

SCIENCE

The mysterious origin of Stonehenge's altar stone might have been solved

Researchers have traced the central sandstone to sources hundreds of miles away from its current resting place, suggesting that it might have been transported by sea.



The stones that Neolithic people used to build Stonehenge have been previously traced to locations in England and Wales. New research shows that the circle's altar stone may have origins in Scotland.

PHOTOGRAPH BY REUBEN WU, NAT GEO IMAGE COLLECTION

By Carolyn Wilke

August 14, 2024

After more than a century of searching, researchers may be closing in on the source of the altar stone that lies in the center of Stonehenge. The age and chemistry of minerals that make up the sandstone block [point to an area in Scotland](#)—some 466 miles away from the monument, researchers report today in *Nature*.

“It’s amazing,” says [Susan Greaney](#), an archaeologist at the University of Exeter in England who was not part of the work. It’s “really exciting,” she says, that the team identified a location in the far northeast of Scotland—possibly even Orkney, which seems to have been a hotspot of Neolithic culture and activity. Meanwhile, Stonehenge stands at Salisbury Plain in Southern England, and its construction began around 5,000 years ago in the same timeframe. “It underlines links between those two areas that have been, up to now, a kind of hypothesis.”

Questions of why and how ancient people built the stone circle [have long perplexed researchers](#), including where the stones were sourced. Recent detective work [tracked the sarsen stones](#) that make up Stonehenge’s iconic outer ring to about 16 miles north of Salisbury Plain. The monument’s bluestones, or rocks that aren’t local, have been linked to Wales going back to the 1920s. Bevins and colleagues have traced some of those stones to [outcrops in southwest Wales](#), about 140 miles from Stonehenge. ([See National Geographic’s first photo of Stonehenge from 1922.](#))

But the so-called altar stone has remained an enigma, despite efforts to pinpoint its origin since the 1870s and 1880s, says [Richard Bevins](#), an earth scientist at Aberystwyth University in Wales and one of the study’s authors. The stone’s true use remains unknown, but its placement evokes an altar, hence the name. “This stone is different from the bluestones in terms of its weight, its size, the type of rock it is, its position in the monument,” he says.

Sourcing the stone

Bevins has been searching for the source of the altar stone for 15 years. By comparing the chemistry of the altar stone with outcrops across Wales and areas of England, his team has ruled out dozens of potential sites. Now they’ve finally found a match. “It’s quite remarkable,” he says. “You have to pinch yourself occasionally.”

This time, Bevins teamed up with Anthony Clarke, an earth science graduate student at Curtin University in Perth, Australia, to borrow techniques from geology. Working with a fragment removed from the altar stone in 1844 and verified as a match to the block’s chemical makeup, the researchers identified the ages of the different minerals that had cemented together to form the sandstone. They compared these results from the altar stone with data reported for outcrops of [sedimentary rocks](#) across Great Britain and Ireland.

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