

## Human knowledge eroded as endangered languages die

David Perlman, Chronicle Science Editor  
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A tiny community of reindeer herders in Siberia holds intimate knowledge of the lives, the foraging and the rutting season of their priceless animals, and it's the kind of information that is vital to anyone concerned by the loss of human cultures -- and to biologists worried about the loss of species diversity anywhere in the world.

Of the 426 members of Siberia's isolated Chulym people, only 35 still speak Tuvan, their ancient language, fluently, and they're all older than 50. Everyone else speaks only Russian, according to K. David Harrison, an adventuresome linguist at Swarthmore College in Pennsylvania. Harrison has lived with the Chulym and hopes to preserve their vanishing language.

The Chulym can fully describe a "2-year-old male castrated rideable reindeer" with only the single word chary, and to Harrison, that not only shows how ancient languages differ from their modern counterparts, but is symbolic of a worldwide loss in important cultural diversity.

Harrison was among those who addressed the annual meeting of the American Association for the Advancement of Science in San Francisco. Of the estimated 7,600 languages known in the world today, half are endangered and could be lost forever within a few decades, he said.

"Many will go extinct," he said, "and there's a compelling social reason to preserve them, for their disappearance is an erosion of human knowledge."

The Chulym, for example, have a valuable special knowledge of medicinal plants, of meteorology, hunting and gathering, Harrison said, and that knowledge, which they can describe in their own cryptic language, will be lost to biologists if it isn't reclaimed, he said.

"The extinction of ideas we now face has no parallel in human history," Harrison says in the book "When Languages Die," recently published by Oxford University Press, "and most of the world's languages remain undescribed by scientists. So we do not even know what it is we stand to lose."

Like the language of the Chulym, many native tongues exist only in the spoken form and have never been transcribed. Yet rendering them in written words is vital for their preservation and -- hopefully --

reintroduction in schools by willing communities, he said.

During the same discussion Saturday, Daryl Baldwin of Miami University in Oxford, Ohio, offered a more personal view of the issue.

Baldwin is a member of the Myaamia American Indian tribe that has lived in Oklahoma since its ancestors were forced between 1840 and 1896 to move from what were widespread tribal lands in Indiana and Ohio to Kansas and ultimately to the Oklahoma Territory. Just 3,000 Myaamia live there now, and only 50 tribal members can still use the language at various levels, he said.

His tribe, Baldwin said, is "economically viable today because of gaming," but he is deeply concerned by the loss of the tribe's language, culture and specialized knowledge. So at Miami University -- named for the Oklahoma tribe -- he is director of the Myaamia Project, an effort to study and reclaim the language, transcribe it for preservation, and learn from the tribe's elders all that is known about their traditional methods of cultivating and using plants and other natural resources.

"Aya ceeki," he said at the AAAS meeting, "myaaamiaataweenki" -- meaning, "Hello to all, this is the way the Miaami speak."

In an interview, he explained that as his tribal language is transcribed, a double vowel lengthens a syllable's pronunciation and also its meaning. Thus, he said, "meenaani means 'I drink,' while meenani means 'you drink.' "

And although his tribe has so few native speakers, the language was transcribed in the late 1600s by French Jesuits, so at least that remains, Baldwin said in his address, stressing the vital connection between his people's spoken language and its identity.

"For some of us," he said, "our language reconnects us to a human experience shared with previous generations. As a small tribal community that has been negatively affected by 150 years of oppression and cultural genocide, the language helps us heal from that traumatic past by re-establishing continuity and mending a crucial disruption in our lives."

American Association for the Advancement of Science

Public events

**Today**

12:30 p.m.

-- Marcia McNutt of the Monterey Bay Aquarium Research Institute discusses "Sustainable Resources From the Oceans: Taking Lessons (Good and Bad) From the Shore Side."