

NATIONAL POST

Friday, July 3, 2009

CSI: Bronze Age

Presented by

Scientists hoping to solve 3,000-year-old murders

Mary Vallis, National Post



Handout

Three thousand years after someone murdered an eight-year-old boy, all that remains of him is a fragmented, brittle skull, with a crack above his right eye and a few top teeth. Yet scientific researchers believe the bones may yield enough clues to finally solve the crime, which may have been a case of human sacrifice.

Back in 1928, archeologists unearthed a Bronze Age settlement known as Wasserburg approximately 150 kilometres south of Stuttgart, Germany.

During the excavation, the researchers found six skulls that seemed to have been deliberately placed along the wooden palisades that protected the small encampment from intruders; the skulls were placed at regular intervals along the inner wall. One of the skulls was that of a middle-aged woman; the other five belonged to children.

Four of the skulls were lost long ago among the shuffling of boxes from one site to another in the decades since their discovery. But the remaining two -- the boy and girl, both around eight years old, possibly brother and sister -- are the subject of a modern-day investigation to solve the mystery. Anthropologists and archeologists pooled their resources with the Federsee Museum in Bad Buchau, a town of 4,000 located near the site, and are applying the modern crime-scene technology available to the skulls to crack the ancient case.

"It's a crime that was never solved," said Dr. Iris Trautmann, an anthropologist who has worked on the case for the past two years. "We're not going to have any witnesses come forward, but it was a great opportunity to completely re-examine these skulls."

The team's first task was to determine the children's age and sex. DNA analysis was out of the question because no organic matter was left in the children's teeth. Instead, the researchers assessed the shape of the eye orbits, chins and a bone in the inner ear to deduce the children's gender. The children's teeth pointed to their approximate age, through the pattern of permanent teeth that had grown in by the time they died.

The palisades surrounding the village, not the skulls themselves, helped pinpoint the time of death near the later part of the Bronze Age. Dendochronologists dated the rings on the trees used to build the fences.

The skulls were positioned near potential gateways and bridges leading into the settlement. The absence of any other human bones near the skulls' discovery suggests the children's heads may have been intentionally positioned. They could have been placed to protect the village from a calamity -- to ward off evil spirits or a bad crop.

"We know that there's a lot more conflict going on towards the end of the period," she explained. "These may all be factors -- that the village was threatened and they had to do something quickly. If you're in really big trouble, you have to sacrifice the most valuable thing, and the most valuable thing would have been the children."

The children may have also been killed during a war or raid on the village, and their skulls used as trophies, she added.

Markers on their skulls that show where different arteries and veins would have been told the researchers that the pair were related.

"We found nine similarities between the skulls, which is a lot," Dr. Trautmann said by telephone from Germany. "We can't necessarily say they were brother and sister, but we do know that they were very closely related."

The pattern of injuries on the boy's skull told researchers the story of his death. The researchers could see the shape of the blunt instrument smashed against the boy's head, leading them to believe he was hit with a club, or the back end of a spear.

The girl's skull, which had been broken apart, was more difficult to investigate, but they found a sharp lip on the bone that suggested she was hit in the head with some sort of sharp object. The team took it to a laboratory that conducts mass spectrometry tests and studied the fracture mark under a microscope. They carefully scratched the wound with the tip of a knife and found a minuscule green speck -- a flake of copper. Further testing revealed the copper was thousands of years old, and likely came from an axe or a spear.

The museum also has pieces of several copper weapons excavated from the settlement in its collection. One day, scientists may be able to identify the weapon that killed her.

With the help of three-dimensional computer software developed in Canada, researchers also reconstructed the children's faces. While the children's faces will not help scientists understand their mysterious deaths, they give patrons of the Federsee Museum a connection to the past.

"It's nice to give them a face," Dr. Trautmann said. "In the end, the children look just like every other eight-year-old you see today."

The museum's Murder on the Moor exhibit will be on display until later this year. The investigation, which has cost roughly \$320,000, is part of a larger European Union project to study the Bronze Age at the Wasserburg site.

mvalis@nationalpost.com

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