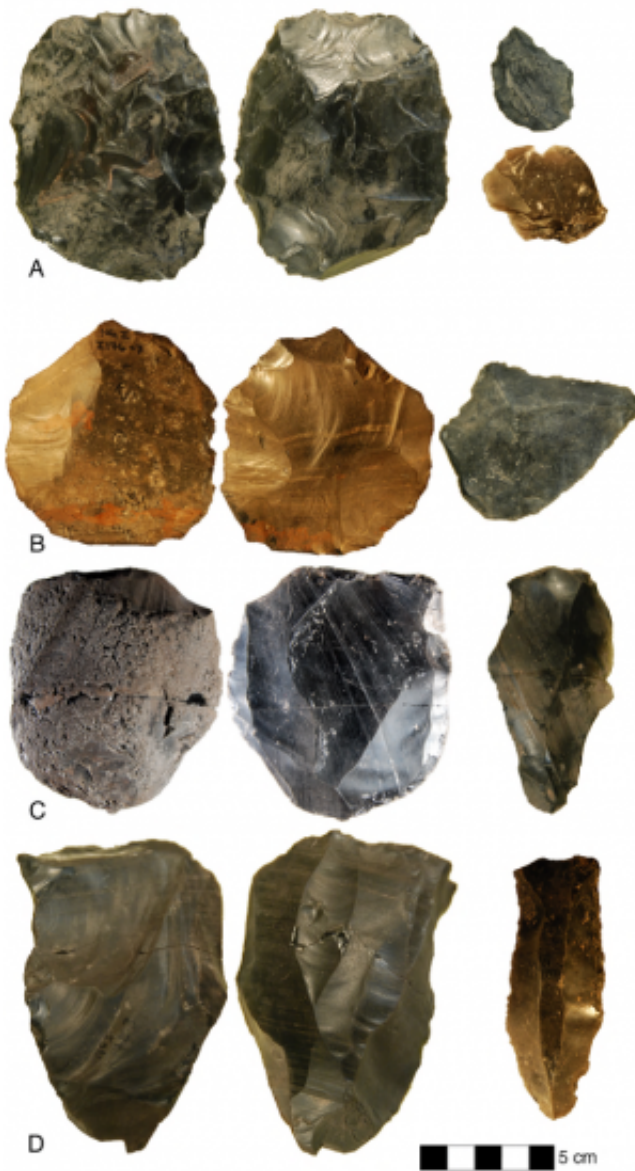


Innovative Stone Age tools were not African invention, research says

September 25 2014



Levallois and biface tools. Credit: Royal Holloway, University of London

A new discovery of thousands of Stone Age tools has provided a major insight into human innovation 325,000 years ago and how early technological developments spread across the world, according to research published in the journal *Science*.

Researchers from Royal Holloway, University of London, together with an international team from across the United States and Europe, have found evidence which challenges the belief that a type of technology known as Levallois – where the flakes and blades of stones were used to make useful products such as hunting weapons – was invented in Africa and then spread to other continents as the [human population](#) expanded.

They discovered at an [archaeological site](#) in Armenia that these types of tools already existed there between 325,000 and 335,000 years ago, suggesting that local populations developed them out of a more basic type of technology, known as biface, which was also found at the site.

Dr Simon Blockley and Dr Alison MacLeod, from the Department of Geography at Royal Holloway, analysed volcanic material that preserved the archaeological site in the village of Nor Geghi, in the Kotayk Province of Armenia. By employing innovative procedures developed at Royal Holloway, they extracted suitable material to help date the Levallois tools.

"The discovery of thousands of stone artefacts preserved at this unique site provides a major new insight into how Stone Age tools developed during a period of profound human behavioural and biological change", said Dr Blockley. "The people who lived there 325,000 years ago were much more innovative than previously thought, using a combination of

two different technologies to make tools that were extremely important for the mobile hunter-gatherers of the time.

"Our findings challenge the theory held by many archaeologists that Levallois technology was invented in Africa and spread to Eurasia as the human population expanded. Due to our ability to accurately date the site in Armenia, we now have the first clear evidence that this significant development in human innovation occurred independently within different populations."

Archaeologists argue that Levallois technology was a more innovative way of crafting tools, as the flakes produced during the shaping of the stone were not treated as waste but were made at predetermined shapes and sizes and used to make products that were small and easy to carry. With the more primitive biface technology, a mass of stone was shaped through the removal of flakes from two surfaces in order to produce bigger tools such as a hand axes.

More information: Early Levallois Technology and the Lower to Middle Paleolithic Transition in the Southern Caucasus, *Science*, 2014. [www.sciencemag.org/lookup/doi/ ... 1126/science.1256484](http://www.sciencemag.org/lookup/doi/10.1126/science.1256484)

Provided by Royal Holloway, University of London

Citation: Innovative Stone Age tools were not African invention, research says (2014, September 25) retrieved 25 April 2024 from <https://phys.org/news/2014-09-stone-age-tools-african.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.