

The dating of wooden troughs and dishes

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ABSTRACT

Typological links between wooden artefacts and those made from stone, pottery and metal facilitate the dating of some distinctive styles of wooden container. However, radiocarbon dating is in many cases the only method of dating those wooden troughs and dishes that are typologically indistinct. This paper is a report on the radiocarbon dating of a number of wooden vessels from Scotland.

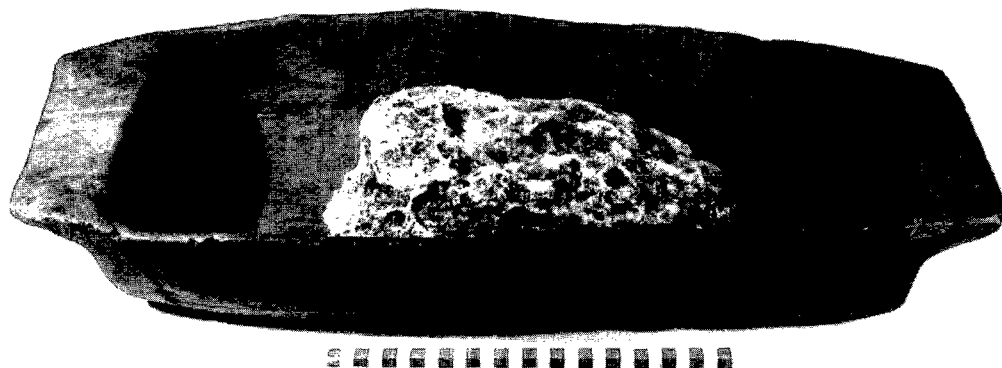
INTRODUCTION

Recent research has demonstrated that clear typological links exist between many wooden containers and those made from other materials such as metal, pottery and stone (Earwood 1990a). Typological comparisons for dating purposes are most successful for the more 'exotic' vessels, and although various styles can be distinguished among the plainer vessels, radiocarbon dating is often the only suitable method of establishing their age. A major problem in drawing up a chronology for wooden troughs from Scottish sites is that many are 'stray' finds which have been recovered during peat cutting, and their archaeological associations are not known. This paper considers the dating of a number of wooden troughs and dishes by radiocarbon dating and by typological comparison with vessels from well-dated sites.

RECTANGULAR WOODEN TROUGHS

One particular type of trough is distinctive enough to allow comparisons between stray finds and troughs recovered from archaeological excavations. The troughs are rectangular in shape with nearly vertical sides. The ends slope outwards from the base and are elongated horizontally to form a handle at each end. Although there is considerable size variation, all were made in a similar manner. A straight-grained tree trunk or large branch was selected and any side branches were removed. The larger troughs were hollowed out from a whole tree trunk, in a similar way to that used to make a dugout canoe. For smaller troughs the trunk was first split in half using wedges and a mallet. The inside of the trough was more carefully finished than the exterior which in some cases follows the natural curve of the tree. The side walls are thin but the ends of the trough are considerably thicker. The few toolmarks that can be identified on the surviving troughs indicate the use of an axe or adze.

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ILLUS 1 Trough from Durness, Sutherland, containing bog butter (*Trustees of the National Museums of Scotland*)

Troughs of this type have been found on a number of sites in Scotland and Ireland dating to the sixth to eighth centuries AD; they include two troughs from Loch Glashan crannog, Argyll, one of which is only 430 mm in length, and one from the rath at Deer Park Farms, County Antrim, which is over 1 m long (Earwood 1990b, 80–1; Earwood forthcoming). Similar troughs are also known from later sites, including many Viking settlements, and were, for example, common during the ninth and tenth centuries AD at Haithabu, Germany (*Wikinger Museum Haithabu* 1988, 10). At Novgorod in Russia they continued in use until the 13th and 14th centuries (Kolchin 1989, 73 and pl 69).

In addition to the rectangular troughs from Loch Glashan, four others have been recorded in Scotland. The largest, which was made of oak, was found near the crannog of Eadarloch, Inverness-shire, but may not have had any connection with the site. It is considerably larger than any of the other troughs being 1.65 m in length (West Highland Museum, Fort William, Cat No (1930) 2250). The excavator of Eadarloch crannog considered the trough to be some form of cargo vessel and compared it to similar Irish dugouts (Ritchie 1942, 57–5, pl 16). A smaller trough, but of very similar design, was found on the crannog of Lochlee, Ayrshire. It was closest in size to the smaller of the Loch Glashan troughs being 570 mm in length (Munro 1882, 93 and fig 44). The date of the Lochlee trough is unclear as the site is dated only loosely to the Romano-British or Dark Age periods. A third trough, described as being made of 'bog-fir', was found in a bog near Midton, Ross-shire. Although its exact size and shape were not recorded, the description suggests it was of similar type (Macrae 1894, 18–19). When found, in 1893, it contained a mass of bog butter. The troughs from Midton and Lochlee do not appear to have been preserved.

The fourth trough (illus 1), which also contained bog butter, was found in 1969 near Durness in Sutherland during peat cutting (Close-Brooks 1984, 578–81; National Museums of Scotland Cat No SHC9). It is most similar to the larger of the Loch Glashan troughs although it is somewhat smaller, being 730 mm in length, compared with 955 mm. The trough was carved from an oak trunk and the sides are slightly curved reflecting the natural shape of the tree. The inside of the trough was more carefully finished than the exterior. The central ring pattern can be seen in the ends which are considerably thicker than the sides and base. The radiocarbon date for the Durness trough (see below) places it within the 11th/12th centuries

AD. Although this style of trough is quite distinctive it is clear that its use spans a considerable period of time and that on the basis of style alone it will be difficult to date precisely other examples found in unstratified contexts.

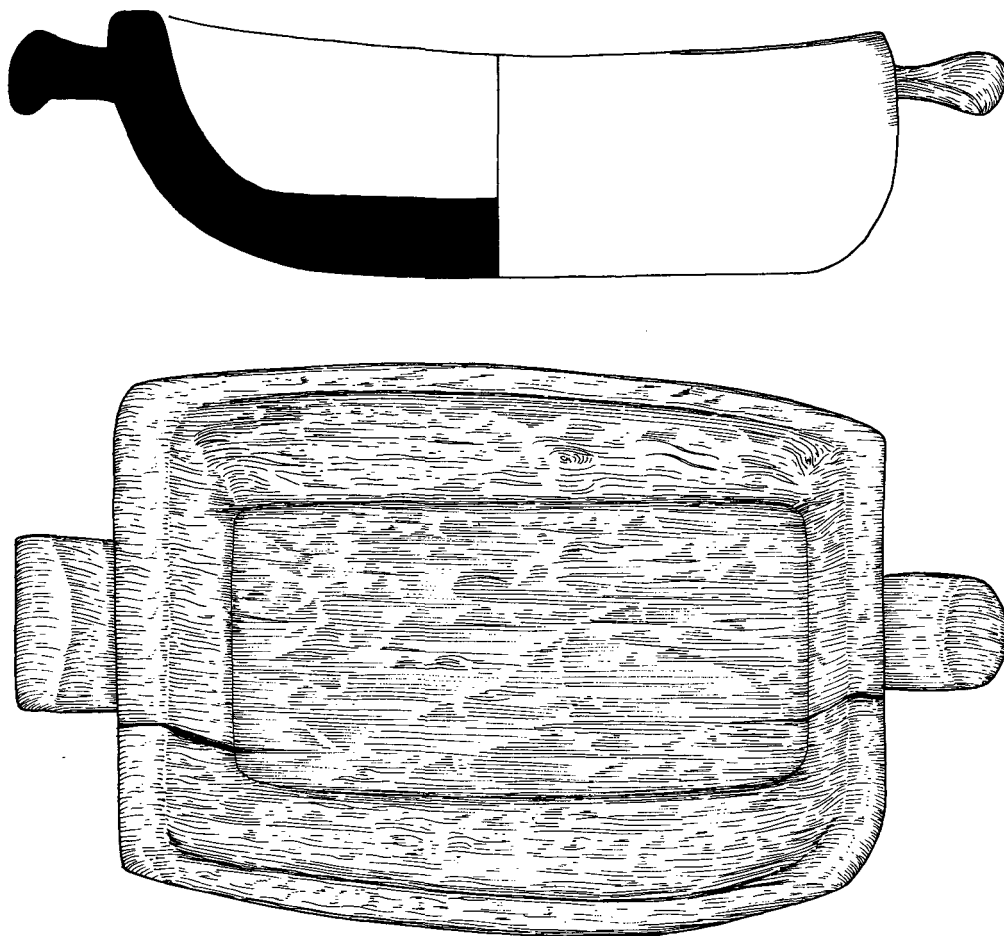
With the exception of the example from Deer Park Farms, which was found on the floor within one of the houses of the rath, these troughs have not been found in any situation which suggests a definite function. The considerable variation in size suggests that they may have had a variety of uses which could have included food preparation, water or food storage, or the mixing of materials used in cloth preparation and dyeing. Wooden troughs of similar shape, but without the handles, were used in recent times in Ireland for kneading bread (O'Neill 1977, fig 20).

Although the troughs from Durness and Midton were last used as containers for bog butter, they may not have been made specially for this purpose. Bog butter was buried in a great variety of containers, not only wooden vessels but also containers of pottery, metal, stone and basketry. The reasons for burying bog butter remain uncertain but a number of analyses have been carried out to establish its precise nature (Macadam 1882; Arup 1932; Thornton, Morgan & Celoria 1970; Lannin, M, pers comm). The only definite conclusion is that the substance was derived from milk, or some other form of animal fat, and the presence of cattle hairs in some samples supports this identification. Suggestions put forward to explain its burial in bogs include preservative reasons (Wilde 1858) but current experiments by the author show that the butter will become rancid in a matter of months even during the winter months. Recent radiocarbon dating of two Scottish bog butter kegs demonstrates that the practice can be dated back at least to the second or third centuries AD (Earwood 1991). In Ireland, bog butter continued to be buried in the post-medieval period (Earwood 1993, 13). The date for the Durness trough confirms that bog butter was also buried in Scotland at least until medieval times.

OTHER TYPES OF WOODEN TROUGHS AND DISHES

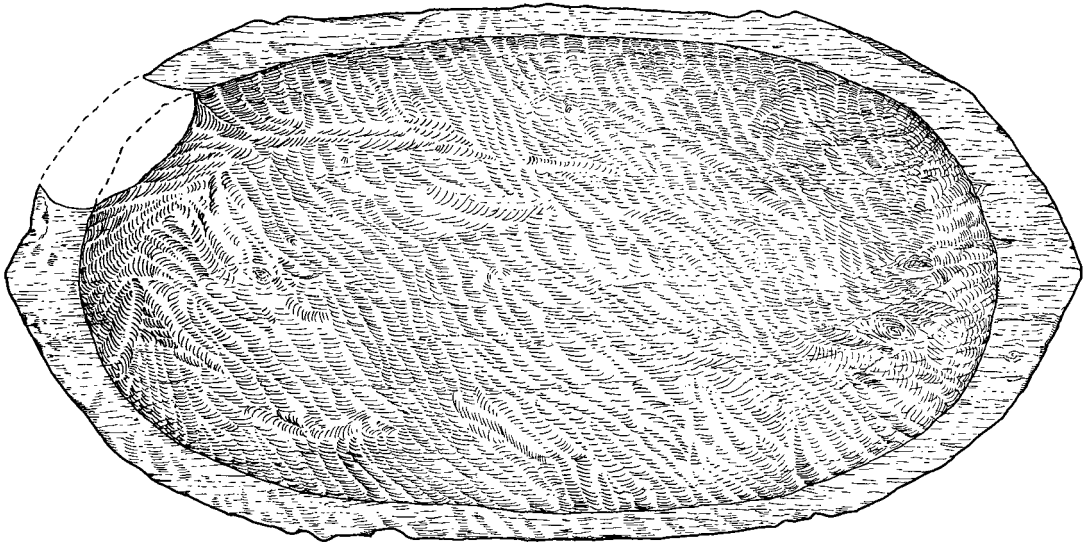
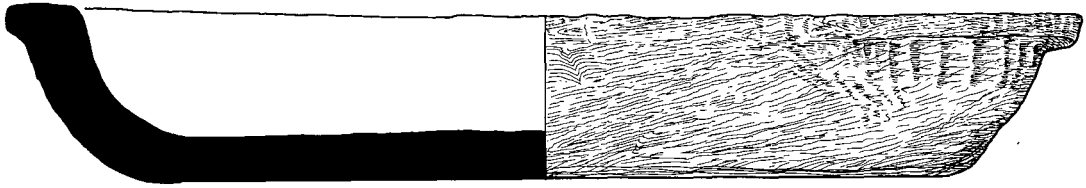
In addition to the rectangular troughs described above, there is a wide range of styles of wooden troughs and dishes; this has meant that it has seldom been possible to date them on the basis of typology. Usually it would not be possible to date them by dendrochronology as few were made from oak and even where oak was used there are too few tree rings and the sapwood is not present. Three vessels, all of types for which no parallels are known, were selected for radiocarbon dating. Two are from peat cuttings near Stornoway, Isle of Lewis.

The first of the vessels from the Stornoway area (Glasgow Museums Cat No ARCH/NN/5) is rectangular (illus 2) with slightly rounded corners and a knob-like handle at each end; one handle is positioned just below the rim, the other is set slightly further down the vessel wall. Its overall length is 525 mm and its maximum width, near the middle, is 305 mm. The base is flat and the ends, which slope outwards slightly, are approximately 25 mm in thickness. The sides are thinner, tapering to 10 mm at the rim. In its present condition it is difficult to see the tree ring pattern although it is clear that the grain of the wood runs from one end of the vessel to the other. No toolmarks can now be seen but the trough was fairly crudely made. The trough was found in 1932 lying on the old ground surface below c 3 m of peat cover. The calibrated radiocarbon date (OxA-3012) can unfortunately only date it to a period between the third and eighth centuries BC. A rather similar trough was found in 1896 in a peat bog near Loch Eport, North Uist, Outer Hebrides. It was considerably larger, however, being about 710 mm in length, and contained bog butter (MacRitchie 1896).



ILLUS 2 Trough from Stornoway, Lewis 1:4

The second vessel from Lewis was found in 1986 near the River Arnol (NGR: NB 30074519, Museum nan Eilean, Stornoway). It is a much more finely carved dish, of alder wood, which is elliptical in shape with slightly protruding ends. The base is flat and the rim has been carefully cut to project slightly beyond the walls of the vessel. The maximum length is 570 mm and the width at the middle is 277 mm. It was carved from a tree trunk which was first split in half as the central rings can be seen just below the rim in either end. Toolmarks can still be seen in the interior varying in width from 7 to 9 mm and running obliquely across the dish to produce a rippled effect. They appear to have been made with a slightly curved blade, possibly a small gouge. No attempt has been made to smooth out these toolmarks. Additionally, there are a number of cut marks in the base and on one side which appear to have been made with a knife; these appear to have been made whilst the dish was in use rather than during manufacture. The exterior surface of the dish has no surviving toolmarks other than some damage sustained when it was found in the peat bank. The dish was found

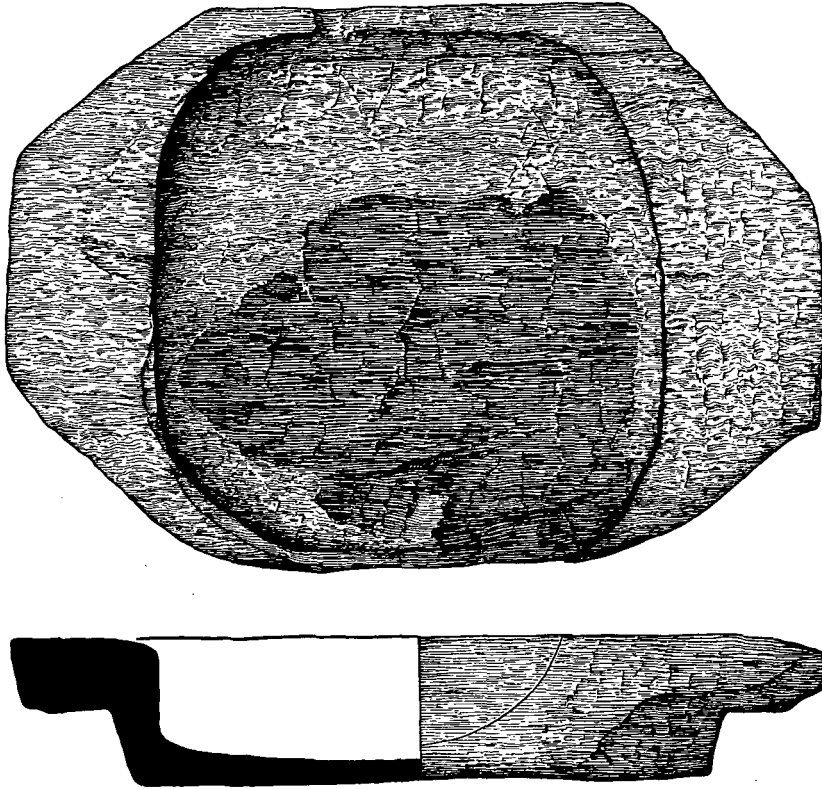


ILLUS 3 Dish from near the River Arnol, Lewis 1:4

upside down and the outside has been subjected to a certain amount of weathering which probably explains the lack of toolmarks and the poor condition of the exterior in comparison to the interior.

The Arnol dish (illus 3) was found under about 0.6 m of peat, lying some way above the former land surface. At the time of discovery it was noted that what appeared to be straw was found in and around the dish. Later peat cutting in the vicinity did not lead to any further finds. The calibrated radiocarbon date of the dish (see below) falls between the seventh and 12th centuries AD, making it broadly contemporary with the Durness trough. Again, no other dishes of this style have been traced.

In July 1991 a further wooden dish was found near Loch Shiel, Highland Region



ILLUS 4 Dish from Loch Shiel, Highland 1:3

(NGR:NM 783689, National Museums of Scotland Cat No ARCH.DB 1991/33). It was discovered in the edge of the River Polloch approximately 0.3 m below the water surface and covered by mud. The dish (illus 4), which is made from alder, bears no resemblance to any other wooden vessels found in Scotland. It is roughly rectangular in shape although the interior is approximately circular with flattened sides. At either end a flat handle projects from the rim of the vessel. The upper surfaces of the dish are flat and fairly well finished but the underside is cut only roughly and the handles have been left thicker than would be convenient for easy handling. It appears likely that the dish was not finished before it was deposited. The base, although roughly finished, is fairly flat with signs of cut marks; the sides are roughly fashioned leaving numerous toolmarks which, although not distinct, appear to have been made by vertical cuts with a narrow, flat or slightly curved tool. The interior is also cut roughly and it is badly charred, as is one side which is now broken. A lesser amount of charring is also visible down one side of the exterior. The overall length of the dish is about 300 mm with a maximum width of 297 mm. The handles, which are not exactly similar, project from the rim of the dish and are up to 32 mm in thickness. The base of the dish is considerably thinner, being only 12 mm in thickness. The radiocarbon date places the Loch Shiel dish within a period from the early ninth to the mid-12th century AD.

CONCLUSION

The radiocarbon dating of these wooden troughs and dishes has underlined the difficulties in dating such containers purely on typological grounds. Although similarities of style can sometimes be observed between vessels it is clear that certain styles were current for several hundred years. The troughs with overhanging rim handles, for example, span a period of at least 500 years. It seems unlikely that precise dating of wooden dishes and troughs will be possible on typological grounds; the dating of stray finds will continue to rely on radiocarbon analysis.

LIST OF RADIOCARBON DATES

Trough from Durness, Sutherland (illus 1): National Museums of Scotland SHC9
OxA-3010 940±80 BP.

Dish from River Arnol area, Isle of Lewis (illus 3): Museum nan Eilean, Stornoway
OxA-3011 1100±80 BP.

Trough from Stornoway, Isle of Lewis (illus 2): Glasgow Museums ARCH/NN/5
OxA-3012 2370±90 BP.

Dish from River Polloch, near Loch Shiel, Highland (illus 4): National Museums of Scotland ARCH.DB 1991/33.
OxA-3539 1040±80 BP.

Calibrated dates	one sigma	two sigma
OxA-3010	AD 1010–1170	AD 960–1260
OxA-3011	AD 825–1015	AD 690–1155
OxA-3012	760–380 BC	790–210 BC
OxA-3539	AD 890–1115	AD 800–1165

The dates are calibrated using the calibration programme of van der Plicht & Mook (1989).

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