

Books & arts

How languages spread – and go extinct

Three books that take on the history of languages have something for everyone. **By Andrew Robinson**

A key human characteristic is our ability to communicate through complex languages – about 7,000 of which are spoken around the world today. Understanding the origin and development of past and present languages can help researchers to understand human evolution.

Although today's languages group into about 140 families, only 5 of these families are widely used: Indo-European, Sino-Tibetan, Niger–Congo, Afro-Asiatic and Austronesian. Indo-European languages form the largest family, if those who speak them as a second language are included – with 12 main branches ranging historically from northwestern China to western Europe. “Almost every second person on Earth speaks Indo-European”, notes science writer Laura Spinney in *Proto*, one of a trio of intriguing books exploring the history of languages, common and rare.

Both Spinney's lively book for non-specialists, and *The Indo-Europeans Rediscovered* – an academic study with broad appeal by archaeologist James Mallory – focus on the origins of this vast language family. By contrast, extinct and endangered languages are the preoccupation of *Rare Tongues*, a quirky study by linguist Lorna Gibb, aimed at all audiences.

The origin of the Indo-European language family has been the “Holy Grail for many intellectuals and many not-so intellectuals” over the past few centuries, writes Spinney. “The arguments have run from ingenious to ingenious to outright weird,” comments Mallory, with one even proposing a source “outside our galaxy”. His book's eye-catching appendix lists 176 individuals who, between 1686 and 2024, each proposed birthplaces, or homelands, for Indo-European – “as far north as the polar regions and as far south as Antarctica, from the Atlantic to the Pacific”.

William ‘Oriental’ Jones was one such thinker who was, and still is, widely cited, not least by Spinney and Mallory. A British philologist and pioneering Indologist who worked as a judge



Bolivia's Kallawayaya healers share medical knowledge in a language that is endangered.

Proto: How One Ancient Language Went Global

Laura Spinney
William Collins (2025)

The Indo-Europeans Rediscovered: How a Scientific Revolution is Rewriting their Story

J. P. Mallory
Thames & Hudson (2025)

Rare Tongues: The Secret Stories of Hidden Languages

Lorna Gibb
Atlantic (2025)

in colonial India, Jones drew attention in 1786 to the tantalizing resemblance between the ancient languages Sanskrit, Latin and Greek.

For example, the Sanskrit word for ‘mother’ is *mata* and the Latin is *mater*; the verb ‘to fly’ is *pátami* in Sanskrit, *pétomai* in Greek and *petō* in Latin. Jones found these similarities so strong that he wrote: “No philologist could examine them all three without believing them to have sprung from some common source, which, perhaps, no longer exists.” Here was the “semi-official discovery of the Indo-European language family”, observes Mallory.

Tracing Indo-European's origins

Jones speculated that the birthplace of Proto-Indo-European was probably in what is now Iran, with speakers migrating east towards India and west towards Europe. However, he

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did not coin the term Indo-European. That name was put forward in 1813 by physicist Thomas Young, a polymath now known for his contribution to deciphering ancient Egyptian scripts, including the two on the Rosetta Stone. While reviewing a compendium of the world's languages, Young postulated that the Indo-European homeland lay in Central Asia – specifically, in Kashmir, in the northwestern part of the Indian subcontinent.

Today, however, few scholars support this 'out-of-India' theory. The chief evidence cited by those who still do, as Spinney and Mallory describe, is the existence of the mysterious Indus Valley civilization, for which archaeological sites were found in the 1920s in northwestern India (which is now Pakistan) and later dated to as early as 3300 BC. Its people used an exquisite script, which adorns the frontispiece of Mallory's book. However, the Indus script remains undeciphered and offers little convincing evidence that its authors spoke either Sanskrit (as some linguists sympathetic to Hindu nationalism think) or another Indo-European language.

Between around 1870 and 1945, Indo-European homeland theories shifted towards various parts of Europe, as is explored at length by Mallory. Scandinavia was favoured by some on the basis of racial arguments – and subsequently advocated for in the form of Aryanism by Nazi Germany's regime. Lithuanian

language peculiarities point to an origin in the region east of the Baltic Sea, and the Linear Ware pottery culture (5500–4500 BC) points to one around the Danube River.

Genetics provides clues

The Pontic–Caspian Steppe theory, proposing a homeland spanning areas north of the Black Sea and the Caspian Sea, became prominent after about 1960. Spinney accepts it, and so does Mallory, if reluctantly, having spent his PhD pursuing it. "After a half-century of study I am pretty much where I started," Mallory

"Loss of languages can expunge other types of knowledge."

admits. The theory has its weaknesses, but, of all the potential homelands, it seems the "least bad", he adds.

What convinced Spinney, Mallory and others was genetics. In 2015, *Nature* published papers by two sets of authors who used distinct methods to analyse ancient-human DNA (W. Haak *et al. Nature* **522**, 207–211 (2015); M. E. Allentoft *et al. Nature* **522**, 167–172; 2015). The samples came from excavated graves of people of the Yamnaya culture, who lived in

the Pontic–Caspian Steppe between 8,000 and 3,000 years ago.

The papers concluded that hunter-gatherers, farmers and nomads migrated east towards Asia and west towards Europe around 5,000 years ago, and in Europe had substituted 90% or more of the gene pool with their genetic ancestry. "Most European men alive today, and millions of their counterparts in Central and South Asia, carry Y chromosomes that came from the steppe," writes Spinney. No other mass migrations – including the displacements caused by the fall of the Roman Empire, the Black Death, the 1918 influenza pandemic or the twentieth-century world wars – had similar "genetic, cultural or linguistic legacies".

Such genetic support explains, in Mallory's words, "the astonishing fact that people in Iceland, Ireland, England, Spain, Norway, Germany, Lithuania, Italy, Greece, Ukraine, Iran and India converse in languages that, if we rolled them back over about five thousand years, would merge into a common language". The findings also suggest that language played a more influential part in the evolution of human societies than did nationalism, empires and wars. But we can never know for certain – because the Yamnaya's language has disappeared forever.

Why some languages vanish

The reasons why some languages become extinct, and others thrive, are the focus of *Rare Tongues*. Gibb has lived in six European countries and draws examples from all over the world, across many periods of history.

She describes how Namibia – which was a German colony from 1884 to 1915 and then occupied by South Africa's apartheid regime – decided to choose an official language after the nation formally gained independence in 1990. Unsurprisingly, it rejected German and Afrikaans because of their associations with oppression. But, rather surprisingly, the Namibian government also rejected the nation's African languages, including Oshiwambo, which is spoken by half of the Namibian population. By contrast, post-apartheid South Africa granted 12 of its major languages, including Afrikaans and English, official status. The Namibian government feared that it might provoke ethnic divisiveness by choosing only one of its Indigenous languages as its main one.

Instead, Namibia nominated English, spoken by only 0.8% of the population at the time, as its sole official language for use in schools, government, religion and bureaucracy. Leaders hoped that this would encourage citizens to learn English, feel unified as a nation and communicate with the rest of the world. Today, however, only 3.4% of Namibians speak English as their main language, partly because of a dearth of English-speaking school teachers.

Such political and cultural complexity is part of the reason why some languages survive and others do not. Namibia's unexpected focus



The Indus script, from around 2600 BC, remains undeciphered despite a century of effort.

on English might endanger its Indigenous languages in the long term. “We are currently in the United Nations decade of indigenous languages (2022–2032), and activists and academics are highlighting what we still have and what we are in danger of forgetting”, writes Gibb. “This book is my contribution to that chorus of voices: a personal call to reflect.”

In Australia, for example, 93% of Indigenous languages are extinct or soon might be. And in India, 600 languages are endangered, partly because English has become a dominant language; 14 years ago, only 196 were, according to the UN cultural organization UNESCO.

Loss of languages can expunge other types of knowledge. Gibb highlights a study of biodiversity in Amazonia, North America and New Guinea. It demonstrated that local names for some 75% of the more than 12,000 plants investigated were “linguistically unique”. Many were known to have healing properties, with the potential for treating conditions, including cardiovascular disorders, mental illnesses and difficulties during pregnancy. When the language is lost, the plants remain but their benefits are forgotten, “despite having been part of a collective knowledge for hundreds or thousands of years”.

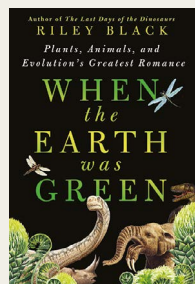
Whistled languages are the subject of one of the book’s most absorbing chapters. Amazingly, these exist on all inhabited continents. They arise from the fact, Gibb notes, that “full sentences in whistled speech are intelligible over distances ten times greater than if you were shouting”. This is possible because, unlike shouting, whistling does not strain the vocal cords and permits powerful volumes over a narrow range of frequencies.

Some languages nearing extinction have been revived. Manchu, an imperial language in China from 1644 to 1912, is now taught at universities across the country. Māori was made an official language of New Zealand in 1987 and is taught in schools. And Gaelic, promoted to an official language in Scotland in 2005, now appears alongside English on Scottish road signs. As Gibb concludes: “The preservation of linguistic variety is intrinsically linked to the continued existence of human diversity, but it requires effort and awareness.”

Together, these books capture the amazing complexity of languages worldwide, from many contrasting perspectives – including linguistics, archaeology, genetics and anthropology. However, readers must not expect to obtain a settled answer to the long-debated origin of Indo-European languages. As a frustrated Mallory jokingly warns: “solving the homeland problem is the academic equivalent of herding cats”.

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Books in brief



When the Earth Was Green

Riley Black *St Martin's Press* (2025)

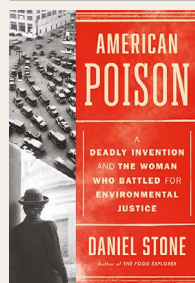
Science journalist and dinosaur enthusiast Riley Black turns her attention to plants. Applying her rock hammer to a sheet of limestone from the Cretaceous (some 100 million years ago) on a Montana mountainside hoping to find *Tyrannosaurus rex* fossils, she instead spots a leaf with minute branching veins exquisitely preserved in stone. Its beauty inspired this “series of unfolding vignettes that speak to how animals and plant life have changed each other through the ages”. Her book travels from 1.2 billion to 15,000 years ago.



What's Real About Race?

Rina Bliss *W. W. Norton* (2025)

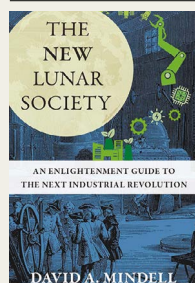
“There’s nothing biological or scientific about race,” notes sociologist Rina Bliss. The Human Genome Project, completed in 2003, proved that all humans are 99.9% the same, genetically speaking. In her thoughtful book, she argues that race is not just a “social construct” but a “social reality”. The daughter of an Indonesian mother and a New York-born father from an Ashkenazi Jewish family, she experienced this reality in how she was treated both at school in California and, in a different way, by some relatives in Indonesia.



American Poison

Daniel Stone *Dutton* (2025)

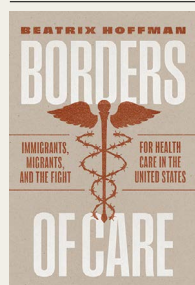
Leaded petrol’s toxicity is well known today. Less so is the complex battle against it that started in 1924. In 2021, Algeria was the last nation to ban the fuel. Journalist Daniel Stone captures this dramatic and disturbing story by focusing on engineer Thomas Midgley, who developed tetraethyl lead as a fuel in 1921 and was poisoned, and physician Alice Hamilton, who publicized its toxicity and fought courageously against its use. Sadly, “the more Hamilton was proven right”, Stone notes, “the further she seemed to fade from public view”.



The New Lunar Society

David A. Mindell *MIT Press* (2025)

“‘Design here, make there’ was a 1990s mantra,” writes engineer and historian David Mindell. This habit has led US companies “to separate product innovation from process innovation”. Reuniting invention with manufacture is crucial to a future industrial revolution, he says, as exemplified by the Lunar Society that met in industrial Birmingham, UK, from 1765 to 1813 on full-moon nights. The society’s distinguished “lunatics” included James Watt and his business partner Matthew Boulton, who together developed the steam engine.



Borders of Care

Beatrix Hoffman *Univ. Chicago Press* (2025)

This complex, sombre book about US health care exposes how foreign nationals provide the United States with many health workers, even when they have no official right to receive that care. Historian of medicine Beatrix Hoffman notes that the many politicians who portray foreign nationals as a burden on medical resources ignore the fact that “both the health care system and the immigration system are fundamentally broken”. Of US nurses who died of COVID-19, 20–30% were Filipino Americans and Philippine migrants. **Andrew Robinson**