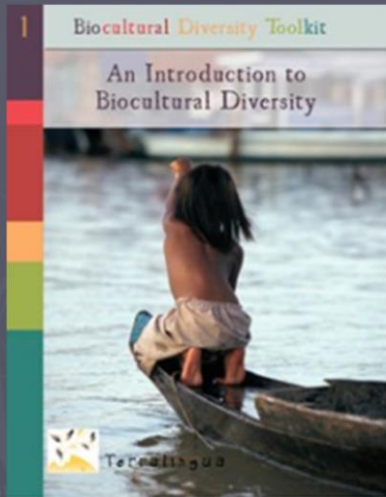


A look at diversity



- Biocultural Diversity
- Diversity in all its manifestations
- Three elements:
- Biological
- Cultural
- Linguistic

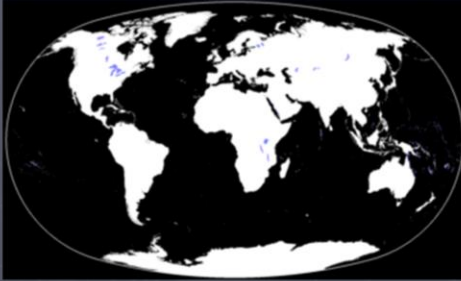
Many of us will be familiar with the nature vs nurture debate, and the idea that nurture somehow stands *in opposition to* nature, a stance which also implies that nurture is in some way “unnatural”. This view *may* be seen as a *false dichotomy*, and has been challenged recently by the concept of *biocultural diversity*, as championed, in particular, by Luisa Maffi, co-founder and director of the *Terralingua* organisation. In their *An Introduction to Biocultural Diversity* (p. 7) she makes the following claim: “The “true” web of life is *biocultural diversity: the interlinked diversity of life in nature and culture, an integrated whole formed by biodiversity, cultural diversity, and linguistic diversity.*”

It is worth emphasising here that cultural diversity and linguistic diversity are noted as *two* separate elements of this integrated whole, rather than one. Despite the obvious links between the one and the other (and the temptation to use the latter to quantify the former) there are good reasons for keeping them apart, as we shall see shortly.

The belief that nature and nurture are interlinked does not, however, mean that “anything goes”. Acknowledging humans as part of the natural world is not to suggest that everything we do is therefore natural. Industrialised societies in particular have disconnected from the “traditional environmental knowledge” (TEK) which supports diversity, and instead promoted *monoculture* (making everything the same) in both the *agricultural* and *human cultural* senses, subsequently harming diversity. We shall now look at the three elements in reverse order, from linguistic to cultural to biological.

Image: The front cover of Terralingua’s *Biocultural Diversity Toolkit Vol. 1* © Cristina Mittermeier

How many countries?



Approximately 200

- ▶ Africa: 54
- ▶ Asia: 50
- ▶ Americas: 25
- ▶ Australia/Oceania: 14
- ▶ Europe: 51

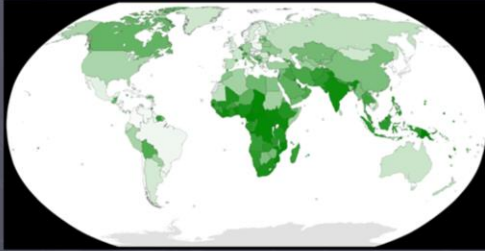
The number of countries in the world is not static. New nation-states are formed regularly, and the existence of some of them is not universally recognised. The fall of the Iron Curtain in Europe and the break-up in the 1990s of the former Soviet Union and Yugoslavia resulted in over 20 new countries in a relatively short period of time. There are currently 193 members of the United Nations, and so, allowing for some possible changes in the near future, we can use 200 as an approximate figure for now.

Many of the world's states are actually quite new, and have been created by colonial powers. This is one reason why the borders of so many states and provinces in the USA, Canada and Australia, as well as countries in North Africa and the Middle East, are straight lines. They were often decided, quite literally, by drawing lines on maps!

As many of these colonial powers were European, the borders there are inclined to be older and determined by internal wars and politics. As far as languages in Europe are concerned, with some exceptions such as Belgium and Switzerland, there is here a tendency to equate each country with one language, for example, French in France, German in Germany, Spanish in Spain, Portuguese in Portugal, Danish in Denmark and so on. So, on this basis, if asked to guess the number of languages in the world, we might assume that there would be about 200. That said, we may also know of some countries with additional “minority” languages such as Welsh, Gaelic or Basque, and so increase the number of languages worldwide to maybe 500 or even 1000. The next slide will tell us, more or less, the actual figure.

Linguistic Diversity: How many languages?

Approximately 6,500



- ▶ Africa: 31%
- ▶ Asia: 34%
- ▶ Americas: 14%
- ▶ Australia/Oceania: 18%
- ▶ Europe: 3%

There are between 6,000 and 7,000 languages in the world, i.e., over 20 times the number of countries. A more precise figure is difficult, as the distinction between languages and dialects is not always exact, and also because new languages are still being added to the total. The halfway point has been used here for convenience, although the real figure is more likely to be towards the higher end of this scale.

The map in this slide gives an indication of the frequency of languages in the different parts of the world; the darker the shade of green the greater the diversity of languages. The percentages shown against the different continents also indicate why Europe should not be taken as the norm. Despite Asia and Africa having roughly the same number of countries as Europe, they have more than ten times Europe's percentage of the world's languages. There is, in fact, *no* correlation between languages and nation-states, *unless* an individual state has created such a correlation by granting official status to some languages (which may not even be historically associated with that country) but not to others.

Although the number of the world's languages today may seem high, research done for the British Council in 2006 suggests that 500 years ago the figure was more than likely twice that amount, with a total numbering around 14,000. There has been a decline since the year 1500, which is continuing (and accelerating) today.

Image: The World Map of Linguistic Diversity from the 18th edition of *Ethnologue: Languages of the World*

Countries with most languages



- Papua New Guinea
- Indonesia
- Nigeria
- India
- China
- Mexico
- Cameroon

The countries named in this slide are the seven with the highest number of languages spoken within their territories (according to *Ethnologue*). Papua New Guinea is a country about twice the size of the UK, but with a population of only 9 million. It has more spoken languages than any other country on Earth, roughly 840. Regardless of this diversity, or perhaps because of it, there are only three spoken languages and one sign language with official status.

Indonesia has 707 languages, with only one of these official. Nigeria has 517, with one “official” and three “national” languages. India has 447, with only two recognised as official at the national (i.e., all India) level, although 22 are recognised regionally at state level by state legislatures. China has 302 languages, with only one of these official at the national level, while Mexico has 287. Spanish is the *de facto* working language here but the constitution does recognise a further 68. Cameroon has 274, but only two of these are official at the national level (English and French) with a further five recognised regionally.

With the exception of China, all of these countries were founded following European colonial rule. This has been a major contributing factor to the decline of languages since the year 1500. The “bottom up” organic process which led to such diversity has been replaced by a “top down” legislative approach which, it could be argued, expects the population to serve the government rather than the reverse.

Image: Language families of New Guinea (courtesy of kwami).

Languages with most speakers



- Mandarin (918m)
- Spanish (480m)
- English (379m)
- Hindi (341m)
- Bengali (228m)
- Portuguese (221m)
- Russian (154m)

The languages shown in this slide are the seven with the highest number of *native* speakers (again according to *Ethnologue*). We can see that they do not match the official languages of the United Nations discussed earlier. Many of them will of course have large additional numbers of second-language speakers. If we add Japanese, German and French to the list, then these ten languages account for over 40% of the world's population. Further expanding the list to include the top 25, which brings in languages like Korean, Turkish and Italian, we now pass the 50% mark, meaning that over half of the world's population speaks one of these 25 languages.

At the other end of the scale, the remaining 6,000+ languages are spoken by the rest of the world's population. Over half of the languages in the world have fewer than 10,000 speakers, and more than a quarter have fewer than 1,000. There are even about 50 languages (although that number will likely have changed between the time of writing this slide and presenting it) with only one remaining speaker.

The continued concentration of speakers across an ever-decreasing number of languages has without doubt been accelerated by centralisation. Overall, 96% of the world's population speaks 4% of its languages, with the reverse figure of course also being the case. The greatest language *density* in the world can be found in Vanuatu, where 120 languages are spoken within a population of 100,000.

Image: An example of “Chinglish” – imperfect translations from Chinese to English, two of the most spoken languages in the world.

Definitions of Culture

"that *complex whole* which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society"

Edward Tylor (1871)

"Culture is a fuzzy set of basic assumptions and values, orientations to life, beliefs, policies, procedures and behavioural conventions that are shared by a group of people..."

Helen Spencer-Oatey (2012)

Turning for a moment to the wider issue of the relationship between language and culture, it would be useful if we could first of all establish precisely what culture is. This turns out to be a more difficult task than might be imagined. In the 1950s, anthropologists offered 164 different definitions, but no conclusive agreement was reached.

Two typical definitions, separated by some 140 years, are shown in this slide. The first, from Edward Tylor's *Primitive Culture* claims that culture is a *complex whole*. The second, from Helen Spencer-Oatey's *What is culture?* describes it as a *fuzzy set* of various elements. Both assert that these elements are part of something wider, rather like interconnected parts of an organism, listing things like *beliefs, values, laws, customs, policies, conventions, habits* as typical examples. Although not specifically excluded, it can be seen that neither of these definitions actually includes language.

Another useful attempt at defining culture is offered by Peter Richerson and Robert Boyd in their book *Not by Genes Alone: How Culture Transformed Human Evolution*. They assert that "*culture is information capable of affecting individuals' behavior that they acquire from other members of their species through teaching, imitation and other forms of social transmission*". Crucially, they also maintain that "*culture is part of biology*", a stance in keeping with *gene-culture co-evolutionary theory* or *dual inheritance theory*. This claims that we are a *combination* of that which is transmitted to us through the *genes* and also that which is transmitted to us through *learning*.

Cultural Diversity: How many cultures?



"How many different cultures there are in the world is difficult to quantify, because cultural boundaries are permeable, and many cultural traits overlap across multiple social groups." Luisa Maffi

One problem arising from the complexities involved in defining culture is that it can consequently be difficult to *quantify* how many cultures exist in the world. If we think back to our three elements of biocultural diversity, i.e., the linguistic, the cultural and the biological, we have seen that, despite some gaps in knowledge and uncertainties in some cases about the boundaries between *dialects* and *languages*, it is still possible to give an approximate figure for how many *languages* there are. We will shortly see that, despite similar gaps in our knowledge of biodiversity, and boundaries between *subspecies* and *species*, we can also put an approximate figure on how many *species* there are in the world. No equivalent figure is available for *cultures*. Put simply, we cannot *identify* or *count* cultures in the same way we can with languages and species.

The International Union for Conservation of Nature (IUCN) has a list of *endangered species*. UNESCO has a list of *endangered languages*, but it has no equivalent list of *endangered cultures*. Instead, it has a list of *World Heritage Sites* and another list of *intangible cultural heritage*. Presumably, the former represents the tangible, and the latter represents the intangible, thus offering a fuller picture. Intangible cultural heritage includes traditions, rituals and practices consisting of knowledge and skills (in the form of music, dance, arts and crafts, and so on) many of which do not leave physical remains, as opposed to the physical manifestation of skills which can be seen in World Heritage Sites.

Image: The culture wheel (courtesy of მარიამ იაკობაძე)

Languages and Cultures



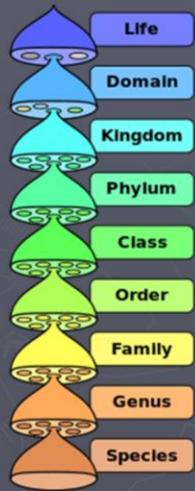
- ▶ Hereditary information is transmitted through the genes
- ▶ Cultural information is transmitted through learning, but:
- ▶ Our *capacity* to learn is genetically transmitted
- ▶ We are naturally “born to learn”

The inability to quantify cultures (or perhaps *cultural practices* would be a better way of putting it) in no way implies that they are less valuable than languages. It does, however, cause a problem in a world which likes to quantify everything. One response to this, used by both *Terralingua* and UNESCO, has been to use the number of languages as a proxy for the number of cultures. Although understandable, there are good reasons why this should *not* be done. Richerson and Boyd, for instance, have found that language is not a good predictor of material culture. Studies in diverse parts of the world have shown that neighbouring villages with closely-linked languages are no more similar in terms of their *material culture* than villages just as nearby which speak totally unrelated languages. They also note that languages likewise do not correlate with other traditions in the form of hunting, farming, religion, dance and other rituals. From this, we might assert that cultures are *not* complex wholes as suggested by Tylor, but separate elements with independent distribution methods.

Language and culture are, of course, both learned, and so it could be claimed that, as culture is part of biology, language is itself *part of* culture. It is certainly the main (but not only) *medium* through which culture is transmitted, but language is a very distinct and autonomous part of what we learn, quite separate from other aspects. This is no doubt why there are *three* elements to biocultural diversity instead of *two*. The “laws” of a language (its grammar etc) are not passed by governments or other cultural traditions, but by subconscious unplanned changes of which we are largely unaware.

Image: Cross-Cultural Language (courtesy of the Council of Europe)

Biodiversity: How many species?



- Mammals: 6,500
- Amphibians: 6,500
- Reptiles: 9,000
- Birds: 10,000
- Fishes: 30,000
- Insects: 1,000,000
- Plants: 300,000
- Fungi: 100,000

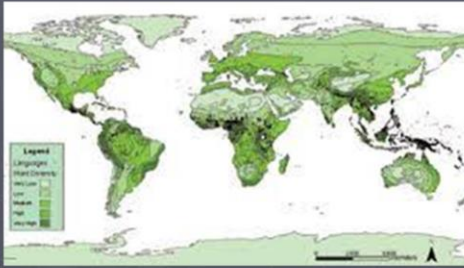
Moving briefly to biodiversity, it must first be noted that there are far more species than there are languages. This should come as no surprise, given that we are the only species with language and we have been around for a maximum 2 million years or so. This is a drop in the ocean when compared to the total length of life on Earth which goes back about 3.65 billion years.

The taxa shown in this slide are all multicellular eukaryotes, and not even all of these have been included due to lack of space, nor does the list show unicellular prokaryotes such as bacteria and archaea, which would bump the figure up considerably. Despite this, there is hopefully enough information here to give an idea of the rich biodiversity which can be found on Earth (and, as far as we know, nowhere else). Unfortunately, that biodiversity is declining, probably as a result of recent human activity.

It can be seen that the number of mammal species and amphibian species are similar to the number of languages. Another interesting figure (not shown separately but contained within plants) is the number of conifers, the trees which are sometimes called “the lungs of the world”. There are about 650 species of these, or 10% of the number of languages, mammals or amphibians.

Of the total number of species listed by the IUCN, almost 135,000 are classified as endangered. These are not spread evenly across all taxa, though, as some forms of life are more susceptible to extinction than others. We shall take a look at these, as well as languages and World Heritage Sites (of which there are some 1,000) on the next slide.

Common Threats to Diversity



- ▶ Languages: 40%
- ▶ Amphibians: 40%
- ▶ Conifers: 33%
- ▶ Reef Corals: 33%
- ▶ Mammals: 25%
- ▶ Reptiles: 19%
- ▶ Birds: 14%
- ▶ Heritage Sites: 5%

As can be seen, about 40% of the world's languages are currently endangered, with a prediction that this figure may increase to between 50% and 90% by the year 2100. A similar proportion of the world's amphibians are also endangered, along with one third of the world's conifers and reef corals. A quarter of mammal species are in danger of extinction and a somewhat smaller, but still alarming, proportion of reptiles and birds.

Cultural heritage does not escape either, with some 5% of our World Heritage Sites at risk. Due to our inability to quantify it, we cannot accurately know what proportion of the world's intangible cultural heritage faces extinction, but we can be fairly certain that the direction of travel is downwards, as that seems to be the case for everything.

The primary cause of biodiversity loss is habitat destruction and degradation, either by destroying forests and the like to make way for more settlements, or the replacement of diverse ecosystems with monocultural ones such as palm oil plantations. In many ways, these same factors are threatening linguistic and cultural diversity, via the destruction of indigenous peoples' environments (and therefore their traditional ways of managing them) and the creation of monolingual environments for "convenience".

The figure in the slide shows the *Terralingua* map of plant diversity (shades of green) and language diversity (black dots). The darker the shade of green, the greater the diversity of plants, and the more numerous the black dots, the greater the diversity of languages. We can see that there is considerable correlation between the two.

Image: Plant Diversity vs Linguistic diversity from *Biocultural Diversity Toolkit: An Introduction to Biocultural Diversity*, (p.11). Source Stepp et al (2004) for Terralingua

Linguistic Diversity: Does it matter?



- Multilingualism: curse or blessing?
- Monolingualism: curse or blessing?
- Equality of opportunity, or an act of linguistic vandalism?

Returning finally to linguistic diversity, according to the story of the Tower of Babel, the diversity of the world's languages is a *punishment* bestowed by God upon a monolingual humanity which was trying to build a tower to reach heaven. Such audacity had to be stopped, and so God ensured that people would no longer all be able to understand one another.

In recent centuries, humanity has, sometimes by design and sometimes by accident, taken its own steps towards monolingualism. Some would argue that the drive towards a single language (whether within an individual country or globally) is a *good* thing, removing all communication barriers between people, and enabling equality of opportunity and access to resources which are denied to many at present.

Others would argue that it would be an intellectual *disaster* for humanity, leading to the loss of enormous amounts of traditional knowledge (stored within languages) and leaving us with only one way of looking at the world and expressing ourselves. Access to resources is best achieved by providing services to people in languages they already speak, not through an equality of opportunity which has been imposed on them.

Would the world be better or worse off if we all spoke the same language? Consider this from both a practical and an ethical perspective, and try to come up with many pluses and minuses as you can!

Image: The Tower of Babel by Pieter Bruegel the Elder.

Conclusion



- ▶ A specifically human communication system
- ▶ Enables transmission of cultural information
- ▶ Comes in a wide variety of forms
- ▶ Changes through time and space
- ▶ Shares parallels with other forms of diversity

During the course of this unit we have looked at language as a uniquely human phenomenon.

We have seen that it enables us to pass on cultural information in a way that other animal species cannot, and that it comes in a wide variety of forms which change through time and space in ways not consciously planned by us.

We examined relationships between different languages, and saw that the processes of language formation, competition and extinction share numerous analogies and parallels with the formation, ecology and extinction of living things. Although not living things in themselves, it's worth remembering that languages are the *product* of living things, so some of these parallels should perhaps not surprise us.

We then considered linguistic diversity, both in its own right and within the wider context of biocultural diversity, as well as the possible threats to it. We concluded with a consideration of the pluses and minuses of a monolingual vs multilingual world.

I hope you enjoyed the content. Good luck with the rest of the module.

Image: The End (in French – one of the six official languages of the UN!).