

## SCIENCE &amp; TECHNOLOGY

## What Cannot Be

**THE SOURCE:** "The Possibility of Impossible Cultures" by Marc D. Hauser, in *Nature*, July 9, 2009.

A FOREIGN LANGUAGE CAN sound so unintelligible that it's hard to believe what linguists have been saying for years: Languages from around the world all follow the same rules. No language will ever require placing a particular word at a fixed point in a sentence (e.g., "da" must always be in the fifth position). No language forms questions by simply reversing the words in a statement. The reasons for this lie in the brain's wiring, which dictates the possible patterns languages can follow. Anything that breaks the mold will be impossible to learn or pass down to a new generation.

Similarly, biologists say there are limits to what forms of life can possibly exist, because all new species must evolve from existing genetic material and because the external environment places constraints on which variations survive.

If evolution limits what creatures can look like and neurobiology dictates how languages work, perhaps our genes constrain the range of possible human cultures. "Some cultural forms will never be considered. . . . These can be thought of as impossible cultures," writes Marc D. Hauser, a professor of psychology and human evolutionary biology at Harvard. Studies have already turned up rules that all music shares. For example, it all contains small groupings of notes, which together form phrases, which in turn amount to sections. Since no example exists without such groupings, it seems that sounds not structured in this way are "impossible" for humans to perceive as music.

Certain universal moral precepts may be biologically dictated as well. One such rule is at play in an ethical puzzle known as "the trolley problem." Researchers pose the dilemma to subjects this way: A trolley barreling down a hill is headed straight for five people who have been tied to the tracks, but you can pull a switch to move the trolley onto a path where

only a lone bystander will die. In cross-cultural studies, people from around the world seem to have little trouble arguing that pulling the switch is the right thing to do. But posing the dilemma another way—you must actively push a person into the path of the train in order to slow it enough to allow the other five to escape—provokes much greater anxiety. Everyone feels that this is worse, even though the end result is the same. This may point to a universal rule governing the moral systems of all cultures: It is preferable for a negative outcome to be the side effect of a just cause rather than its means. Cultures operating under the reverse principal do not seem to exist.

Hauser says more research is needed to find out what sorts of cultures are possible. Scientists once thought that languages followed no universal rules, and that life on earth could take any form. Over years of study, they discovered that biology limited the possibilities. One day, we may learn that coded into our genomes are rules that make certain cultural expressions or beliefs impossible.

## ARTS &amp; LETTERS

## Stop Scribbling!

**THE SOURCE:** "Diminishing Returns in Humanities Research" by Mark Bauerlein, in *The Chronicle Review*, July 24, 2009.

ABOUT 30 YEARS AGO, LITERARY criticism toggled from being a field of humble, if erudite, expli-

cation to one of creative and adventuresome interpretation. Gone was the critic who explained a work of art, writes Mark Bauerlein, an English professor at Emory University, replaced by a performer who did "a reading"

and inspired a new generation of critical jujitsu artists.

This liberating new role for the literary critic launched a torrent of written works. Older scholars had earned respect for their conclusions to the extent that works of literary art yielded up their mysteries. Very soon, Bauerlein says, "the interpretation didn't have to be right. It had to be nimble."

Dissertations, books, essays,