

Article

Prepared by: Elvio Angeloni, Pasadena City College

War of Words

MARK PAGEL

Learning Outcomes

After reading this article, you will be able to:

- Discuss the origins and functions of linguistic diversity in human societies.
- Discuss the future of linguistic diversity in terms of its direction and causes.

For anyone interested in languages, the north-eastern coastal region of Papua New Guinea is like a well-stocked sweet shop. Korak speakers live right next to Brem speakers, who are just up the coast from Wanambre speakers, and so on. I once met a man from that area and asked him whether it is true that a different language is spoken every few kilometres. "Oh no," he replied, "they are far closer together than that."

Around the world today, some 7,000 distinct languages are spoken. That's 7,000 different ways of saying "good morning" or "it looks like rain"—more languages in one species of mammal than there are mammalian species. What's more, these 7,000 languages probably make up just a fraction of those ever spoken in our history. To put human linguistic diversity into perspective, you could take a gorilla or chimpanzee from its troop and plop it down anywhere these species are found, and it would know how to communicate. You could repeat this with donkeys, crickets or goldfish and get the same outcome.

This highlights an intriguing paradox at the heart of human communication. If language evolved to allow us to exchange information, how come most people cannot understand what most other people are saying? This perennial question was famously addressed in the Old Testament story of the Tower of Babel, which tells of how humans developed the conceit that they could use their shared language to cooperate in the building of a tower that would take them to heaven. God, angered at this attempt to usurp his power, destroyed the tower and to ensure it would not be rebuilt he scattered the people and confused them by giving them different languages. The myth leads to the amusing irony that our separate languages exist to prevent us from communicating. The surprise is that this might not be far from the truth.

The origins of language are difficult to pin down. Anatomical evidence from fossils suggests that the ability to speak arose in

our ancestors sometime between 1.6 million and 600,000 years ago (*New Scientist*, 24 March, p. 34). However, indisputable evidence that this speech was conveying complex ideas comes only with the cultural sophistication and symbolism associated with modern humans. They emerged in Africa perhaps 200,000 to 160,000 years ago, and by 60,000 years ago had migrated out of the continent—eventually to occupy nearly every region of the world. We should expect new languages to arise as people spread out and occupy new lands because as soon as groups become isolated from one another their languages begin to drift apart and adapt to local needs (*New Scientist*, 10 December 2011, p. 34). But the real puzzle is that the greatest diversity of human societies and languages arises not where people are most spread out, but where they are most closely packed together.

Papua New Guinea is a classic case. That relatively small land mass—only slightly larger than California—is home to between 800 and 1,000 distinct languages, or around 15 per cent of all languages spoken on the planet. This linguistic diversity is not the result of migration and physical isolation of different populations. Instead, people living in close quarters seem to have chosen to separate into many distinct societies, leading lives so separate that they have become incapable of talking to one another. Why?

Thinking about this, I was struck by an uncanny parallel between linguistic and biological diversity. A well-known phenomenon in ecology called Rapoport's rule states that the greatest diversity of biological species is found near to the equator, with numbers tailing off as you approach the poles. Could this be true for languages too? To test the idea, anthropologist Ruth Mace from University College London and I looked at the distribution of around 500 Native American tribes before the arrival of Europeans and used this to plot the number of different language groups per unit area at each degree of latitude (*Nature*, vol 428, p. 275). It turned out that the distribution matched Rapoport's rule remarkably well.

The congruity of biological species and cultures with distinct languages is probably not an accident. To survive the harsh polar landscape, species must range far and wide, leaving little opportunity for new ones to arise. The same is true of human groups in the far northern regions. They too must cover wide geographical areas to find sufficient food, and this tends to blend languages and cultures. At the other end of the spectrum,

just as the bountiful, sun-drenched tropics are a cradle of biological speciation, so this rich environment has allowed humans to thrive and splinter into a profusion of societies.

Of course that still leaves the question of why people would want to form into so many distinct groups. For the myriad biological species in the tropics, there are advantages to being different because it allows each to adapt to its own ecological niche. But humans all occupy the same niche, and splitting into distinct cultural and linguistic groups actually brings disadvantages, such as slowing the movement of ideas, technologies and people. It also makes societies more vulnerable to risks and plain bad luck. So why not have one large group with a shared language?

An answer to this question is emerging with the realisation that human history has been characterised by continual battles. Ever since our ancestors walked out of Africa, beginning around 60,000 years ago, people have been in conflict over territory and resources. In my book *Wired for Culture* (Norton/Penguin, 2012) I describe how, as a consequence, we have acquired a suite of traits that help our own particular group to outcompete the others. Two traits that stand out are “groupishness”—affiliating with people with whom you share a distinct identity—and xenophobia, demonising those outside your group and holding parochial views towards them. In this context, languages act as powerful social anchors of our tribal identity. How we speak is a continual auditory reminder of who we are and, equally as important, who we are not. Anyone who can speak your particular dialect is a walking, talking advertisement for the values and cultural history you share. What’s more, where different groups live in close proximity, distinct languages are an effective way to prevent eavesdropping or the loss of important information to a competitor.

In support of this idea, I have found anthropological accounts of tribes deciding to change their language, with immediate effect, for no other reason than to distinguish themselves from neighbouring groups. For example, a group of Selepet speakers in Papua New Guinea changed its word for “no” from *bia* to *bune* to be distinct from other Selepet speakers in a nearby village. Another group reversed all its masculine and feminine nouns—the word for he became she, man became woman, mother became father, and so on. One can only sympathise with anyone who had been away hunting for a few days when the changes occurred.

The use of language as identity is not confined to Papua New Guinea. People everywhere use language to monitor who is a member of their “tribe.” We have an acute, and sometimes obsessive, awareness of how those around us speak, and we continually adapt language to mark out our particular group from others. In a striking parallel to the Selepet examples, many of the peculiar spellings that differentiate American English from British—such as the tendency to drop the “u” in words like colour—arose almost overnight when Noah Webster produced the first American Dictionary of the English Language at the start of the 19th century. He insisted that: “As an independent nation, our honor [sic] requires us to have a system of our own, in language as well as government.”

Use of language to define group identity is not a new phenomenon. To examine how languages have diversified over the course

of human history, my colleagues and I drew up family trees for three large language groups—Indo-European languages, the Bantu languages of Africa, and Polynesian languages from Oceania (*Science*, vol 319, p. 588). These “phylogenies,” which trace the history of each group back to a common ancestor, reveal the number of times a contemporary language has split or “divorced” from related languages. We found that some languages have a history of many divorces, others far fewer.

When languages split, they often experience short episodes during which they change rapidly. The same thing happens during biological evolution, where it is known as punctuational evolution (*Science*, vol 314, p. 119). So the more divorces a language has had, the more its vocabulary differs from its ancestral language. Our analysis does not say why one language splits into two. Migration and isolation of groups is one explanation, but it also seems clear that bursts of linguistic change have occurred at least in part to allow speakers to assert their own identities. There really has been a war of words going on.

So what of the future? The world we live in today is very different from the one our ancestors inhabited. For most of our history, people would have encountered only their own cultural group and immediate neighbours. Globalisation and electronic communication mean we have become far more connected and culturally homogenised, making the benefits of being understood more apparent. The result is a mass extinction of languages to rival the great biological extinctions in Earth’s past.

Although contemporary languages continue to evolve and diverge from one another, the rate of loss of minority languages now greatly exceeds the emergence of new languages. Between 30 and 50 languages are disappearing every year as the young people of small tribal societies adopt majority languages. As a percentage of the total, this rate of loss equals or exceeds the decline in biological species diversity through loss of habitat and climate change. Already a mere 15 of the Earth’s 7,000 languages account for about 40 per cent of the world’s speakers, and most languages have very few speakers.

Still, this homogenisation of languages and cultures is happening at a far slower pace than it could, and that is because of the powerful psychological role language plays in marking out our cultural territories and identities. One consequence of this is that languages resist “contamination” from other languages, with speakers often treating the arrival of foreign words with a degree of suspicion—witness the British and French grumblings about so-called Americanisms. Another factor is the role played by nationalistic agendas in efforts to save dying languages, which can result in policies such as compulsory Welsh lessons for schoolchildren up to the age of 16 in Wales.

Linguistic Creativity

This resistance to change leaves plenty of time for linguistic diversity to pop up. Various street and hip-hop dialects, for example, are central to the identity of specific groups, while mass communication allows them easily to reach their natural constituencies. Another interesting example is Globish, a pared-down form of English that uses just 1,000 or so words and simplified language structures. It has spontaneously

evolved among people who travel extensively, such as diplomats and international business people. Amusingly, native English speakers can be disadvantaged around Globish because they use words and grammar that others cannot understand.

In the long run, though, it seems virtually inevitable that a single language will replace all others. In evolutionary terms, when otherwise equally good solutions to a problem compete, one of them tends to win out. We see this in the near worldwide standardisation of ways of telling time, measuring weights and distance, CD and DVD formats, railway gauges, and the voltages and frequencies of electricity supplies. It may take a very long time, but languages seem destined to go the same way—all are equally good vehicles of communication, so one will eventually replace the others. Which one will it be?

Today, around 1.2 billion people—about 1 in 6 of us—speak Mandarin. Next come Spanish and English with about 400 million speakers each, and Bengali and Hindi follow close behind. On these counts Mandarin might look like the favourite in the race to be the world's language. However, vastly more people learn English as a second language than any other. Years ago, in a remote part of Tanzania, I was stopped while attempting to speak Swahili to a local person who held up his hand and said: "My English is better than your Swahili." English is already the worldwide lingua franca, so if I had to put money on one language eventually to replace all others, this would be it.

In the ongoing war of words, casualties are inevitable. As languages become extinct we are not simply losing different ways of saying "good morning," but the cultural diversity that has arisen around our thousands of distinct tribal societies. Each language plays a powerful role in establishing a cultural identity—it is the internal voice that carries the memories, thoughts, hopes and fears of a particular group of people. Lose the language and you lose that too.

Nevertheless, I suspect a monolingual future may not be as bad as doomsayers have suggested. There is a widely held belief that the language you speak determines the way you think, so that a loss of linguistic diversity is also a loss of unique styles of thought. I don't believe that. Our languages determine the words we use but they do not limit the concepts we can understand and perceive. Besides, we might draw another, more positive, moral from the story of Babel: With everyone

speaking the same language, humanity can more easily cooperate to achieve something monumental. Indeed, in today's world it is the countries with the least linguistic diversity that have achieved the most prosperity.

Critical Thinking

1. Discuss the linguistic diversity among humans in comparison to animal communication.
2. What is the "intriguing paradox" at the heart of human communication?
3. How does the author explain the original diversity of human languages?
4. Where on earth is the greatest diversity of human languages and why?
5. How do *groupishness* and *xenophobia* both play a role in linguistic diversity? Be familiar with the evidence cited by the author in support of this idea.
6. What are the factors involved in why a language splits into two?
7. What is the future for linguistic diversity and why? Why is the pace of "homogenization" slower than it could be?
8. In what contexts does linguistic diversity continue to pop up?
9. What does the author see as the future for linguistic diversity? Why might a "monolingual future" not be as bad as doomsayers have suggested?

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