

Tool use among early humans paved way for selection of language-related genes

It's widely understood that human genetics can influence culture, but increasingly, the idea that culture can also affect genetics is gaining ground. The theory of gene-culture coevolution suggests that "the cultural practices we adopt change the costs and benefits of having certain genes," explains Catharine Cross, a researcher at the University of St Andrews. "A gene that is advantageous under one cultural practice is not necessarily advantageous under another."

For example, yam cultivation in West Africa led to deforestation and an increase in standing water, which creates a breeding ground for mosquitoes and malaria. This meant that yam farmers with a particular genetic resistance to malaria were more likely to survive than farmers with susceptibility to malaria. Yam farmers in the region have been found to have a higher incidence of this genetic trait than nearby groups—even speakers of the same language—who farm other crops.

A recent study published in *Nature Communications* has suggested that stone tool-making practices among the ancestors of modern humans may have put evolutionary pressure on individuals who weren't very good at communicating, helping to select for the genes that would become involved in language. The study found that the use of verbal teaching, compared to learning by imitation, significantly improved the quality and speed production of stone tools. This suggests that individuals with gestural or verbal communication skills could have learned to make tools faster and better, giving them an advantage over individuals who could only imitate.

Read full, original article: [Tool-making may have made language genes more useful](#)