

# An early medieval symbol carved on a tree trunk: pathfinder or territorial marker?

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*The chance discovery of a carved symbol on a waterlogged tree of the six–ninth century AD may be the earliest mark on a living tree that has so far come to light. Given its rarity, an obvious interpretation remains elusive, but the authors review a wide range of possibilities from analogies ancient and modern. Symbols on trees have been used to mark trails, the ownership of land and resources, and all manner of votive moments from superstitious sign-making, worship of a god, thanks for a successful hunt or the memory of a loving tryst.*

**Keywords:** Central Europe, early medieval, wood carving, fossil oak, alluvial setting

## Introduction

In modern times carving on living trees is a common phenomenon, featuring hearts, names, initials or dates, an instinctive practice often attracting the disapproval of park-keepers, foresters and ecologists. But trees have been culturally modified in many ways for centuries (e.g. Turner *et al.* 2009), and preserved traces of the art can be found in the forest zones of northern Europe and North America. Like the trees, these are several decades or centuries old at most, but examples of medieval or earlier marks are unknown. Therefore the adventitious discovery of an early medieval carving on a fossil oak tree (*Qercus robur*) as reported here is exceptional, if not unique. It was found in 2005 during the examination of fossil tree

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*Figure 1. Semi-fossilised trees dredged out of the sand pit at Čelákovice, central Bohemia.*

trunks being extracted from a sand and gravel pit on the banks of the Labe (Elbe) river, near Čelákovice (central Bohemia, Czech Republic). The tree trunk was extracted together with dozens of other oak trunks, some as long as 10m, from the Holocene alluvial sediments of the river (Figure 1).

Semi-fossil oaks, partially converted to coal, are commonly found in Holocene deposits associated with many European rivers (e.g. Růžicková & Zeman 1994; Kalicki & Krapiec 1995; Spurk *et al.* 2002; Dreslerová *et al.* 2004). Although it is not possible to determine exactly where a tree originally stood, or how far the trunk may have been transported by the river, it appears probable that these trees fell down as a result of lateral erosion of the river bank no great distance from the place of their final deposition. Other waterlogged oak trees were extracted from the same sediment levels in the 1930s only a few hundred metres from the location of the current finds (Petrbok 1937).

## **Discovery and date**

The carved symbol was found while sampling one of the fossil trees for wood-eating insects and fungi. It only became visible when a large irregularly-shaped piece of the outer wood was detached at random from the trunk. When the piece was turned over, a star-shaped symbol was seen on the underside in the form of raised ridges, as a reversal of the original incised image (Figure 2). The original carving had been cut into the tree trunk, now soft and waterlogged, but its image survived in relief, carried on the new growth which formed as the tree repaired its wound and filled in the original cuts. This new growth, or scar tissue,

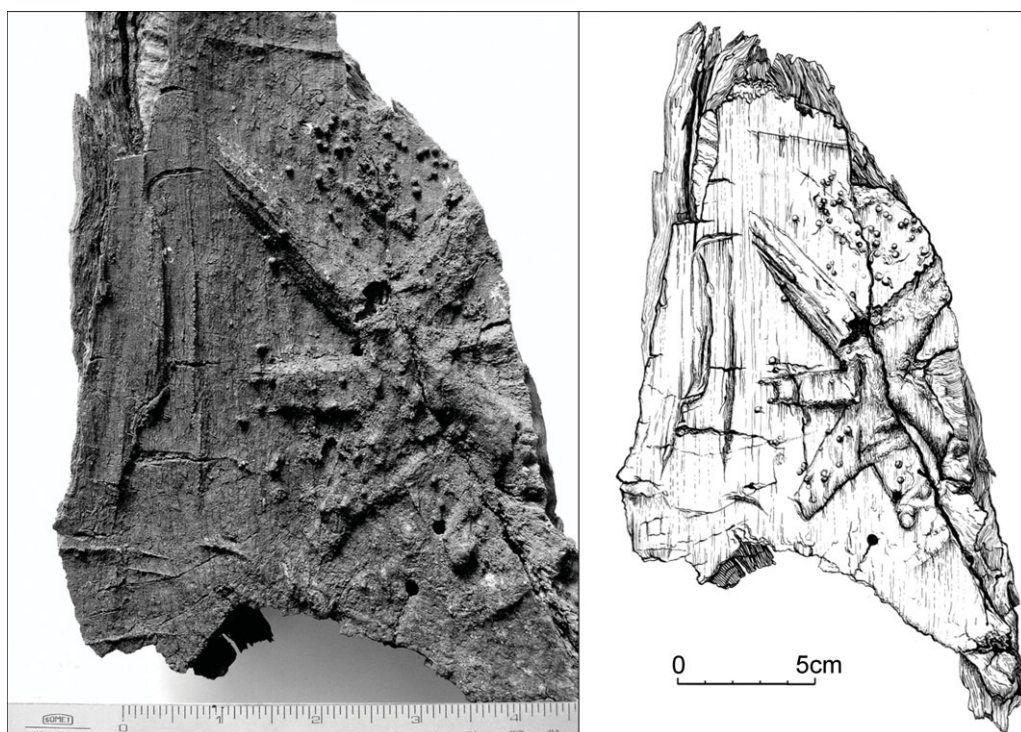


Figure 2. The star-shaped symbol was discovered at Čelákovice on the underside of a piece of new growth that had become partially detached from the tree trunk. As such, it provides a positive image of what had been a negative carving. A: photograph, B: drawing by H. Dočekalová.

was denser and harder than the bark and sapwood and thus survived in a more robust form when the rest of the tree became waterlogged.

An attempt to date the age of the tree by counting annual rings failed because of the poor preservation of the trunk, originally about 1m in diameter. Present day exemplars of *Qercus robur* in central Bohemian lowlands 1m in diameter are in general approximately 200–250 years old, but the variability can be extensive (Černý *et al.* 1996). The radiocarbon age of the wood sample, taken from the new growth, is  $1385 \pm 92$  BP (CRL 7046), calibrated to 529–871 AD using Intcal 5.0 (Figure 3). The new growth has been estimated to have formed over approximately 25 years after the symbol was cut, according to the number of annual tree rings preserved in it.

### Form of carving

The carving takes the form of a star with five visible points. It had been situated on the trunk about 2m above the root mantle, which means that its height was *c.* 1.6–1.8m above ground level during the lifetime of the tree. Its relatively high position on the tree suggests that it was meant to be clearly visible by an adult at a distance.

In marking the tree, a roughly circular area of bark had been stripped from the standing oak at about head-height, and the exposed bare wood carved with an axe or chisel. The

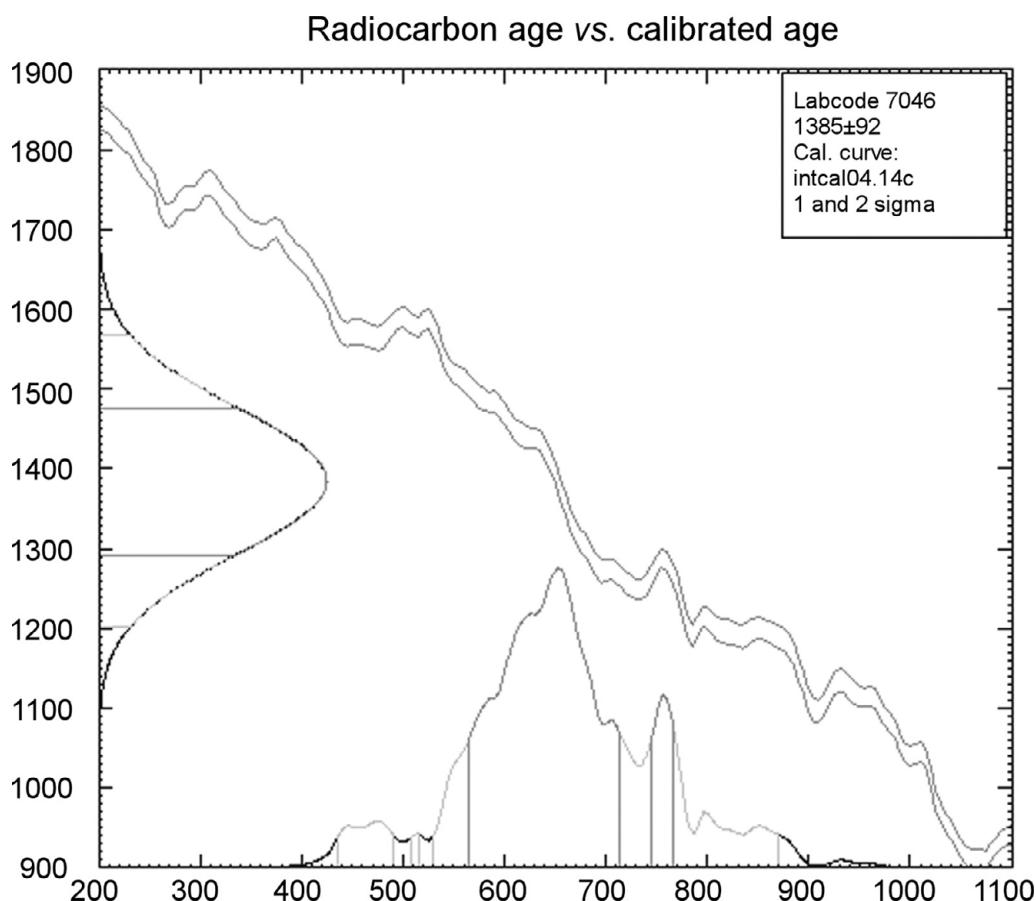


Figure 3. Radiocarbon age of the wood sample.

bare wood was later affected by wood-destroying fungi, which leaves characteristic hollows (preserved as upraised knobs). In time, the target area and the symbol would become covered with scar tissue and new wood growing over from the sides unless the carving was maintained. A modern example from the Prague area shows the general method (Figure 4).

The star symbol could have been recognised easily for up to 10 years or more, as deduced from observations of the rate of healing in analogous scars that appear on the trees along forest paths. It should be emphasised that a deep, wide carving made through the bark could be observable for an even longer period of time; such carvings become deformed during their healing and the normal growth of the tree, but they can remain readable for dozens or even hundreds of years (Oliver 2007).

The survival of trees from ancient woodlands is fairly common, especially within riverbeds, from where they are extracted during channel cleaning or sand quarrying, and other areas where the environment is conducive to preserving wood. However, the rarity of the present find, believed to be unique at present, suggests that the number of marked trees for any given woodland would have been less than a handful.



## Discussion

Discussions about the meaning of symbols alternate between spiritual and practical interpretations, while not excluding the possibility that each may be placed at the service of the other. In each case, we are largely dependent on analogy and, given the nature of the material, the majority of our analogies will be drawn from more recent periods. Prehistoric practice may also be inferred, but itself is liable to draw on more modern analogies.



Figure 4. A modern analogy from Praha – Podbaba. The bark of a walnut tree has been stripped away to make a 'panel' of bare wood into which a sign has been carved.

The occurrence of incised symbols on rocks and stones is a well known phenomenon of the Palaeolithic period and certainly must have included living trees and wood, although wood and stone may have been perceived in different ways. Zvelebil and Moore (2006) explain the principles of the acculturation of the hunter-gatherer landscape using the ethnographical example of the Kets, hunter-gatherers of western Siberia. These groups of people travel across the landscape between places where various activities are undertaken according to established schemes of movement. Staging points along their paths take the form of sites, fish weirs and animal traps. They also include marks

made on trees, or ski and sledge remains placed to announce specific claims of ownership or exclusive rights of use.

A recent ecological study has also identified the acculturation of forests by Saami tribes of northern Europe. Fire was used to mark trees defining trails or boundaries. The trees were also notched and had been subjected to bark peeling at regular intervals (Östlund *et al.* 2003). Bark peeling for various purposes, including food and the production of cloth, is a widespread phenomenon primarily of the north boreal forest zone; its oldest material evidence comes from the eighth century BC (Östlund *et al.* 2004).

## The registration of ownership as a theme of historic periods

The marking of trees is mentioned by the classical authors Cato, Vera and Columella as a way of identifying woodland or other territories (Nenninger 2001). In the case of a boundary between two holdings, the owners' symbols would have been carved or cut on both sides of the trees. Native North Americans in some parts of the continent marked trees standing near beaver dams and thus specified an owner — the person eligible to lay traps in the territory. In this way they were able to sustain the beaver populations (Ridley 1996). In early

medieval Slavonic areas, trees that had been hollowed out to host bees were marked by a beekeeper to demonstrate ownership. This practice disappeared after the introduction of bee hives outside the forest (Beranová 2005).



Figure 5. A carving from Dalarna, Sweden (after Hill & Töve 2006; photograph: Jan Töve, reproduced with kind permission).

In the Swedish province of Dalarna inscriptions, possibly in runic letters, have been engraved into the wood after removal of the bark (Figure 5). These marked the territory of a summer pasture belonging to a specific family and most probably gave the name of a shepherdess. The system of summer pasturing continued from the early medieval period all the way to the beginning of the twentieth century, when the shielings were being deserted. The areas of former pastures became overgrown by forest and the inscriptions with them (Hill & Töve 2006). Similar documented customs mostly connected with seasonal pasturing come from other parts of the world such as the western United States, Peru or Mexico (Andersson *et al.* 2005, Turner *et al.* 2009).

In a charter recorded in the cartulary of Saint Victor of Marseille dating from the twelfth century, a cross fixed on an oak tree

was used to mark the limits of a territory or fields: *quercum in qua crux fixa est* (Guérard 1857). A charter concerning confirmation of estates belonging to the abbeys of Zobor (present day Slovakia) from the early twelfth century mentions two trees marked by two crosses (Marsina 2003). The medieval treatise of Bertrand Boysset (France, fourteenth–fifteenth century) mentions wood marked to indicate the boundary between village territories. Marked wood rising above water is especially useful where the frontier crosses streams, ponds and wetlands (Abbé 2006). Medieval perambulations relating to the landholdings belonging to the Hungarian Kingdom contain frequent references to prominent trees being used as the boundary markers. The tree most often cited is the oak. Most boundary trees were not woodland trees, although trees in woods could serve as boundary signs providing some extra feature, such as an earthen boundary, a cross or a picture, was added to them (Szabó 2005: 200, 271). Similar references to trees as boundary markers can be found in Anglo-Saxon land charters (Hooke 1990).

Forest management is a common-sense explanation for the marking of trees. For instance, the early sixth-century code of law of the Salian Franks under King Clovis I, the Salic law (*Lex Salica*), contains a reference to the marking of one tree, in the form of an ownership mark, which was chosen for cutting down: a practice that is still widespread (Meduna 2008).

There are many examples of more recent culturally modified trees in forest areas of northern Europe and North America (Andersson 2005; Andersson *et al.* 2005), where tree

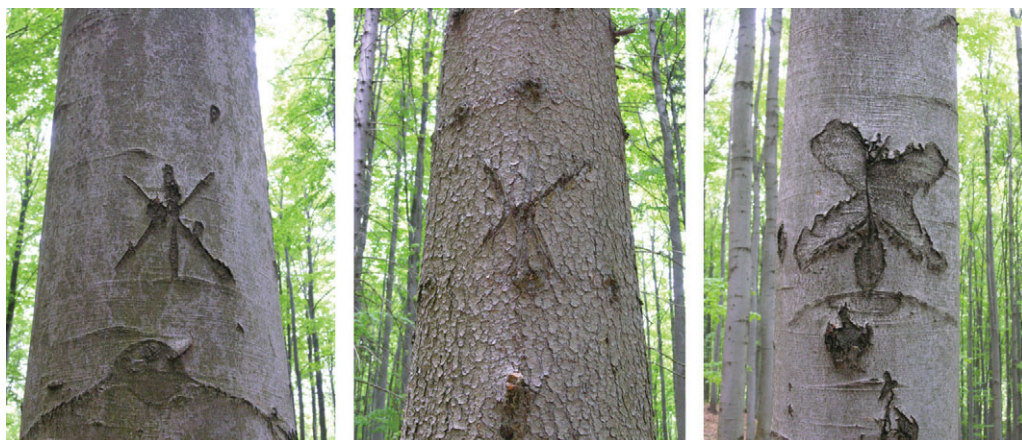


Figure 6. Jeseníky Mountains, near the castle Rabštejn. A tourist trail marked by almost identical star cuts on trees was documented in 2007 when the marks were already partially overgrown by new wood growth (photographs: R. Mikuláš).

carvings are known to express people's thoughts and feelings and may be used as grave markers, trail markers and witnesses of events (Turner *et al.* 2009). Modern examples from the Czech Republic are curiously reminiscent of the Čelákovice symbol (Figure 6). In this case they mark a tourist trail in the Jeseníky Mountains near the castle of Rabštejn, and presumably indicate the direction of travel.

Finally, we must consider the question of whether and, if so, when trees were marked for cult purposes. The worshipping of individual trees, especially oak, was apparently widespread in early Europe (Frazer 1994). The oak tree, as well as the mistletoe, played an important role in the Celtic religion and it was also a symbol of a supreme god — a tall oak. In the religion of the ancient Germans the veneration of sacred groves seems to have held the foremost place, and the highest among their holy trees was the oak. It appears to have been especially dedicated to the god of thunder — Donar or Thunar. Considering the age and the location of the Čelákovice discovery it seems plausible that the carved symbol on an oak stem was done by the hand of a Slav. The Slavonic religion preserved several ancient traditions, the worshipping of oaks among them. For eastern and southern Slavs, the oak appears to have been the sacred tree of the thunder god Perun. After their Christianisation, the bulky oak trunks were, as with other pagan idols, ritually disposed of by throwing them into rivers. A 22m long trunk from Desna was marked with inserted wild boar fangs, while another from the Dnieper tree carried hammered-iron bullets (Profantová & Profant 2000). The marking of trees may also imply a simple indication of some belief or superstition.

Naturally, a spiritual expression does not preclude a practical function. Peter Jordan (2003: 118) has made an anthropological investigation of the remote Siberian hunter-gatherers, the Khanty. On the Malyi Iugan, part of the bear hunt involves the carving of trees. The returning hunting group stops at the last stream that crosses the trail before it enters the settlement, in order to carve symbols into a cedar tree. These include a bear's head and paws — head resting on paws — and notches are cut to record the number of hunters. This ritual fulfils an obligation to the higher power incurred in the earlier hunting activity. Once executed, the exchange is over and the image then serves to guide subsequent additions by



other hunters on adjacent trees and document the wider acculturation of the landscape. In pre-Norman Ireland land boundaries were related to identifiable landmarks such as rocks,



*Figure 7. Birch forest near the village of Škvorec, central Bohemia. The grandmother of one of the authors (DD) is photographed standing within a group of carved trees. The tree on which she is resting carries the reminder of a first kiss in 1893 (lower), two upper inscriptions offer a series of dates and possibly also names; a heart is at the very top. Names carved into the bark of another tree have been scratched out, perhaps reflecting a not so happy relationship. In a further instance the bark has been completely removed leaving only a square-shaped scar (photograph: Erhardt Sichrava, taken around 1900).*

stones, ditches, roads or lanes, water and trees. Trees were particularly useful for this purpose: the historic commentary refers to a venerated tree or a great oak or a mound with a tree on it or even the stump of a large tree (Kelly 2000).

Thus the marking of trails or territories, of ownership of lands or resources, of trees for felling and the registration of votive feelings or events, all offer possible explanations for the Čelákovice carved symbol.

## Conclusion

Symbolic representations on stones, cave walls and bones are well known aspects of European prehistory. The carving of symbols on trees is a practice that continues almost to the present day (Figure 7). However, ancient carvings on living trees are entirely unknown. The finding of a carved star-shaped symbol on a preserved tree trunk from Čelákovice is therefore of significance. The actual meaning and purpose of the carving at present must remain unknown, but — considering the age and cultural context of the discovery — it is most probable that it defined some boundary, route or ownership.

So far as the authors of this paper know, the Čelákovice archaeological find represents the oldest material evidence of a carved symbol made on a living tree. The discovery, it should be noted, occurred during a study of ecological erosion and not during an archaeological excavation. This illustrates a new and hitherto largely disregarded form of archaeological investigation, that of waterlogged trees in wetlands or alluvial sediments.

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