

Archaeologists suggest Neolithic Scandinavians may have used skin boats to hunt, travel and trade

September 10 2024, by Sandee Oster



Photo illustration of skin boat. Credit: Author

Recent research by Dr. Mikael Fauvelle and his colleagues, [published](#) in the *Journal of Maritime Archaeology*, proposes that the neolithic Pitted Ware Culture (PWC) may have used skin boats to conduct trade, travel, fishing, and hunting activities.

The PWC was a neolithic culture that had migrated from the East during the Early and Middle Neolithic. They settled in what is modern-day Scandinavia around 3500–2300 BCE. This hunter-gatherer culture was named after the pottery they produced, which was characteristically decorated with deep pits along its circumference.

The Pitted Ware Culture (PWC) was unusual among European marine-specialized hunter-gatherer groups. While other such groups gradually incorporated more agricultural products as farming spread, the PWC continued to focus on seal hunting and fishing, even though farming had been practiced in Europe for over five centuries.

The PWC not only continued to hunt seals and fish but also engaged in long-distance voyages across the Baltic Sea and the Kattegat and Skagerrak strait. Evidence for these movements of people and goods can be seen in the lithic tools, animals, and some clay sourced from Sweden, Denmark, and Finland.

To reach these different places, the PWC would have needed seaworthy boats. However, evidence of such boats is rare.

Across the world, many Neolithic cultures used dugout canoes or logboats, usually made from hollowed-out tree logs. Some such dugouts have been recovered from PWC sites. However, the size of the canoes is directly proportional to their function. Not only were these dugouts usually found in inland lakes and bogs, but their [small size](#), only a few meters in length, made them unsuitable for the open sea, where they would likely capsize.

Dr. Fauvelle and his colleagues propose that the PWC may have been better suited to certain tasks, while the dugout canoes were better suited to other activities at inland lakes and river estuaries.

"Compared to logboats, we argue in the paper that skin boats would have been better for long distance and open ocean transport," clarifies Dr. Fauvelle.

Furthermore, Dr. Fauvelle believes this new technology may help explain the widespread raiding and trading seen during this period, "I think it is likely that this new technology accelerated the trends of maritime raiding and trading that we already see in, for example, the PWC during the Neolithic."

However, skin boats would preserve even worse in the archaeology, and therefore, signs of their existence are based on the combination of different lines of indirect evidence, including potential bone frames, rock art, seal oil, tools and faunal remains.

In both Germany and Sweden, potential boat frames upon which skins would have been sewn have been recovered. The former, from northern Germany, were retrofitted reindeer antlers dating back to the late Mesolithic (7th–6th century BC), while two of the four Swedish examples may date to the Neolithic or Neolithic/Bronze Age, respectively.

These examples of possible boat frames may indicate that the knowledge and practice of making skin boats existed in northern Europe and may have been utilized by the PWC people.

Similarly, rock art images in northern Scandinavia may indicate the use and existence of skin boats. While some of the rock art tradition predates the PWC, others were made contemporarily with it, and some sites even show PWC components.

The rock art panels depict fishing, whaling, and seal hunting activities, which the PWC was known to do, as well as boats that share a striking

resemblance to Umiak skin boats used by the Inuit.

Depictions of these boats not only share a similar size to Umiak skin boats when size ratios are accounted for, but interestingly, individuals depicted standing within them are often drawn as if the lower half of the body was still visible. This is most akin to how backlit Umiak skin boats would become semi-translucent, and thus, the outlines of individuals within them could be observed by onlookers.



Rock art image of potential skin boat transporting two reindeer. Credit: Martin Kristoffer Hykkerud, Verdensarvsenter for Bergkunst—Alta Museum

This may indicate that the Scandinavian Neolithic boats depicted in the rock art are also skin boats, hence why the people within them are depicted in their entirety when the boats should have obscured them in part.

Furthermore, some of the boats are depicted with animal-head-like bows. These are similar to the forked harpoon rests Umiaks were sometimes equipped with. When viewed in profile, these harpoon rests would look like animal heads. It is possible that the [rock art](#) boats, too, were equipped with a similar harpoon rest or fishing line guide, giving the appearance of animal heads when viewed and drawn in profile.

Finally, indirect evidence of skin boat use and manufacture may come from PWC sites. The faunal assemblages of these sites are dominated by seals and fish, specifically Atlantic cod and Greater Weever. Seals would usually congregate on small islands, floating ice, and shore reefs, and to reach them, PWC hunters would need boats capable of open-water navigation.

Similarly, Atlantic cod, found at depths of 150-200m, would have required boats to reach. While the Greater Weever could technically have been hunted in shallow waters, this venomous fish would result in excruciating pain, inflammation, vomiting and necrosis if stepped on and thus would have required boats to fish safely.

Seals were caught and used in abundance, yet their bones were rarely used in tool manufacture. Other than consumption, they were likely caught in such large numbers for the processing of their hides, potentially for clothes, tents and skin boats. The latter is further corroborated by the types of tools used.

Scrappers, used in the manufacturing of hides, are one of the most abundant tools at PWC sites. Furthermore, awls, too large for clothing

manufacture, were also recovered and would have been better suited for the piercing and sewing of seams for tents or skin boats.

Manufacturing skin boats would also require copious amounts of seal oil, found in abundance at PWC sites, an essential ingredient when waterproofing skin boats. Skin boats would not only have needed a lot of hides to make, but would have required the reapplication of oil every few days to ensure they remained waterproof. Thus, making skin boats in addition to consumption would explain the large number of seal remains and seal oil at PWC sites.

Finally, seal oil was commonly used during the Neolithic and only started being replaced by pitch, which was required to waterproof plank-sewn boats in the Bronze Age. Such plank boat technology was recovered in Egypt and dated to around 2500 BC.

Dr. Fauvelle says, "Plank [boat](#) technology in Scandinavia probably did not come from Egypt (at least not directly) but instead was likely introduced from the British Isles where we have earlier evidence for the technology."

According to Dr. Fauvelle, "The introduction of this new technology came along with many other technological and social changes that happened during the Bronze Age."

While it is possible that sewn plank boats were also used earlier by the PWC, the discussed evidence seems to indicate that PWC groups manufactured and used [skin](#) boats. These boats enabled them to continue hunting seals, fish and engage in long-distance travel, which was not possible with the small-sized and limited number of dugout canoes recovered at some of their sites.

More information: Mikael Fauvelle et al, Skin Boats in Scandinavia?

Evaluating the Maritime Technologies of the Neolithic Pitted Ware Culture, *Journal of Maritime Archaeology* (2024). [DOI: 10.1007/s11457-024-09408-4](https://doi.org/10.1007/s11457-024-09408-4)

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Citation: Archaeologists suggest Neolithic Scandinavians may have used skin boats to hunt, travel and trade (2024, September 10) retrieved 10 September 2024 from <https://phys.org/news/2024-09-archaeologists-neolithic-scandinavians-skin-boats.html>

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