New investigation of South African rock shelter sheds light into Middle and Later modern human behavior

21 October 2020

In the 1980s, the Umhlatuzana rock shelter in Kwa-Zulu Natal, South Africa, was excavated. Results from this excavation led to an understanding when the Later Stone Age started in this area. This archeological period is often associated with the structural presence of modern human behavior. Now a team of archeologists has published on this site employing new methods of analysis and reaching new conclusions. We spoke with its first author, Irini Sifogeorgaki.

Transition

There are many rock shelter sites in this region of South Africa. The Umhlatuzana one, however, is remarkable. "This site has both Later Stone Age and Middle Stone Age artifacts," Irini Sifogeorgaki explains. "While it is common for sites to feature finds from one of the periods, a combination is rare. This site contains important information regarding the transition between both periods." The transition between Middle and Later Stone Age is marked by a change in lithic technology, possibly to adapt subsistence strategies due to different environmental conditions. The Middle Stone Age in South Africa is often related with the first signs of modern human behavior. "The site features a lot of ochre, for example, which can be an indication of people creating art, which is associated with modern humans.""}

Stratigraphy

While the site had already been excavated in 1985, its stratigraphy remained poorly understood, and the general academic consensus did not take the findings seriously. For this reason, it was about time to return to the rock shelter and reinvestigate the site with new analytical technologies. "We employed a whole range of types of analyses: sedimentological, geochemical, mineralogical, phytolith, as well as isotope analyses. We also performed cluster analysis on the 3-dimensional projection of the excavated finds in the computer." Sifogeorgakis elaborates. "Combining the data of all these analytical methods, we came to an updated stratigraphy of the site."

And this stratigraphy is important, for it indicates the sequence of deposition and former ground levels. "We grouped the whole sequence into two groups. The upper part is the most recent, the Holocene group. Unfortunately, the dating of the site is not really clear yet, this remains under investigation. The lower part is the Pleistocene group and it features very different characteristics."

Horizontal layers

But what does that mean exactly? "It means that there is a much better preservation of stratigraphic layers on the upper group than in the lower group. Why is not clear yet, but it was nice to confirm this also through analysis." And another interesting detail came up. "After the excavation we divided the stratigraphy in high find density units and low find density units of finds. This was something that was not done before. The result of this was that we discovered that layers are, and were, horizontal.
This is one of the most important finds of the site.

Bigger picture

A time-constant horizontal layer indicates a space where people could have lived, which has not been disturbed over the millennia. "The problem with the site was that its first excavator claimed that there were some deposits that were not intact and not in the correct place. We have proven that this is not the case. We already announced that we think that the archeological remains are relatively in situ." Tools found at the location where they were discarded are much more helpful in archeological investigations than objects that have been displaced by geological processes.

This investigation has been crucial in establishing the archeological importance of the Umhlatuzana rock shelter. The newly established stratigraphy can now be analyzed to incorporate the bigger picture: what marked the transition from middle to later stone age? The Umhlatuzana rock shelter may very well be key in the ongoing search to answer this question.

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.