

Cutting edge training developed the human brain 80,000 years ago

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Advanced crafting of stone spearheads contributed to the development of new ways of human thinking and behaving.

This is what new findings by [archaeologists](#) at Lund University have shown. The technology took a long time to acquire, required step by step planning and increased [social interaction](#) across the generations. This led to the [human brain](#) developing new abilities.

200 000 years ago, small groups of people wandered across Africa, looking like us anatomically but not thinking the way we do today. Studies of fossils and the rate of [mutations](#) in [DNA](#) show that the [human species](#) to which we all belong – Homo sapiens sapiens – has existed for 200 000 years. But the archaeological research of recent years has shown that, even though the most ancient traces of modern humans are 200 000 years old, the development of modern cognitive behaviour is probably much younger. For about 100 000 years, there were people who looked like us, but who acted on the basis of cognitive structures in which we would only partially recognise ourselves and which we do not define today as modern behaviour.

It is precisely that period of transformation that the researchers at Lund University in Sweden have studied. In the next issue of the well renowned *Journal of Human Evolution*, they present their new findings on the early modern humans that existed in what is now South Africa, approximately 80 000 years ago.

The findings show that people at that time used advanced technology for the production of spearheads and that the complicated crafting process developed the working memory and social life of humans.

"When the technology was passed from one generation to the next, from adults to children, it became part of a cultural learning process which created a socially more advanced society than before. This affected the development of the human brain and cognitive ability", says Anders Högberg, PhD.

The technology led to increased social interaction within and across the [generations](#). This happened because the crafting of stone spearheads took a long time to learn and required a lot of knowledge, both theoretical and practical. Producing a stone spearhead also required the ability to plan in several stages. This social learning contributed to the subsequent development of early modern humans' cognitive ability to express symbolism and abstract thoughts through their material culture, for example in the form of decorated objects.

"The excavations have been carried out in a small cave; the location we have studied is called Hollow Rock Shelter and lies 250 km north of Cape Town. We are cooperating with the University of Cape Town and the research we have just published is part of a larger research project on this location", says Professor Lars Larsson.

More information: The article is entitled Lithic technology and behavioural modernity: New results from the Still Bay site, Hollow Rock Shelter, Western Cape Province, South Africa. See link below: [authors.elsevier.com/officialprints ... a738f8080c0e473c6c11](https://authors.elsevier.com/officialprints...a738f8080c0e473c6c11)

Provided by Lund University

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