

# Discovery helps solve mystery of South American trophy heads

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Nasca ceramic vessel featuring a warfare scene and disembodied heads on display in the Ancient Americas exhibition at The Field Museum.

The mystery of why ancient South American peoples who created the mysterious Nazca Lines also collected human heads as trophies has long puzzled scholars who theorize the heads may have been used in fertility rites, taken from enemies in battle or associated with ancestor veneration.

A recent study using specimens from Chicago's Field Museum throws new light on the matter by establishing that trophy heads came from people who lived in the same place and were part of the same culture as

those who collected them. These people lived 2,000 to 1,500 years ago.

Archaeologists determined that the severed heads were trophies because holes were made in the skulls allowing the heads to be suspended from woven cords. A debate has been raging for the past 100 years over their meaning.

Trophy heads in the Field collection were gathered from the Nazca Drainage of the arid southern Peruvian coast 80 years ago by noted American anthropologist Alfred Louis Kroeber (1876-1960). He also collected remains of some people buried normally. In some cases, the trophy heads were buried with their collectors.

Because Nazca is among the driest places on Earth, said Ryan Williams, a Field Museum curator, the specimens Kroeber collected were very well preserved. The dead bodies were naturally mummified and some trophy heads still had their hair as well as the display cords attached to the skull. The museum also has several examples of Nazca pottery illustrated with trophy heads; some of the pots are on display in the museum's Ancient Americas exhibition.

"Illustrations on some pots depict warriors and trophy heads," said Williams. "But there are also scenes that link trophy heads to agricultural fertility. Mythical creatures depicted on some pots carry trophy heads as well."

Researchers speculated that if trophy heads were spoils of war, they likely would have come from people who lived somewhere beyond the Nazca area. To test this notion, scientists took samples of tooth enamel from 16 trophy heads in the Field collection and 13 mummified bodies buried in the Nazca region. The results clearly show that donors of the trophy heads were from the same place as the people who kept the trophies, Williams said. This conclusion was based on research using

modern technology to look for subtle differences in three elements found in the samples. Those elements - strontium, oxygen and carbon - each display a slightly different atomic structure that varies by geographic location.

"You are what you eat," said Williams, "and the elements you consume become a part of your bones' chemical signature."

People ingesting food produced in different regions will have different strontium isotope ratios in their bones that mirror the age of the bedrock where the food was grown, he said. Carbon also displays different isotopic patterns that vary with the plants that process it. Carbon from corn looks different than carbon from wheat. Oxygen absorbed from water has an isotope signature that varies with climate, altitude and other factors.

"We used the latest technology to study samples that were gathered 80 years ago," said Williams. "This demonstrates the value of maintaining the vast collections that museums keep."

Scientists from Arizona State University, the University of Illinois at Chicago and Indiana University collaborated with Williams to do the study, which appears in the *Journal of Anthropological Archaeology*. The lead author is ASU professor Kelly Knudson.

There is still more to learn. Determining why the Nazca people collected trophy heads could be important in understanding how civilization progressed in South America, Williams said. "The vast majority of trophy skulls came from the same populations as the people they were buried with. They still could be the trophies of war; maybe warfare was oriented against related communities, or maybe this was ritual." New data on the changes in trophy head taking by the Nazca through time could be important in understanding how politics developed in early

societies.

"This small scale agrarian society was succeeded by an empire with regional authority," Williams said. "For the first time people were governed by others who lived hundreds of miles distant. Understanding how this came about may help us better understand how these forms of government first emerged."

Source: Field Museum

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