believed that the human faculty for language arose at some point between 20,000 and 100,000 years ago. Many languages have come and gone since then, of course, but it's unlikely that the global fund of languages has ever before gone into so extensive and chronic a decline. This process seems to have originated in the 15th century, as the age of European expansion dawned. At least 15,000 languages were spoken at the beginning of that century. Since then, some 4,000 to 9,000 tongues have disappeared as a result of wars, genocide, legal bans, and assimilation. Many anthropologists see the decline as analogous to biodiversity loss: in both cases, we are rapidly losing resources that took millennia to develop.

Today, the world's speech is increasingly homogenized. The 15 most common languages are now on the lips of half the world's people; the top 100 languages are used by 90 percent of humanity. European languages have profited disproportionately from this trend. Europe has a relatively low linguistic diversity—just 4 percent of the world's tongues originated there—yet half of the 10 most common languages are European (see figure, page 36). Of course, as a first language, the world's most common tongue is not European but Asian: Mandarin Chinese is now spoken by nearly 900 million people. But English is rapidly

gaining ground as the primary international medium of science, commerce, and popular culture. Most of the world's books, newspapers, and e-mail are written in English, which is now spoken by more people as a second language (350 million) than as a native tongue (322 million). According to one estimate, English is used in some form by 1.6 billion people every day.

Most languages, in contrast, have a very limited distribution. Much of the world's linguistic diversity is concentrated in just a few regions—all of which are extremely rich in biodiversity as well (see map, pages 38–39). The Pacific region in particular has produced an amazing diversity of the spoken word. The island of New Guinea, which the nation of Papua New Guinea shares with the Indonesian state of Irian Jaya, has spawned some 1,100 tongues. New Guinea is home to

just 0.1 percent of the world's people—yet those people speak perhaps one sixth of the world's languages. Another 172 languages are spoken in the Philippines, and an astounding 110 can be heard on the tiny archipelago of Vanuatu, which is inhabited by fewer than 200,000 people. Over all, more than half of all languages occur in just eight countries: Papua New Guinea and Indonesia have 832 and 731 respectively; Nigeria has 515; India has about 400; Mexico, Cameroon, and Australia have just under 300 each; and Brazil has 234. (These figures come from the *Ethnologue*, a database published by the Summer Institute of Linguistics in Austin, Texas; some totals may include languages that have recently gone extinct.)

Some of these linguistic “hot spots” appear to be on the verge of a kind of cultural implosion. Take



PHOTOGRAPH BY ART WOLFE/ART WOLFE, INC.

*Marie Smith, the only remaining speaker of Eyak*

Australia, for example. About 90 percent of the country's 250 aboriginal languages are near extinction; only seven have more than 1,000 speakers and only two or three are likely to survive the next 50 years or so. It's apparent from the *Ethnologue* that Australia is hemorrhaging languages. Most of Queensland's 50 or so native tongues are listed as having fewer than 20 speakers, or as already extinct. The future appears equally bleak for the many languages of Western and South Australia; people whose parents spoke Mangala or Tyaraity, for instance, prefer aboriginal English or Kriol, an English-based hybrid tongue. But this type of linguistic hemorrhaging is hardly confined to the hot spot regions. Serious decline can be found virtually everywhere, as a brief survey of the world's continents will show.

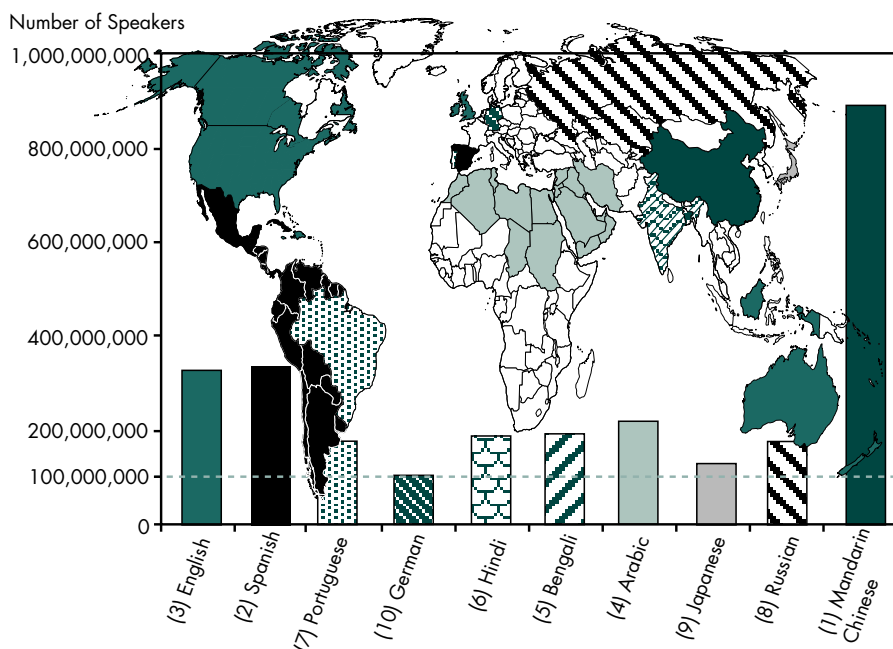
Cupeño went extinct. California is considered one of the world's linguistic treasure troves; it has produced perhaps 100 languages, including Esselen from Carmel and Obispeño from Santa Barbara—both now extinct. Only 50 Californian languages remain, and just two or three have as many as 200 speakers.

In South America, hundreds of languages were wiped out following the Spanish conquest, but the continent's remaining 640 tongues are still remarkably diverse. One way to gauge this diversity is to think in terms of stocks, groups of related languages. (Stocks are a more finely tuned and comprehensive set of categories than conventional language families, such as Indo-European or Sino-Tibetan.) Johanna Nichols, the linguist at the University of California, Berkeley who developed this concept, has found that

South American native languages derive from 93 stocks, compared with the six stocks native to Europe, or the 20 in Africa. (Nichols has identified 250 different stocks for the world as a whole.) About 80 percent of South America's native languages are spoken by under 10,000 people and 27 percent are approaching extinction. In Brazil, one of the "hot spot" countries, 42 languages are already extinct, and most of the remaining ones are rapidly being replaced by Portuguese. The country has lost a number of "isolates"—languages that have no contemporary relative. In the Amazon region, few native languages have more than 500 speakers any longer and many are

down to less than a hundred. Karahwyana, for instance, has 40 remaining speakers; Katawixi has 10; and Arikapu has just six.

In Africa, the birthplace of 30 percent of the world's tongues, 54 languages are believed dead; another 116 are near extinction. Among the languages that have already been lost are Aasáx, which was spoken by a group of hunter-gatherers in northern Tanzania until 1976. This culture has now been assimilated into the Masai and other Bantu groups. In Ethiopia, Gafat, a language native to a region near the Blue Nile, has been replaced by the national language Amharic, which is spoken by 17 million people.



### The ten most common first languages

(Shading indicates use as a first language by at least 25 percent of the population.)

In North America, the linguistic richness that still characterizes Mexico was once the norm over much of the continent. In 1492, the year Columbus first crossed the Atlantic, some 300 languages could be heard in the region that is now the United States. Today, only five of them have more than 10,000 speakers. Of the 260 native tongues still spoken in the United States and Canada, 80 percent are no longer being learned by children. Idaho's Coeur D'Alene has just five speakers. Marie Smith (page 35) is the last remaining speaker of Eyak, which is native to the coast of Prince William Sound, Alaska. And when Roscinda Nolasquez of Pala, California died in 1994,

In Asia, more than half the native languages have fewer than 10,000 speakers, despite the fact that the continent is home to 3 billion people. The list of endangered Asian languages includes Brokskat, which is limited to 3,000 speakers in the Ladakh region of northern India; Burmeso, an isolate spoken by 250 people in Irian Jaya; and Onge, the tongue of a traditional fishing community of 96 people on the Andaman Islands. In the Philippines, Arta is down to its last three families.

Nor is Europe immune to the decline, despite the dominance of its major languages. Manx, once spoken on the Isle of Man, went extinct in 1974 with the death of its last speaker, Ned Maddrell. And when the Turkish farmer Tefvik Esenc died in 1992, so did Ubykh, a language from the Caucasus region that had the highest number of consonants ever recorded.

It is true that the past couple of centuries have seen the emergence of a number of new languages. But by and large, these developments have done little to mitigate the general linguistic loss. A few of the new languages are wholly artificial. Esperanto, for example, was introduced in 1887; its inventors hoped it would become a universal tongue, even though they derived it entirely from Indo-European languages. There are also some 114 sign languages used around the world; many of them have acquired the innovative, expressive power of spoken natural languages, but they are used almost exclusively by the deaf. Among the new natural languages are 81 creoles, 17 pidgins, and numerous trade languages. All of these are the product of two or more languages, one of them usually a European colonial tongue. Pidgins and trade languages have highly simplified grammars and limited vocabularies; they are always second languages. Creoles are sometimes complex enough to serve as mother tongues.

About 80 percent of the world's languages are spoken only in their country of origin and virtually all endangered languages are endemic to a single area (that is, they are spoken nowhere else). As with living things, endemism increases vulnerability. In Thailand, for instance, dams built on the Kwai River in the late 1970s flooded the villages of the Ugong-speaking people, forcing them to migrate to Thai-speaking areas. Today, perhaps 100 speakers of this isolate remain. And had Kutchi had fewer speakers, the recent earthquake could easily have extinguished it.

Endemic languages are vulnerable to much more than just landscape disturbance. A language can disappear for many reasons, but as the biologist, historian, and linguistic scholar Jared Diamond notes, "the most direct way...is to kill almost all its speakers." This is how all the native languages of Tasmania, for example, were eliminated, as British colonists extended their control over the island during the period

1803–1835. Ubykh's extinction was the delayed result of another act of genocide: most of its 50,000 speakers were killed or forced to flee following Russian conquest of the northern Caucasus in the 1860s.

Elsewhere, governments have banned minority languages in favor of linguistic conformity. Many countries require children to be educated in the dominant language—policies that have the unfortunate (and sometimes intended) effect of discouraging acquisition of the native tongue. Until recently, for instance, the United States required that all classroom instruction on Native American reservations be in English. It was illegal to teach in Hawaiian in the islands' public schools until 1986—even though Hawaiian had been taught in 150 schools until the late 1880s, prior to U.S. annexation. In the former Soviet Union, Russian was enforced as the language of education and government during the entire Soviet era. This effort was extremely successful: in Russia today, 90 percent of the population speaks Russian, while roughly 70 of the country's nearly 100 other native languages are near extinction. Many of these are Siberian tongues. Gilyak, for example, is a Siberian isolate with just 400 speakers. Udihe has only 100 speakers—all of them adults who were resettled into Russian-speaking regions. Yugh is now spoken by just two or three people.

Promoting a single language is often seen as a way to foster national identity, especially in ethnically diverse countries that were not unified until colonial rule. East African governments have favored Swahili, for instance, which has overpowered such local tongues as Alagwa in Kenya and Zalamo in Tanzania. But as the linguists Daniel Nettle and Suzanne Romaine note in their book, *Vanishing Voices*, a common language hardly guarantees political unity. The troubles in Northern Ireland, for instance, are not alleviated by the fact that both sides speak English. Similarly, Somalia's high degree of linguistic uniformity does not appear to have constrained that country's chronic civil war.

Language loss is obviously a form of cultural impoverishment, but the damage extends far beyond the communities immediately affected. There are several reasons why widespread linguistic decline is a matter of concern for all humanity. In the first place, there is the loss to linguistics itself—and to the other sciences that draw upon it, such as psychology and anthropology. Already, linguists are lamenting the fading opportunity to analyze the extraordinary variety of in grammar and speech that they are finding in the world's languages. As with species extinction, we do not even know what we are losing. Uncertainties over how to analyze India's tongues, for instance, have led to huge disparities in estimating the number of languages native to that country: the count ranges

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# The World's Linguistic Diversity

**Alaska:** Only 2 of 20 native languages are still learned by children. Eyak has only one remaining speaker, Marie Smith (page 35).

**California:** 100 native languages, of which 50 are already extinct.

**Hawaii:** Hawaiian, with just 1,000 native speakers, has an extensive vocabulary for fish species based on breeding seasons, medicinal uses, and methods of capture.

**Mexico: 295**  
But only 8 percent of the population speaks native languages.

**Peru:** 106 languages, of which 14 are extinct. Chamicuro and Taushiro, both spoken in the Peruvian Amazon, have fewer than 10 speakers each.

**United Kingdom:** English is used by more people as a second language (350 million) than as a native tongue (322 million).

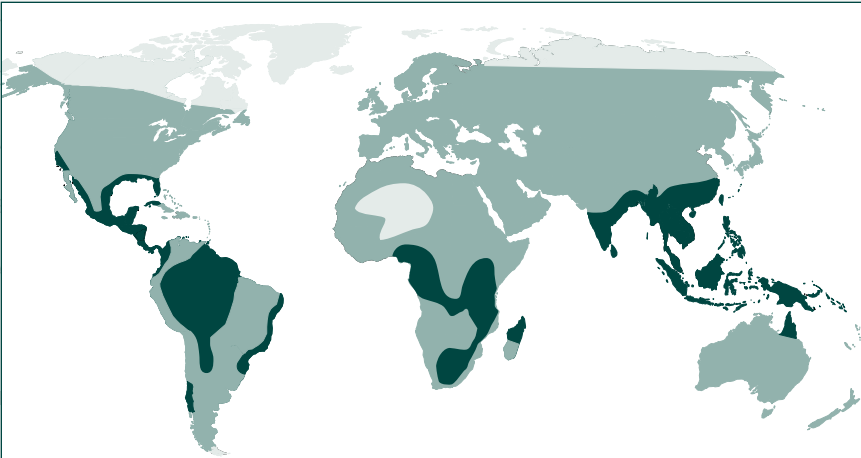
**Africa:** Birthplace of 30 percent of the world's languages.

**Nigeria: 515**

**Cameroon: 286**

**Brazil: 234**

Of these, 42 have recently gone extinct. Few Amazonian languages have more than 500 speakers

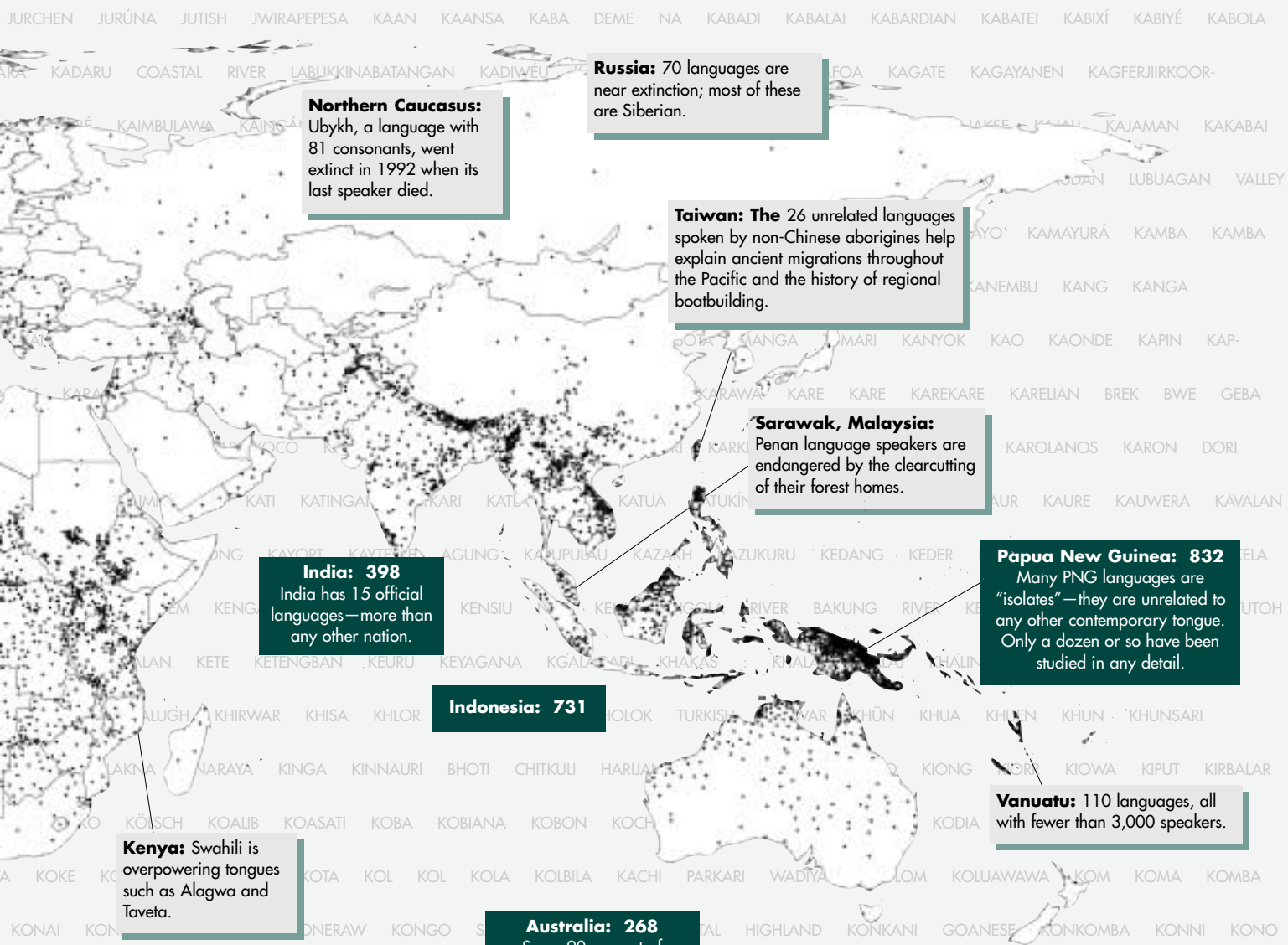


Concentrations of biological and cultural wealth overlap. This map shows very roughly the distribution of the world's terrestrial species diversity. (Dark green stands for high diversity; green for medium to low; light green for very low.) Note the rough correspondence with the world's linguistic diversity, as shown in the main map.



There are 6,800 dots on this map—one for each of the world’s extant languages. Each language has its dot roughly in its place of origin (English for example, is represented by the dot in the center of England). A striking feature of the world’s linguistic diversity is the degree to which it corresponds with the world’s biodiversity (see inset). Over all, more than half of all languages occur in just eight countries, indicated here with green labels, which give the country language totals. In the background is a sampler of language names.

ZAAIKWOMGBO IZON  
DONIAN JAWE JAYA  
JUDEOBERBER TATAR



**Northern Caucasus:**  
Ubykh, a language with 81 consonants, went extinct in 1992 when its last speaker died.

**Russia:** 70 languages are near extinction; most of these are Siberian.

**Taiwan:** The 26 unrelated languages spoken by non-Chinese aborigines help explain ancient migrations throughout the Pacific and the history of regional boatbuilding.

**Sarawak, Malaysia:**  
Penan language speakers are endangered by the clearcutting of their forest homes.

**India: 398**  
India has 15 official languages—more than any other nation.

**Indonesia: 731**

**Papua New Guinea: 832**  
Many PNG languages are “isolates”—they are unrelated to any other contemporary tongue. Only a dozen or so have been studied in any detail.

**Kenya:** Swahili is overpowering tongues such as Alagwa and Taveta.

**Australia: 268**  
Some 90 percent of Australia’s aboriginal languages are nearly extinct.

**Vanuatu: 110 languages, all with fewer than 3,000 speakers.**

**New Zealand:** Maori is now an official language taught in 322 schools.

Main sources: Barbara F. Grimes, ed., *Ethnologue: Languages of the World*, 14th ed., CD-ROM version (Dallas, TX: Summer Institute of Linguistics, 2000); Michael Krauss, “The World’s Languages in Crisis,” *Language*, vol. 68, no. 1 (1992); Daniel Nettle and Suzanne Romaine, *Vanishing Voices: The Extinction of the World’s Languages* (New York: Oxford University Press, 2000). Base map © SIL International, used by permission.

(continued from page 37)

from 400 to 1,600. India may be an extreme case in this regard, but it's hard to say how extreme because most other centers of linguistic diversity have received even less attention. In Papua New Guinea, for example, only about a dozen of the 830 or so languages have been studied in any detail. And despite their proximity to each other, many of these languages are isolates. Diamond writes of his travels through the island: "Every 10 or 20 miles I pass between tribes with languages as different as English is from Chinese."

A second general consequence of the declines involves our ability to understand our past. Languages hold important clues to the history of our species. For example, by analyzing words for various crops and farm implements, the Berkeley linguist Johanna Nichols has traced the modern people of the Caucasus back to the ancient farmers of the Fertile Crescent. Similarly, the distribution of Austronesian languages is being used to map the prehistoric migration out of Taiwan and onto the islands of the open Pacific.

*No language is an exact map of any other; each is, in a sense, its own world.*

Finally, by relinquishing our linguistic diversity, we are also diminishing our understanding of biological diversity. Native inhabitants of regions with high biodiversity have developed elaborate vocabularies to describe the natural world around them—collective "field guides" that reflect the ecological knowledge of, in some cases, hundreds of generations. Native Hawaiians, for example, named fish species for their breeding seasons, medicinal uses, and methods of capture. When the marine biologist R.E. Johannes interviewed a Palauan fisherman born in 1894, he found that the Pacific islander had names for over 300 different species of fish, and knew the lunar spawning cycles of several times as many species as had then been described in the scientific literature. Many of these treasure houses of local knowledge are being replaced by more simplified forms of speech. For instance, New Guinean pidgin English, which is popular with young people, has just two names to describe birds—*pisin bilong de* (bird seen by day) and *pisin bilong nait* (bird seen by night)—whereas native Papua New Guinean languages have an extensive vocabulary for the island's many bird species.

A few languages are slowly making a comeback, with the help of community groups, governments, and linguists. In 1999, four students in Hawaii graduated from high school educated exclusively in Hawai-

ian—the first to do so in the century since U.S. annexation. Their achievement was made possible largely by Punana Leo, a nonprofit organization dedicated to reviving the language, which now has 1,000 speakers. Cornish, the language of Cornwall (southwestern England), has been revived since its last "natural" speaker died in 1777; it now has 2,000 speakers. Nationalism has been a powerful force for such revivals, as in the case of Gaelic or Hebrew. During the last century, Hebrew has grown from a purely written language to Israel's national tongue, with 5 million speakers. In Mexico, the Zapatistas are urging a revival of Mayan languages as part of their campaign for local autonomy. Efforts are also under way to revive Welsh, Navajo in the United States, New Zealand's Maori, and several native Botswanan languages.

Most languages, of course, aren't going to get that kind of attention. (Fewer than 4 percent of the world's languages have any official status in their country of origin.) Many experts believe that the best way to conserve linguistic wealth is to foster multilingualism. Certainly, different peoples need to understand each other, which is why some languages have always served as *linguae francae*. But among minority language speakers, multilingualism has always been the norm—my grandparents in Bombay are a good example. And despite the wide linguistic variations found in Papua New Guinea, it's believed that most of the country's people speak five or more languages.

Even today, it's estimated that two thirds of all children are still growing up in multilingual environments. Removing the fetters that have been placed on minority languages in the last two or three centuries might help revive the linguistic heritage of many countries. Norway's Saami Language Act of 1992, for example, is an effort to preserve the culture of the people most commonly known as "Laplanners" (a term they themselves view as pejorative). Or again, why shouldn't Breton, Caló, and Corsican become officially recognized languages in France, the country where their speakers traditionally reside? The revival of these tongues would hardly threaten the status of French as the national language, but it could be a substantial help in preserving the country's cultural vibrancy.

Millennia of human experience are wrapped up in the planet's many languages, and this linguistic diversity may be as essential to our cultural health as biological diversity is to our physical health. No language is an exact map of any other; each is, in a sense, its own world. By allowing so many of these worlds to slip away, we may be forfeiting a lot more than just words.

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