

NEWS • 11 DECEMBER 2019

Is this cave painting humanity's oldest story?

Indonesian rock art dated to 44,000 years old seems to show mythological figures in a hunting scene.

Ewen Callaway



A section of the ancient cave art discovered in Indonesia that depicts a type of buffalo called an anoa, at right, facing several smaller human-animal figures. Credit: Ratno Sardi

A cave-wall depiction of a pig and buffalo hunt is the world's oldest recorded story, claim archaeologists who discovered the work on the Indonesian island Sulawesi. The scientists say the scene is more than 44,000 years old.

The 4.5-metre-long panel features reddish-brown forms that seem to depict human-like figures hunting local animal species. Previously, rock art found in European sites dated to around

14,000 to 21,000 years old were considered to be the world's oldest clearly narrative artworks. The scientists working on the latest find say that the Indonesian art pre-dates these.

"I've never seen anything like this before. I mean, we've seen hundreds of rock art sites in this region, but we've never seen anything like a hunting scene," says Adam Brumm, an archaeologist at Griffith University in Brisbane, Australia, whose team describes the finding in *Nature* on 11 December¹.

Other researchers say the discovery is important because the animal paintings are also the oldest figurative artworks – those that clearly depict objects or figures in the natural world – on record. But some aren't yet convinced by the claim the panel represents a single 'scene', or story. They suggest it might be a series of images painted over the course of perhaps thousands of years. "Whether it's a scene is questionable," says Paul Pettitt, an archaeologist and rock-art specialist at Durham University, UK.

Ancient art

"They've invented everything," Pablo Picasso is reported to have said after visiting the famed Lascaux Cave, in France's Dordogne Valley. The site, discovered in 1940, includes hundreds of animal figures painted around 17,000 years ago. An image from the cave, and others from the same period, are widely considered to be the earliest known narrative artworks. In the decades since, archaeologists have discovered even older rock art, dating to around 30,000 to 40,000 years ago, including depictions of animals and stylized symbols, in European caves such as Chauvet in France and El Castillo in Spain.



The Lascaux Caves in southwestern France feature clearly narrative scenes in rock art dated to around 17,000 years ago. Credit: Alamy

Many researchers assumed that rock art found later in Africa, Australia and Asia was younger than these European works; such artworks are notoriously difficult to date because they can be made with raw materials, such as charcoal, that can be much older than the paintings themselves. But scientists including Brumm jolted the archaeological world when they reported, in 2014 and 2018, that caves in Sulawesi² and Borneo³ held artworks, including animal paintings, that were older than 40,000 years – of similar age to and perhaps older than those created during the European Ice Age.

Brumm was sitting at his desk in Australia in December 2017, when an Indonesian colleague texted blurry pictures of the hunting scene, from a cave in southern Sulawesi called Leang Bulu'Sipong 4. "These images appeared on my iPhone. I think I said the characteristic Australian four-letter word out very loud," says Brumm. A team member named Hamrullah, who is a Sulawesi-based archaeologist and caver, had found the paintings after shimmying up a fig tree to reach a narrow passage at the roof of another cave.

The panel seems to depict wild pigs found on Sulawesi and a species of small-bodied buffalo, called an anoa. These appear alongside smaller figures that look human but also have animal traits such as tails and snouts. In one section, an anoa is flanked by several figures holding spears and possibly ropes.

The depiction of these animal–human figures, known in mythology as therianthropes, suggests that early humans in Sulawesi had the ability to conceive of things that do not exist in the natural world, say the researchers. “We don’t know what it means, but it seems to be about hunting and it seems to maybe have mythological or supernatural connotations,” says Brumm.

The oldest such example from Europe is a half-lion, half-human ivory figure from Germany that researchers have estimated to be 40,000 years old – although some suggest that it might be significantly younger. A roughly 17,000 year-old painting of a bird-headed human being charged by a bison, from Lascaux Cave, is considered to be one of the earliest depictions of a clear scene in European rock art.

Popcorn dating

To determine the age of the hunting scene, researchers led by archaeologist Maxime Aubert, at Griffith, analysed calcite ‘popcorn’ that had built up on the painting. Radioactive uranium in the mineral slowly decays into thorium. So by measuring the relative levels of different isotopes of these elements, the researchers were able to determine that calcite atop one pig began forming at least 43,900 years ago, and deposits on two anoa are older than 40,900 years.

The dating gives scientists clues about the origins of figurative art. “It has always been assumed that the tradition of figurative painting arose in Europe,” says Alistair Pike, an archaeological scientist at the University of Southampton, UK. “This shows the tradition does not have its origins in Europe.” But he notes that the researchers dated only the portions of the painting that show animals, so it’s possible that the therianthropes were added later. Aubert says the team did not find calcite samples over the therianthropes.

In other parts of the world, including Europe, Africa and North America, depictions of humans alongside animals did not start becoming common until about 10,000 years ago, says Pettitt. So without solid dates attached, “I’d certainly conclude that the human figures are much younger than the other depictions.”

Aubert thinks the animals and the therianthropes were painted at the same time. They are of similar colour and weathered in the same way, he notes, and all the other cave art from the region is from the same time period.

Archaeologist Bruno David, at Monash University in Melbourne, Australia, agrees with Aubert's interpretation. Nonetheless, he says, it would be worth testing whether the pigments used to paint the animals and the therianthropes are the same.

If the entire painting is more than 44,000 years old, it could mean that early humans have arrived in southeast Asia with the capacity for symbolic representation and storytelling, David says. Archaeologists have already found paint palettes and objects such as eggshells with abstract engravings made by early humans in southern Africa, he adds. "It's probably only a matter of time before narrative paintings of this, and much older age, are found in Africa."

doi: 10.1038/d41586-019-03826-4

References

1. Aubert, M. *et al. Nature* <http://doi.org/10.1038/s41586-019-1806-y> (2019).
 2. Aubert, M. *et al. Nature* **514**, 223–227 (2014).
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Nature ISSN 1476-4687 (online)

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