

Last word

'Like ancient forests displaced by houses, language is eroded too'

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WE ARE FAMILIAR WITH THE ENGLISH word "chary", meaning cautious or anxious. But if you were an elderly Siberian Chulym reindeer herder, and one of the handful of people left who speak the ancient language known as Middle Chulym or Tuvan, the word *chary* would translate as "a two-year-old castrated-able rideable reindeer". (In Siberia, it seems, two-year-old uncastrated male reindeer have reason to be, well, chary.) The word tells us something specific about the ecology of reindeer herding in Siberia.

The linguist David Harrison cited this obscure word in a fascinating address to the American Association for the Advancement of Science this week, as an example of the extraordinary interaction between language and biodiversity: the languages of ethnic groups, he pointed out, contain vitally important information about species often unknown to formal science. If the language is lost, so too will vanish the knowledge it contains about natural phenomena.

More than half of the world's 7,000 languages are expected to die out by the end of the century, taking with them irreplaceable knowledge about plants and animals. Global warming, loss of habitat and pollution are not the only threats to the environment: lack of linguistic diversity poses a direct threat to biodiversity.

"Most of what humans know about eco-systems is not written down, it is in people's heads," Harrison argues. Replace an old language with a new one that does not contain the same concepts and vocabulary, and the environment becomes literally indescribable – and far more vulnerable.

The tiny community of Chulym people, who live in central Siberia, roughly 2,000 miles from Moscow, speak a language that has evolved from the harsh environment, based on hunting and gathering, plants, animal behaviour, weather and the planets. Modern languages long ago lost this organic fecundity.

But just as housing development encroaches on the forest, Middle Chulym is swiftly being eroded, like so many ancient languages. As nomadic people came under Soviet control, Russian spread, forcing out indigenous tongues and their preliterate oral tradition as surely as the grey squirrel displaced the red – there are now just 426 Chulym people left, of whom only 35 speak the ancient language fluently, all over the age of 50.

In another generation, their language will be gone, preserved only in Harrison's digital archive: there will be no living person left to speak the multiple Middle Chulym words that evolved over the centuries to describe every single conceivable variety of reindeer.

Ancient languages reflect unique ways of seeing the world and interacting with it. The Australian aboriginal language of Guugu Yimithirr, for example, does not have a concept of "left" and "right", relying instead on the concepts of "north", "south", "east" and "west". Your left hand, in other words, could be your north hand, unless you were facing 180 degrees in the opposite direction, in which case it would be your south hand. Guugu Yimithirr requires a constant awareness of where one stands within the landscape, geographically speaking – an alertness to one's surroundings utterly lost to modern speech.

Ancient language can also contain coded environmental information of which modern science may be unaware. The two-barred flasher butterfly of Central America, for example, was long assumed to be a single species. The Mexican Tzeltal tribe, however, knew better, and that knowledge was embedded in their language.

The tribe knew that while adult butterflies all looked the same, different types of larvae attacked different crops. Agriculture and survival depended on knowing, and naming, each distinct variety of larva. Scientists have only recently confirmed that there are at least ten species of two-barred flasher butterfly – something that the Tzeltal

language could have told them all along.

Languages have always developed and expanded, withered and died, reflecting the ebb and flow of human politics, economics, nutrition and migration. Between 100BC and AD400, the number of languages spoken around the Mediterranean dropped from about 60 to 10, eliminated by the steady march of Latin and Greek. But today languages are disappearing faster – some linguists estimate that an old language dies every fortnight.

Linguists are racing to document the most endangered, such as the “click” languages of South Africa, which may be the closest living descendants of the original human language that developed in Africa 100 millennia ago, and the 800 vanishing languages of Papua New Guinea, the most fertile language seed-bed on Earth.

When an animal species is declared extinct, we mourn, but world languages fade away with little fanfare. Preserving a language, as Harrison has done with Siberian Chulym, will not bring it back, but at least the ancient words will survive, like the DNA of the woolly mammoth preserved in permafrost, to tell us what the world we have lost was like.

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