

Early humans deliberately made mysterious stone 'spheroids'

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Three limestone "spheroids" from the 'Ubeidiya site in Israel, which researchers believe were deliberately made into spheres 1.4 million years ago.

The early ancestors of humans deliberately made stones into spheres 1.4 million years ago, a study said on Wednesday, though what prehistoric people used the balls for remains a mystery.

Archaeologists have long debated exactly how the tennis ball-sized "spheroids" were created.

Did early hominins intentionally chip away at them with the aim of crafting a perfect sphere, or were they merely the accidental by-product

of repeatedly smashing the stones like ancient hammers?

New research led by the Hebrew University of Jerusalem suggests that our ancestors knew what they were doing.

The team of scientists examined 150 limestone spheroids dating from 1.4 million years ago which were found at the 'Ubeidiya [archaeological site](#), in the north of modern-day Israel.

Using 3D analysis to reconstruct the geometry of the stones, the researchers determined that their sphericalness was "likely to have been produced intentionally".

The [early hominins](#)—exactly which human lineage they belonged to remains unknown—had "attempted to achieve the Platonic ideal of a sphere", they said.

While the spheroids were being made, the [stones](#) did not become smoother, but did become "markedly more spherical," said the study in the journal *Royal Society Open Science*.

This is important because while nature can make pebbles smoother, such as those in a river or stream, "they almost never approach a truly spherical shape," the study said.

Julia Cabanas, an archaeologist at France's Natural History Museum not involved in the research, told AFP that this means the hominins had a "mentally preconceived" idea of what they were doing.

That in turn indicates that our ancient relatives had the cognitive capacity to plan and carry out such work.

Cabanas said the same technique could be used on other spheroids. For

example, it could shed light on the oldest known spheroids, which date back two million years and were found in the Olduvai Gorge of modern-day Tanzania.

But exactly why our ancestors went to the effort of crafting [spheres](#) remains a mystery.

Possible theories include that the hominins were trying to make a tool that could extract marrow from bones, or grind up plants.

Some scientists have suggested that the spheroids could have been used as projectiles, or that they may have had a symbolic or artistic purpose.

"All [hypotheses](#) are possible," Cabanes said.

"We will probably never know the answer."

More information: The limestone spheroids of 'Ubeidiya: Intentional imposition of symmetric geometry by early hominins?', *Royal Society Open Science* (2023). DOI: [10.1098/rsos.230671](https://doi.org/10.1098/rsos.230671).
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