

9. A TRIPARTITE DISC WHEEL FROM BLAIR DRUMMOND, PERTSHIRE.

Round about the year 1830 certain antiquities were found in the peat of Blair Drummond Moss, S. of Doune in Perthshire (Nat. Grid ref. NS/7296). Among these were three fragmentary wooden objects of identical form, of which one found its way to the National Museum of Antiquities, where it was registered as a wheel. The first publication of the find, however, was not until 1873, and here it was illustrated and described as an ancient wooden shield.¹ Since that time the shield or targe identification has not been challenged, but a recent examination left no doubt that the original description in the old catalogue of the Museum was in fact correct, and that we are dealing with a semi-solid disc wheel of tripartite construction. Wheels of this type, as we shall see, have a wide distribution in the ancient world, but the Blair Drummond example is the only one yet recorded from the British Isles.

Owing to the shrinkage of the wood along the grain the Blair Drummond wheel now suggests an object originally oval rather than circular, and indeed this feature was used in support of the shield theory: it is certain however that this is the accidental result of the drying-out of a once waterlogged specimen. In its original form it appears to have been some 2 ft. in diameter, and is made of three planks of ash, now shrunk to about 2 ins. thick, held together by rods also of ash,² passing through two holes bored transversely through all three planks, one at each side of the central opening for the hub. The central member, now about

¹ *Arch. Scot.*, v (1873), 213.

² For these identifications I am indebted to Mr John Anthony of the Department of Botany, University of Edinburgh.

6 ins. wide, is badly broken and decayed, and what was originally a thickened collar round the central opening survives only in detached fragments. The two remaining planks form, of course, a pair, their outer edges originally cut to an arc of a circle. At their inner edges they fit against the central plank for the outer third of their length on each side of the hub, and it is this junction which is secured

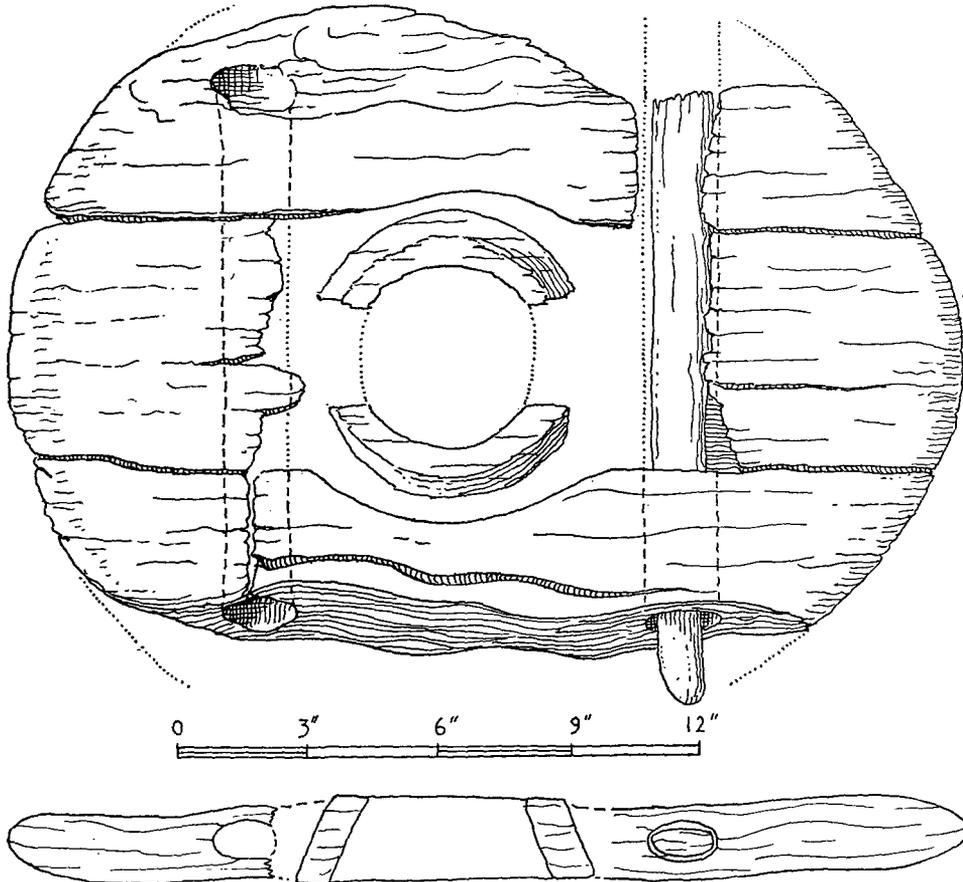


Fig. 12. Remains of tripartite disc wheel from Blair Drummond.

by the transverse rods already described. Their middle third, however, is worked into a shallow curve flanking the central thickened collar at the hub, originally carved from the solid of the middle plank, so as to form two lunate openings. The warping and shrinkage already mentioned has reduced and flattened the arcs of these lunate recesses, but they certainly existed, and as we shall see, can be paralleled on more than one example from antiquity and indeed from modern times.

The Blair Drummond object is, in fact, a typical example of a class of wheel first defined by Professor Gordon Childe as a tripartite disc.¹ He has pointed out

¹ *Ethnog.-Archäolog. Forschungen*, II (Berlin 1954), 1-17.

that, although single-piece solid wooden wheels are occasionally found in Northern Europe, the earliest wheels known, from Mesopotamia and dating from the end of the fourth or beginning of the third millennium B.C., are of tripartite disc construction. Thence, as he has shown, the plank-built type of wheel, normally tripartite, became widely diffused in prehistoric and early historic Europe.

It is possible to subdivide the tripartite wheel-type into two: those which were built up into a "solid" disc and those in which lunate openings were contrived on each side of the hub. Into the second group come the Blair Drummond wheel, and examples from Dystrup in Denmark,¹ Buchau in south-west Germany,² and Castione and Mercurago³ in North Italy. The Buchau wheel is here illustrated (Pl. XXII) for the first time. Childe considers the last-named two wheels as likely to date from a Reinecke D-Peschiera horizon, somewhat later than c. 1300 B.C.

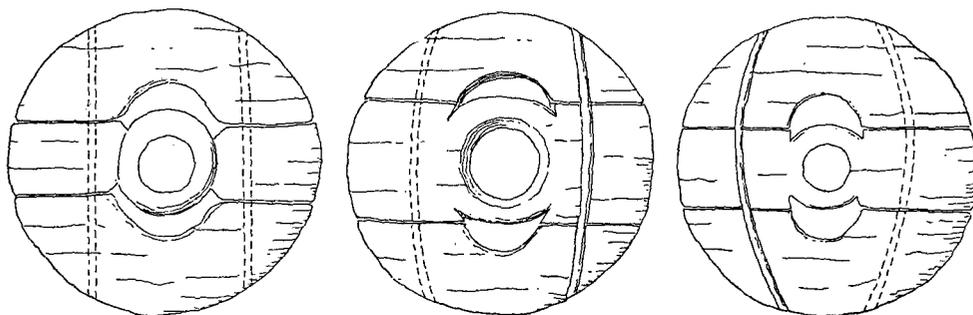


Fig. 13. Comparative diagrams of wheels from Blair Drummond (restored), Dystrup (Denmark) and Buchau (Germany).

The Buchau wheel, from the "Wasserburg" in the Federsee lake, is either Hallstatt A or B (c. 1150-750 B.C.), and that from Dystrup is assigned by pollen-analysis to the Danish Early Iron Age, probably within the 1st century B.C.-1st century A.D. The Blair Drummond wheel therefore may date from any period within the range suggested above, or indeed could be later. Solid plank-built wheels were in use on Roman farm-carts in Sicily in c. A.D. 300;⁴ tripartite discs survived until very recent times in Ireland⁵ and true one-piece solid wheels were used in Orkney in the last century.⁶ Versions of tripartite discs with lunate openings are still made in north-west Spain and Portugal,⁷ not to mention Pakistan,⁸ and in Anatolia today the solid or semi-solid wheel is typical of the farm-carts on the

¹ Aarbøgger, 1907, pp. 75, 76, fig. 1; Gösta Berg, *Sledges and Wheeled Vehicles* (Stockholm 1935), p. 103, fig. 37. Cf. Salonen, *Landfahrzeuge des Alten Mesopotamien* (Helsinki 1951), p. 116.

² From the Hallstatt A-B settlement of the Wasserburg, on the Federsee. The wheel, in the Federseemuseum at Buchau, is unpublished, and I am greatly indebted to Dr A. Rieth of Tübingen for his kind offices in obtaining the photograph published here. For the Wasserburg site, cf. Reinert, *Das Federseemoor als Siedlungsland des Vorzeitmenschen* (Augsburg 1929), pp. 119-44.

³ Munro, *Lake-Dwellings of Europe* (1890), p. 208; Dechelette, *Manuel II* (1924), p. 289; Clark, *Prehist. Europe, The Econ. Basis* (1952), p. 307.

⁴ Cf. the representations of such carts on the mosaics at Piazza Armerina, one of which is reproduced in *Hist. Technology* (Ed. Singer et al.), II (1956), 550, fig. 503.

⁵ *Ant.*, IX (1935), Pl. I, opp. p. 144 (Co. Monaghan); cf. Estyn Evans, *Irish Heritage* (Dundalk 1944), p. 108.

⁶ *Ant.*, v (1931), Pl. XVI, opp. p. 193. Cf. Gösta Berg, *op. cit.*, for variants of solid and plank-built wheels in Scandinavia.

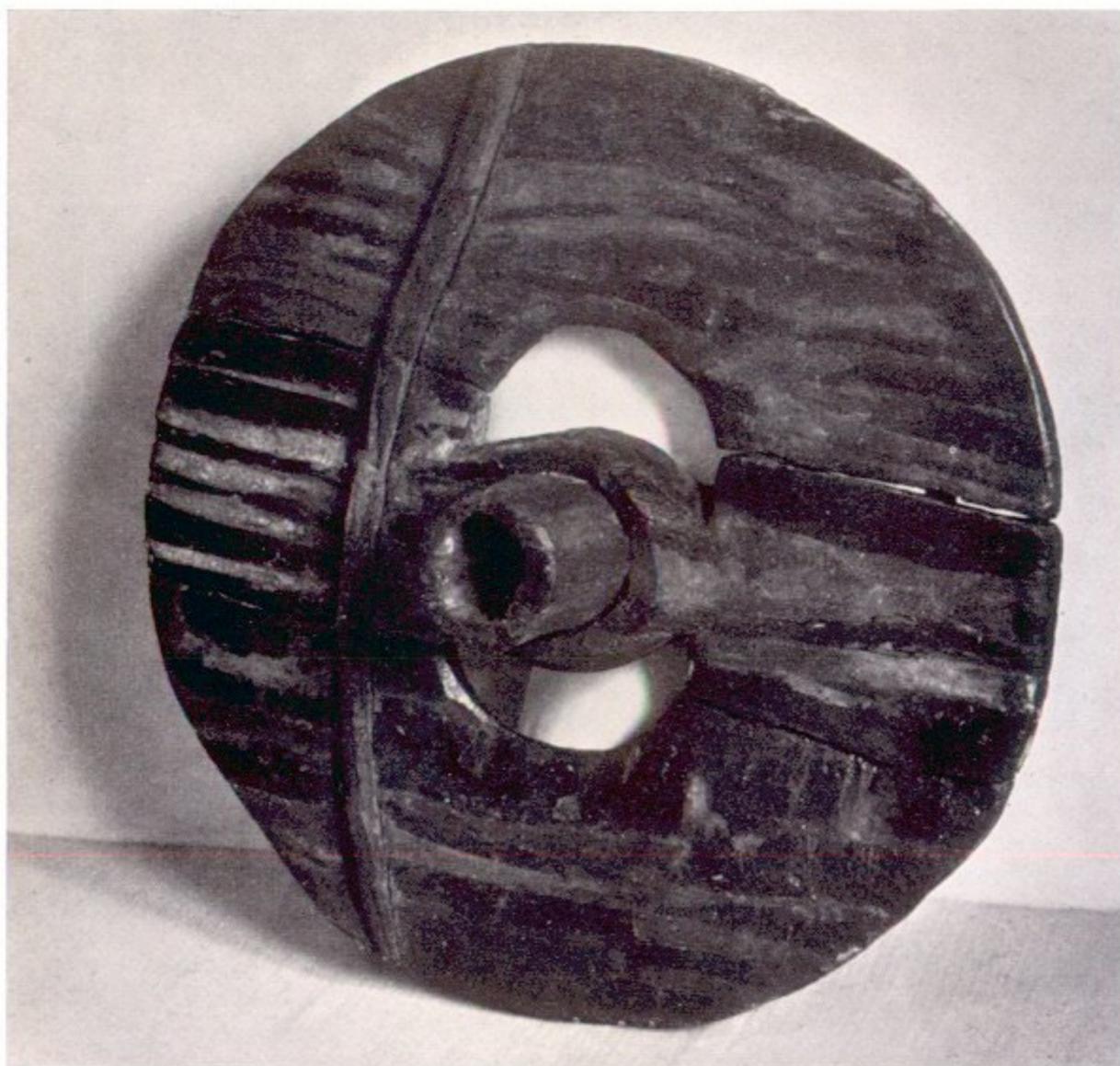
⁷ *Ant.*, III (1929), Pl. II, opp. p. 341.

⁸ *Ant. Journ.*, IX (1929), Pl. II, fig. 2.

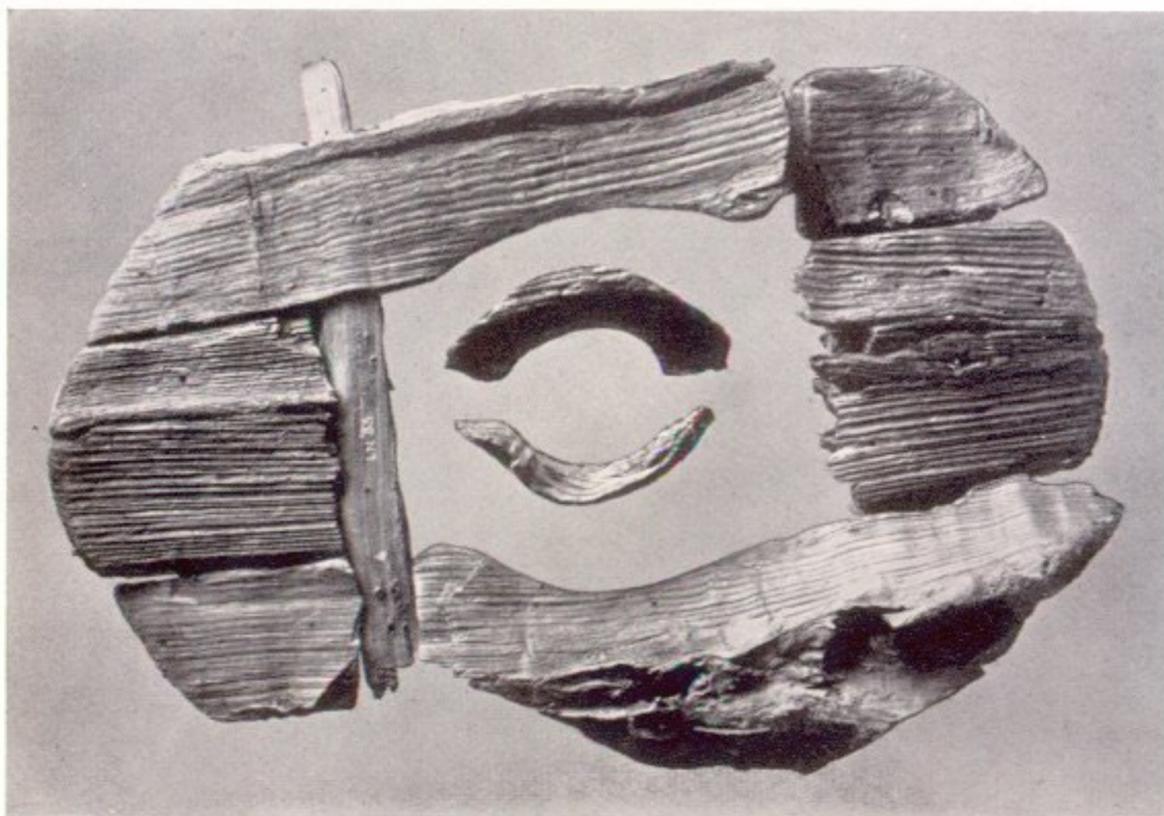
plateau, while the lighter, socially superior, carts have spoked wheels with single-piece felloes in the manner of Celtic and other chariot wheels in the ancient world.¹

As we have seen, the Blair Drummond wheel is the first of its type to be recorded from the British Isles. The Glastonbury Lake Village produced a single-piece disc wheel, comparable with North European examples,² but other wheels of the Celtic Iron Age tradition are spoked,³ and may well, as in modern Turkey, have coexisted with the more primitive and heavier form.

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(a) Tripartite disc wheel from Buchau, Federseemoor, S. Bavaria.



(b) Remains of tripartite disc wheel from Blair Drummond, Perthshire.

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