Stonehenge: First residents from west Wales

Stonehenge is one of the most famous prehistoric sites and an Unesco world heritage site, celebrated for its origins in 3000 BC. But little is known about who lived there and when.

The key question was to understand the geographic origin of the people buried at Stonehenge.

The bluestones at Stonehenge are thought to have been quarried in Wales about 5,000 years ago. A cremated skull fragment from the site itself, which was found on the bluestones, contains strontium that matches the strontium isotope profile of a region of Wales.

Lead author Dr Christophe Snoeck compared the levels of different forms, or isotopes, of the element strontium against a national database to work out where the remains had been cremated. The idea was that the chemical signature of the remaining strontium would reflect the geographical area where the remains had been cremated.

Stonehenge was not the only burial site examined. The study also looked at cremated remains from Pembrokeshire, a nearby coastal region, and the city of Westminster Abbey, where the cremated remains of many people from different parts of the UK and Europe are interred. They found that nearly 90% of the cremated remains came from a coastal region of west Wales.

The lead scientist, Christophe, has already moved on. Since completing his PhD at the University of Oxford, he has immigrated to Belgium, where he is coordinating a large project on human remains from the Roman period in Belgium.

The study has now been published in the journal Scientific Reports. Christophe told the BBC that the method works better than others but they need more remains to use it to answer the question of "who" built Stonehenge.

Snoeck adds: "This is the first step in understanding the people around the site. There is a long way to go. We need more remains from all over the UK, as we do not yet know who these people were, and their social rank. We would also like to work out how the remains were cremated, and why. Perhaps cremation is sometimes preferred over burial. But we need more points on the map to understand the connections."

The key innovation was finding that high temperatures of cremation can crystallise the chemical signature of the element strontium, locking in the chemical signal of its origin.

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