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Earliest human culture lasted 20,000 years later than previously thought

During the Middle Stone Age, human populations throughout Africa shared a unique method of stone tool production, first forging rounded nodules of rock before forming tools known as 'scrapers' and 'points.'

It was the first human culture, and until now, archaeologists thought it lasted from 300,000 years ago until 30,000 years ago, replaced by a different, more adaptable stone tool-making methodology better suited for human mobility.

New research, published Monday in the journal Scientific Reports, suggests humans in what is now Senegal continued to use Middle Stone Age flake-making technologies as late as 11 thousand years ago, almost 20,000 later than previously thought.

"West Africa is a real frontier for human evolutionary studies -- we know almost nothing about what happened here in deep prehistory," lead study author Eleanor Scerri said in a press release.

"Almost everything we know about human origins is extrapolated from discoveries in small parts of eastern and southern Africa," said Scerri, a researcher at the Max Planck Institute for the Science of Human History in Germany.

To field the gap in archaeological data, Scerri and research partner Khady Niang, researcher at the University of Cheikh Anta Diop in Senegal, surveyed the banks of major rivers and forest-desert boundary lands throughout Senegal and Gambia.

"These discoveries demonstrate the importance of investigating the whole of the African continent, if we are to really get a handle on the deep human past." said Niang. "Prior to our work, the story from the rest of Africa suggested that well before 11 thousand years ago, the last traces of the Middle Stone Age -- and the life-ways it reflects -- were long gone."

According to the study's authors, the region's technological stasis can be at least partially explained by geographic and climate phenomena -- characteristics and circumstances that isolated human populations in West Africa.

"To the east, there are the Central African rainforests, which were often cut off from the West African rainforests during periods of drought and fragmentation," said co-author Jimbob Blinkhorn, researcher at Max Planck. "Even the river systems in West Africa form a self-contained and isolated group."

It's also possible, researchers suggest, that climate stability in the region engendered cultural continuity. Without any significant disruptions of subsistence strategies, there may have been no need to develop new stone-making technologies.

"All we can be sure about is that this persistence is not simply about a lack of capacity to invest in the development of new technologies.

These people were intelligent, they knew how to select good stone for their tool making and exploit the landscape they lived in," said Niang.

According to researchers, the latest findings highlight the sometimes ignored reality that most human populations in Africa remained relatively isolated during the Middle Stone Age.

"This matches genetic studies suggesting that African people living in the last ten thousand years lived in very subdivided populations," said Niang.

"We aren't sure why, but apart from physical distance, it may be the case that some cultural boundaries also existed," Niang said. "Perhaps the populations using these different material cultures also lived in slightly different ecological niches."

It wasn't until some 15,000 years ago that a burst of forest growth helped link previously fragmented expanses of rainforest in central and western Africa.

For a period of time at the end of the Middle Stone Age and beginning of the Late Stone Age, populations practicing distinct stone tool-making traditions lived alongside one another, with no obvious cultural cross-over.

"These findings do not fit a simple unilinear model of cultural change towards 'modernity,'" said Scerri. "Groups of hunter-gatherers embedded in radically different technological traditions occupied neighboring regions of Africa for thousands of years, and sometimes shared the same regions."

"Long isolated regions, on the other hand, may have been important reservoirs of cultural and genetic diversity. This may have been a defining factor in the success of our species," Scerri said.