

Bog Oaks: a Key to Dating the Past

by Valerie Taylor

Bog oaks are turned up by the plough in Fenland every year. It was obvious, however, that the tree trunks being dug out of the peat at Ramsey in January 1979 were somewhat larger than usual (fig. 10). The farmer, Mr Holden, and his wife proved to be remarkably helpful, allowed access to the field and provided the information that some of these trees had been dug out from under silt roddons and that all of them were resting on the clay that underlies the peat. This means that they were buried very early in the sequence of peat formation in this part of the Fens. They are large forest trees with little side branching, which suggests that they date from an early phase when thick forest would have covered the mineral soils that underlie the peat.

The oak trunks, many of which still had their bark and sapwood, vary in length from small pieces to mature trees of 6 metres, ideal for tree-ring dating or dendrochronology. This method of dating wood uses the pattern of seasonal growth-rings in trees and dendrochronologists are gradually building up a sequence of tree rings by overlapping growth-ring patterns in samples of wood obtained from many different sources, particularly mediaeval timber framed buildings. In Britain the problem has been to obtain trees or timber of sufficient size and age to take the sequence back beyond the later part of the prehistoric period. There are very few places where conditions are such that large trees would be preserved from prehistoric times. In Britain wood is generally only preserved by very wet conditions, protected from decay by the lack of oxygen and the natural tanning agents in oak-wood and bark. It was under these conditions that the Fen oaks were preserved in the deep peat.

Tree-rings can be used directly to date building timbers. More important from the prehistorian's point of view is their value for checking radiocarbon dates. It is well known that anomalies have occurred where radiocarbon dates have been compared with other sources of dating. As a result the radiocarbon date curve needs to be checked and calibrated. An absolute check can be made by dating by radiocarbon samples of wood, the age of which has been established independently by dendrochronology. This will show up areas of irregularity and enable the necessary calibration work to be done.

After seeing the bog oaks at Ramsey we were luckily able to secure the co-operation of Mr David Haddon-Reece of the Ancient Monuments Laboratory in London. He came up to Fengate with his colleague Mr Andrew David to inspect the material and was enthusiastic about its suitability for tree-ring dating. Moreover, the roddons associated with the trees may in their view be suitable for a new dating method — magnetic silt-dating. The technique exploits the fluctuating position of the Magnetic North Pole. By plotting the alignment of magnetic particles in the silt roddons, and comparing that ancient alignment with the modern position of Magnetic North, it may be possible to calculate the date when the silt was laid down. It is possible therefore that our Fen oaks may soon be helping to tie together three important dating techniques — radiocarbon, dendrochronology and magnetic silt-dating.



Fig 10 Bog oaks from Ramsey, 1979