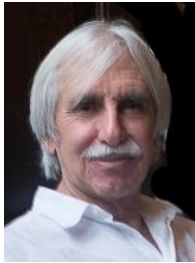


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Steve Lansing is co-director of the Complexity Institute & Professor, Asian School of the Environment at Nanyang Technological University in Singapore. He is an emeritus professor of anthropology at the University of Arizona, a senior research fellow at the Stockholm Resilience Centre, an external professor at the Santa Fe Institute and the Vienna Complexity Hub, and president of the Anthropology and Environment Society of the American Anthropological Association. His recent research has to do with adaptive self-organized criticality in coupled social-ecological systems, and co-phylogenies of languages and genes in the islands of Indonesia. In 2012 he developed a UNESCO World Heritage for the subaks and water temple networks of Bali.

Before moving to Arizona in 1998, Lansing held joint appointments at the University of Michigan in the School of Natural Resources & Environment and the Department of Anthropology, and earlier chaired the anthropology department of the University of Southern California. He has been a Fellow at the Institute for Advanced Study at Princeton, the Center for Advanced Study in the Behavioral Sciences at Stanford, the Institute of Advanced Study at Durham University and the Eijkman Institute for Molecular Biology in Jakarta. Publications and films are available at www.slansing.org.

Language and society in deep time

Humans live firefly lives, yet even without writing we retain ideas and social ties for immense stretches of time. How is that possible? This question was posed by Joseph Banks, the first head of the Royal Society, when as a young man he sailed on Cook's first voyage into the Pacific. In September 1771, Banks wrote in his journal "how any Communication can ever have been carried between Madagascar and Java ... is I confess far beyond my comprehension." Two hundred years later, the great anthropologist Claude Lévi-Strauss suggested that some ideas can exist outside of time, but could not explain why. Recently my colleagues and I sought an answer, using the new tools of molecular anthropology and historical linguistics. We modeled the transmission of languages and culture in 25 villages on two Indonesian islands, where 17 different languages are spoken, testing Sapir's hypothesis that language moves down time in a current of its own making. Instead we found that languages protect and define social groups across timescales that can persist for millennia, enabling a cultural heritage to travel along matrilineal as well as patrilineal lines.