Archaeologists unearth a Bronze Age warrior’s personal toolkit

The contents of the Bronze Age toolkit with the mud cleaned off.

reader comments

49 with 33 posters participating

Share this story

Three-thousand years ago, at least 140 fighters died in a battle along the banks of Germany’s Tollense River. One of the fallen dropped a small kit containing tools and a handful of bronze scraps. Based on the types of artifacts archaeologists found in this kit, they’ve concluded that at least some of the combatants in the prehistoric battle probably came from hundreds of kilometers away in Central or even Southern Europe.

According to University of Göttingen archaeologist Tobias Uhlig and his colleagues, that suggests that large-scale battles between far-flung groups began long before people in Europe had developed a system of writing to record the history of their conflicts.

An ancient battlefield

Today, quiet pastures flanked by woods line the banks of the Tollense River in Northeastern Germany. But beneath the green grass and the placid surface of the water, the 3,000-year-old

remains of fallen soldiers and their broken weapons lie scattered for at least 2.5km along the river. Most of what we know of the European Bronze Age comes from more peaceful contexts, like settlement or burial sites; the bones, weapons, and personal effects along the Tollense River are the only archaeological evidence (so far) of a battle in prehistoric Europe.

The people of Bronze Age Europe left behind no written records to tell us who was fighting along the river, why they fought, or who won the battle. Only their bones and the things they left behind offer any clues.

Based on their bones, the dead were overwhelmingly male, young, and fighting fit. To archaeologists, that kind of skewed demographic strongly suggests a group of soldiers. And many of their bones bear evidence of healed fractures and cuts to the bone, suggesting that many were veterans of other conflicts, who survived those earlier fights only to die fighting over access to a causeway.

Many of the bones also show evidence of wounds probably sustained in their owners' final fight, dealt by arrows from a distance or swords and clubs from an arm's length away. According to radiocarbon dating of arrow shafts and other wood fragments, the battle took place sometime between 1380 and 1250 BCE.

The things they carried

Since 2008, archaeologists working at sites along the Tollense have found the warriors' personal belongings mingled with their bones: flint and bronze arrowheads, bronze knives with bone handles, assorted tools, bronze rings and clothing pins, and even a small, ornately decorated bronze box meant to be worn on a belt. In 2016, scuba diving archaeologists found a cluster of 31 small bronze artifacts on the bed of the river, not far from where they'd already found three skulls and an

assortment of other bones and artifacts. The items are so closely packed together that they probably once lay in a small bag or box that has long since rotted away, leaving its contents behind.

The ancient kit contained a bronze knife with a curved blade, an awl decorated with ladders and rows of triangles, and a bronze chisel, along with an assortment of bronze scraps and small ingots. Wear marks on the chisel suggest that someone probably used it to cut bronze fragments like the ones in the kit. The curved blade of the bronze knife, with structural reinforcement on the back side, looks as if someone recycled a sickle to make it. There were also a few tubes made of rolled bronze.

Essentially, the kit looks like the kind of thing you'd carry if you wanted to keep a small stash of scrap bronze for trade or recycling into other things. People in Europe hadn't started using coins yet, but ingots and scraps of bronze and copper were starting to become an early form of currency—the idea of using small bits of metal for exchange was catching on, but it would be centuries before people decided to standardize them. Carrying around some scrap metal as spending money probably wasn't unusual anywhere in Bronze Age Europe, but the kit's long-vanished container suggests its owner wasn't local.

- An ancient layer of mud along the Tollense holds scores of disarticulated skeletons.
- This is what the toolkit's remains looked like when archaeologists found it at the bottom of the river.
  photography by F. Nagel; drawing by T. Uhlig
- The contents of the Bronze Age toolkit with the mud cleaned off.
- These bronze tubes may have been part of the clasp for a small wooden box or fabric bag.
  T. Uhlig et al. 2019

Fighters from Southern Europe?

Three tubes of rolled bronze suggest that the kit may have come to Northern Germany carried by a warrior from Southern Central Europe. The tubes look very similar to fittings used to close small boxes of tools and scrap bronze; when the box is shut, two tubes on one side of the lid line up with a third tube on the other side, so the owner can pass a rod through the tubes to hold the box shut. Archaeologists have never found that type of box in Northern Europe, but they turn up often at sites farther south—usually with a very similar set of tools and usually in the graves of men who were also buried with swords.

In other words, it seems to be a piece of a Southern European warrior's personal kit, so important that it would have probably been buried with this person if it hadn't been dropped into the river in the heat of battle instead.

That lines up well with a previous study, in which archaeologists analyzed strontium isotopes in some of the bones from the Tollense battlefield. The ratio of strontium-87 to strontium-86 in a person's bones usually matches the ratio found in the rocks where they lived during the last years of their life, because strontium from rocks and soil makes its way into plants, and then into livestock and people, where it replaces some of the calcium in the bones. Based on this data, it turned out that at least some of the fighters at Tollense weren't from anywhere near Northern Germany.

But the challenge of strontium isotope studies is that it's easier to say where people *weren't* from than to say where they *were* from because more than one area may have similar isotope ratios in its underlying rock. The toolkit suggests that some of the Tollense fighters may have come from somewhere between Bohemia and the Carpathian Mountains. Some of the other artifacts along the Tollense also support that idea; socketed

bronze arrowheads, which fit over the end of an arrow shaft, are pretty common at Bronze Age sites in Central Europe but not in Northern Europe. And the design of the chisel, with a square cross-section, isn't common in Northern Germany, but similar chisels have turned up at sites in Central Europe.

Causeway belli

If Uhlig and his colleagues are correct, large-scale violence—something we could reasonably call actual warfare—was part of life in Bronze Age Europe, and the conflicts that erupted into battles like this one drew fighting forces from across large distances. Based on the lay of the land, some archaeologists who study the site suggest that the battle along the Tollense started over control of an important river crossing. All of the archaeological finds so far lie downstream from a causeway across the river, which opened in the 19th century BCE and was probably an important crossing point by the time of the battle 600 years later.

"The multiple findspots of skeletal remains downstream of the causeway are probably the result of warrior groups killed in action as they moved along the riverbank," wrote Uhlig and his colleagues. Many of the dead ended up in the river, where the flowing water separated and mixed their bones after the softer parts of their bodies had decomposed. Since 2008, archaeologists working along the Tollense have recovered over 12,000 pieces of bone from at least 140 people.

One of the lingering questions about the toolkit, and many of the bones and weapons in the mud at the bottom of the Tollense, is whether these items simply ended up where someone dropped them in their final moments or whether the victors threw them into the river immediately after the battle as a ritual offering. At later battlefields in Northern Europe, Iron Age people often deposited the carefully prepared bones and deliberately broken weapons of their fallen foes in lakes

and bogs.

Antiquity, 2019. DOI: 10.15184/aqy.2019.137 (About DOIs).

https://arstechnica.com/?p=1587713