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LINGUISTIC DIVERSITY

Many of today's languages are endangered. Maintaining all the languages in the world is important not only for several areas of research but also for the future of the planet too: Much of the most sophisticated knowledge about how to live sustainably, in balance with the ecosystem, is encoded in them. Linguistic human rights, especially in education, are one necessary prerequisite for the maintenance of linguistic diversity (LD). This entry defines linguistic diversity, discussing how it has been measured and how it is related to biodiversity. It examines issues related to educational policies that may enhance Indigenous and minority/minoritized languages and cultures.

Linguistic diversity has been defined as "the range of variation exhibited by human languages," or as "the variety and richness of languages in human societies." *The Ethnologue:*Languages of the World, a reference work (Lewis, Simons, & Fennig, 2013) and website that at present provides the best list of the world's languages, reports that there are 7,105 'living languages.' Of these, 2,146 are in Africa, 1,060 in the Americas, 2,304 in Asia, 284 in Europe and 1,311 in the Pacific. It lists only 126 sign languages, native languages of the Deaf—there are many more. Eight languages (0.1%) have over 100 million first-language speakers, 77 (1.1%) between 10 and 100 million, and 308 (4.3%) between 1 and 10 million; fewer than 200 languages have more than 3 million first-language speakers. Thus the languages that make up most of the world's LD are small in terms of number of speakers.

The concept of "a language" is far from clear. There are and cannot be any precise definitions of what a language is, as opposed to dialects, sociolects, or other variants. One cannot differentiate between "languages" and "dialects" on linguistic grounds—it is always a political decision. Danish, Norwegian, and Swedish are structurally close to each other and the speakers can to a large extent understand each other—still they are seen as different languages. What was two decades ago one language, Serbocroatian, is now officially Serbian, Croatian, and Bosnian. The *Ethnologue* lists 41,186 alternate names and dialect names for 7,413 languages.

LD can be measured in various ways; the most diverse countries are claimed to be the ones with the largest numbers of languages. With this measure, Papua New Guinea, with 830 languages, would be the world's most linguistically diverse country, followed by Indonesia (722), Nigeria (521), India (445), the United States (364), Mexico (297), Australia (207), China (296), Cameroon (279), Democratic Republic of the Congo (217), Brazil (193), Philippines (181), Canada (169), Malaysia (145), the Russian Federation (135), Sudan (134), Chad (133), Tanzania (129), Nepal (127), Myanmar/Burma (116), Vanuatu (114), and Vietnam(108).

Greenberg's diversity index measures the probability that any two people of the country selected at random would have different mother tongues. This gives a different order for the highest- and lowest-diversity countries. Papua New Guinea is still the top country, followed by Vanuatu, Cameroon, Solomon Islands and Central African Republic (see Table 8 on the website; http://www.ethnologue.com/ethno_docs/distribution.asp?by=country#7).

Many languages are seriously threatened. Most in, for instance, Australia, Canada, and the United States have extremely few speakers and will, unless very drastic measures are taken immediately, not have any speakers by the year 2100. Minimally half of the world's spoken

languages and, in more pessimistic but realistic estimates, 90% to 95% of them will be extinct or very seriously threatened (no longer learned or spoken by children) by the year 2100.

UNESCO's Interactive Atlas of the World's Languages in Danger divides the 2,474 endangered languages into five categories: vulnerable (601 languages), definitely endangered (648), severely endangered (526), critically endangered (576) or extinct (231). The most important criterion is intergenerational transmission, i.e. whether most speakers are elders or whether the languages are still learned by children.

David Harmon and Jonathan Loh, who developed a quantitative measure of trends in linguistic diversity (Harmon & Loh, 2010), concluded that globally, LD has declined by 20% from 1970 to 2005. Of the world's six regions, the sharpest declines by far in LD have occurred in the Americas and Australia. The top 16 languages spoken worldwide increased their share of speakers among the world's population from 45% in 1970 to some 57% in 2005.

Many linguists support the maintenance of LD because the more languages we have, the more data and the more varied linguistic data we can access. They study specific characteristics of particular languages, comparing what building blocks languages utilize and how these can be put together. This reflects human resources and ways of functioning that cognitive linguists and psychologists are interested in. Debates about linguistic universals ask what all languages, and our human language faculty, might have in common; and whether and how human languages differ from other communication systems, including those of other animals. Researchers also use this knowledge to develop machine-human interaction and construct automatic translation programs. Many also see each language as reflecting the unique worldview of the people who have developed it. Sign language researchers have shown that sign language users, especially

those in the Deaf community, develop capacities that hearing people have not developed, for instance in relation to their vision. For all this research, LD is a prerequisite.

Researchers from other areas are also interested in LD. The genus *Homo* may have been on earth for up to 7 million years. *Homo habilis* may have been able to speak in some fashion even 2 million years ago, but genetic science suggests that all people living today (Homo sapiens) are descended from a small population living in Africa some 150,000 years ago. Our present-day LD reflects this. Many find it puzzling that so much LD has been able to develop in such a short period. There must have been powerful diversifying mechanisms at work—but these have worked unevenly. If Britain had the same ratio of spoken languages to inhabitants as Cameroon, or the United States the same as Papua New Guinea, Britain would have 1,250 native languages and the United States nearly 60,000. Western countries are indeed linguistically poor: Europe has only 239 living spoken languages. Just as Europe is both genetically and biologically the world's most homogenous part, Europe is also the poorest one in LD, provided that we discount recent immigrants. Geneticists, archaeologists, anthropologists, geographers, historians, and others compare the differences between languages, the migration patterns suggested by linguistic data, and so on, with patterns and dates suggested by results in their own areas of research. Often these diverse genetic, archaeological, and linguistic data agree, while radiocarbon dating sometimes may give a different result. Several multidisciplinary areas of study are emerging from this need to consider theories and data from what formerly seen as several separate disciplines. For all these new disciplines, the study of LD may yield central or at least complementary insights. Thus transdisciplinarity is enabled by the maintenance of LD.

A central reason for the importance of the maintenance of LD is that there is a correlational relationship, and most probably also a causal one, between biodiversity and

linguistic (and cultural) diversity. Where there is a high degree of biodiversity (many species of plants, animals, and other biological organisms), there are usually also many languages, and vice versa: there are few languages in biodiversity-wise poor areas. Traditional ecological knowledge and practices often make indigenous/tribal peoples, minorities, and local communities highly skilled and respectful stewards of the ecosystems in greatest need of protection. Local, minority, and indigenous languages are repositories and means of transmission of this knowledge and the related social behaviors, practices, and innovations. The relationship between diversities is most probably also causal, a coevolution where biodiversity in the various ecosystems and humans through their languages and cultures have mutually influenced each other (see Harmon & Loh, 2010). The various ways that different peoples influence their environments were and are filtered through their cultural patterns, including their languages. Much of the knowledge about (necessary) elements of integrated ecosystems and the relations between these elements and about how to maintain biodiversity is encoded in small indigenous/tribal and local languages. In order to maintain the detailed knowledge encoded in small indigenous/tribal languages about the complexities of biodiversity and how to manage ecosystems sustainably, the languages and cultures need to have better conditions. They need to be transmitted from one generation to the next, in families and through schools. If global LD is not to suffer irreparable attrition, as a result of today's assimilationist education, major changes are needed in educational language policy (see Skutnabb-Kangas & Dunbar, 2010, showing that most Indigenous education fulfills the criteria for genocide in two of the five definitions of genocide in United Nations' 1948 International Convention on the Prevention and Punishment of the Crime of Genocide). Subtractive dominant-language-medium education has been shown by solid empirical research to be educationally the worst alternative for Indigenous, tribal, minority and minoritized children

(any arguments promoting this kind of education are political, not scientific); in addition it leads to diminishing linguistic diversity. From this perspective, a central necessary change, also advocated by UNESCO, is mother-tongue-based multilingual education that respects linguistic human rights.

But the disappearance of languages from the whole world is today continuing at an alarming pace. External forces are dispossessing traditional peoples of their lands, resources, and lifestyles; forcing them to migrate or subsist in highly degraded environments; crushing their cultural traditions or ability to maintain them; or coercing them into linguistic assimilation and abandonment of ancestral languages. People who lose their linguistic and cultural identity may lose an essential element in a social process that commonly teaches respect for nature and understanding of the natural environment and its processes. Forcing this cultural and linguistic conversion on indigenous and other traditional peoples not only violates their human rights, but also undermines the health of the world's ecosystems and the goals of nature conservation. It can be argued that in any crisis, uniformity is the worst way to respond; diversity is resilience. This includes linguistic diversity.

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See also Diversity; Identity and Identity Politics; Multiculturalism; Rights: Children, Parents, and Community

FURTHER READINGS

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