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Monday, 1 February, 1909.

Professor RIDGEWAY, Vice-President, in the Chair.

Mr REGINALD A. SMITH, F.S.A., read a paper illustrated with lantern slides on

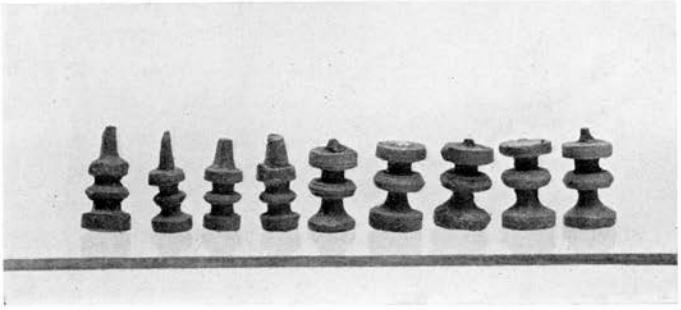
A HOARD OF METAL FOUND AT SANTON DOWNHAM, SUFFOLK.

There is always much interest and not a little romance in a hoard recovered from the soil after an interval of centuries, but a distinction must be drawn between its intrinsic and its archaeological value. Treasure in gold or silver is rarely found and more rarely published; and, though occasionally instructive (as the Grunty Fen hoard recently described in these *Transactions*), must yield the palm to those deposits of less pretentious character that contain datable specimens. Without instituting odious comparisons I may say that the Santon Downham hoard, that has been in the Cambridge Archaeological Museum for some years, is of special service in the way of confirming and extending our knowledge of Britain during the lifetime of Christ.

By the kindness of Baron A. von Hügel the entire series is exhibited to lend interest to my remarks, and incidentally to bring home to the Society the value and possibilities of the Museum which we all hope to see before long in more worthy and commodious quarters.

At the outset I must put your credulity to the test, and draw attention to the enormous vessel in which the rest of the specimens were found. That this was indeed the case there is no reason to doubt, and Baron von Hügel readily accepted the account given by the labourer who found the vessel in his own garden at Santon Downham, Suffolk (about 30 miles N.E. of Cambridge), during the summer of 1897 and owned to doing some damage to it during or after its removal from the soil.

No. 1.



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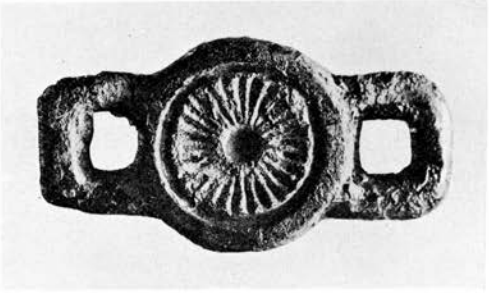


No. 3.

Objects from hoard found at Santon Downham, Suffolk.

It has now been fixed on a wire frame and pieced together, but not restored in any particular; hence its original form may easily be conceived, but its original purpose is not so obvious. I proceed to give reasons why it should be regarded, not as a cauldron, but as a water-clock[1], for measuring time by a simple if somewhat tedious process, for the benefit of our early British forefathers.

The vessel in question (Plate XV, No. 1) is built up of extremely thin bronze plates which can only have been formed by continual hammering and repeated firings, not to mention considerable artisan skill. It consists of an upright collar, $4\frac{1}{2}$ in. deep, and a swelling body with rounded base, the greatest diameter (at the shoulder) being about $18\frac{1}{2}$ in., the entire height $12\frac{1}{4}$ in., and width of mouth 17 in. At the junction of the collar with the body is a band of what might be taken for rivets, but the small bosses were produced by punching both thicknesses together from the inside at short intervals by means of a pointed tool. There is a strengthening hoop of iron outside the lip and two ring-handles of the same metal hanging on the collar, $3\frac{1}{2}$ in. in diameter.

A vessel of such delicate construction for such a capacity, was evidently not made for boiling water or viands above a camp-fire, and comparison with other extant specimens goes some way towards defining its purpose. In the British Museum is an almost identical specimen found at Baschurch, Shropshire, some years ago and presented in 1906 by Mr Richard Wall, the owner of the property. There are clear traces of one iron ring on the collar and the opposite portion no doubt would have told the same tale, but is now missing. The dimensions too are strikingly similar and may here be put in tabular form:—

	Max. diam.	Diam. of mouth	Height
Santon Downham	$18\frac{1}{2}$ in.	17 in.	$12\frac{1}{4}$ in.
Baschurch	$17\frac{3}{4}$ in.	17·6 in.	12 in.

If both were in perfect condition, the measurements would probably agree still better; but the various coincidences are

[1] *Proc. Soc. Antiq. Lond.* XXI. 319.

enough to warrant the conjecture that the original base of the Suffolk example resembled that from Shropshire which is still intact. The latter has a round hole neatly bored exactly in the centre of the swelling base and measuring $\frac{1}{5}$ in., or half a centimetre in diameter; but the specimen exhibited has had the bottom cut out and replaced by a circular patch 10 in. in diameter, just in the same way as a hemispherical example in the British Museum from Walthamstow, Essex. This is the largest of the three, approximately 19 in. in diameter and 10 in. high, and its original use can be inferred not only from its excessive thinness and peculiar form, but also from the existence in a smaller example of a neat circular hole exactly in the centre of the base. This came from the Thames at Battersea and still has traces of an iron band round the outside of the lip attached by round-headed rivets like those found among the Santon Downham scrap metal. The Battersea example weighs 20 oz., is $7\frac{3}{4}$ in. high and $14\frac{3}{4}$ in. in diameter at the mouth; and one of about the same size from Walthamstow has had a similar hole stopped by a domed rivet with the head on the inside. Its dimensions are the same within $\frac{1}{4}$ in., though it is now about 5 oz. lighter than the Battersea specimen just described.

The perforated base might be regarded as accidental in a single instance, but its repeated appearance lends support to the conjecture that these vessels were used by the ancient Britons in the same way as small vessels in India and Ceylon till quite recent times, for measuring the flight of time. The vessel is comparatively light and is placed on the surface of water, which gradually percolates through the bottom and causes the vessel to sink in a specified time. It is then raised and emptied by an attendant, who announces the hour or other division of the day and replaces it on the surface, to repeat the process.

In this worn-out and tinkered water-clock (if such it was) had been packed a curious collection of oddments that may be roughly classified as of British and Roman workmanship. The former are naturally the more interesting, displaying as usual an artistic feeling that is much to the credit of our insular

ancestors, and contrasts with the stereotyped Roman forms that still have their own uses in this company. The early British (late Keltic) group is for the most part well preserved, and the best specimens are two pierced bronze plates, each with a pair of oblong loops at the back for attachment to leather straps, remains of leather adhering to the back of the larger one. They belong to a well-known type and doubtless served to adorn chariot-horses, such as the Britons are known to have possessed in large numbers. The surface of both is decorated with sunk enamel (champlevé) that is now somewhat discoloured, but was originally of a uniform deep red[1], in graceful scrolls such as give a unique character to British art of that period. The edges are lobed, like several others found in Britain[2], but both are roughly 3 in. square and formed of stout metal. In one (fig. 1) can be seen delicately engraved scrollwork on the bronze ground between the patches of enamel, but the surface of the other (fig. 2) is somewhat corroded.

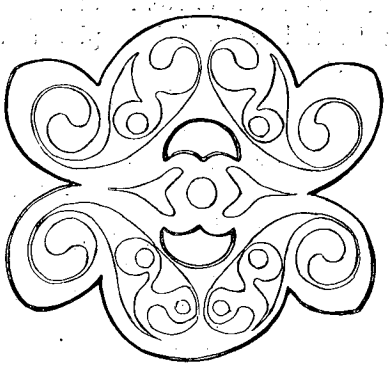


FIG. 1. Enamelled bronze harness-plate.

There is another example of late Keltic scrollwork on a thick bronze disc with tang (fig. 3), the use of which is not apparent. It is 2·2 in. long, the disc having a diameter of 1·2 in., and the whole is $\frac{1}{5}$ in. thick. But that it would be

[1] Some idea of the colour may be derived from a similar specimen figured in the *Early Iron Age Guide* (British Museum, 1905), fig. 3 on plate opposite p. 90.

[2] As Polden Hill, Somerset: front and back views given in *Archaeologia*, XIV, pl. XVIII, figs. 3, 4.

liable to shake out; its form suggests a linch-pin or bolt to connect the yoke with the pole of a chariot; but specimens that probably served some such purpose are generally longer

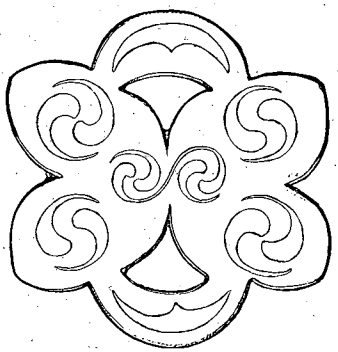


FIG. 2. Enamelled bronze harness-plate.

and have an iron centre[1]. There are, in fact, several moulded terminals of bronze (Plate XV, No. 2) in the present hoard of which some, at least, have had iron pins attached like the

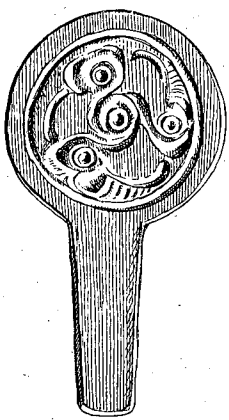


FIG. 3. Engraved bronze peg or linch-pin.

specimens from Stanwick, Yorks. Five of these are neatly cast with flanges and retain the stumps of iron pins set in the narrow end. Four others of the same average height (1 in.)

[1] *Iron Age Guide* (Brit. Mus.), fig. 116; *Archaeologia*, LX, 279, fig. 21.

consist of the moulded terminal and tapering bronze pin all in one piece. A pair of somewhat similar objects, but hollow, measure 1·9 in. in length, and have raised cordons at intervals (fig. 4). Three other bronze castings were perhaps used for

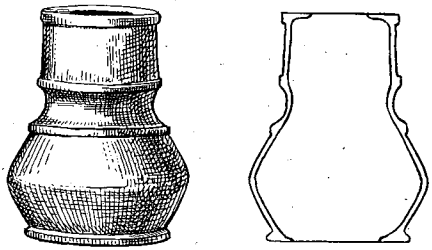


FIG. 4. Ferrule of cast bronze, with section.

the same purpose and are here illustrated (fig. 5). That marked A, with section C, is cup-shaped, open at the top, and rounded at the base, with maximum diameter of $1\frac{3}{4}$ in.; while there were a pair as B, with section D, indented like a salt-cellar at the top, and open at the bottom, the diameter being 2 in. at the top and a little more below.

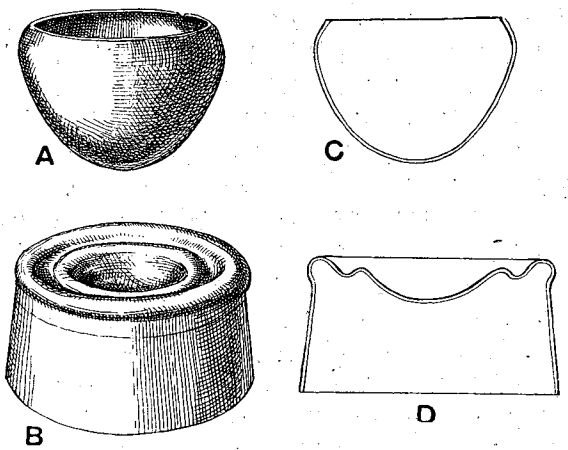


FIG. 5. Ferrules of cast bronze, with sections.

What seems to be a joint for two straps (Plate XV, No. 3) is of stout bronze and has a rosette engraved in the sunk centre.

It measures $2\frac{1}{8}$ in. in length and has a square loop at each end which would take a strap $\frac{1}{4}$ in. in width.

Part of a horse's bridle in bronze (fig. 6) belongs to a recognised British type well represented in the series from Polden Hill, Somerset[1], now in the national collection. It has, like several of the Somerset examples, circular cavities on the expanded end for enamel, no doubt of the red colour then in fashion. The original bridle-bit was twice the length of the surviving portion, and consisted of a broken moulded bar with loose rings at either end, nearly 3 inches across. The half-bar measures the same in length.

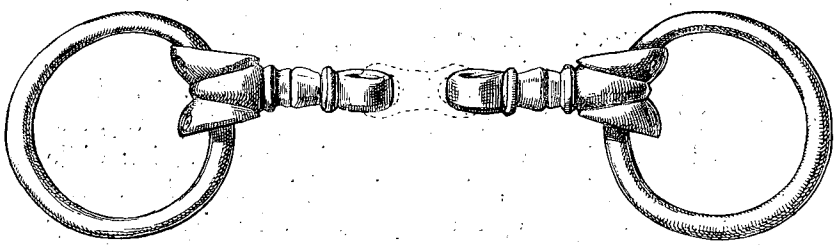
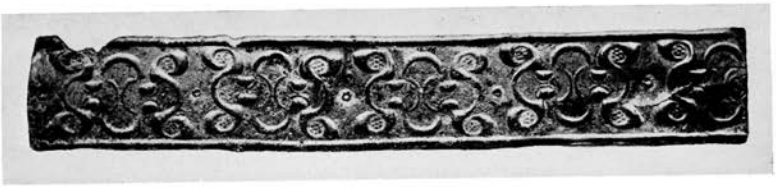


FIG. 6. Portion of bronze bridle-bit (repeated to show original form).

With horse-furniture may be associated the six bronze nave-bands evidently from the wheels of chariots. These fall into two groups, and it is possible that the narrower fitted over the broader bands to give additional strength. The former could be tightened at will, as the under-band was not truly cylindrical, but in the form of a truncated cone. The depth of the broader bands is $2\frac{3}{4}$ in., and their diameters vary between $5\frac{1}{4}$ and $5\frac{1}{2}$ in. They consist of stout bronze quite plain; and the narrower specimens, of which there are two, are 1·2 in. deep and are between $5\frac{1}{2}$ and $5\frac{3}{4}$ in. in outside diameter, thus being capable of fitting over the others. On other examples, such as those found within their wheels in a chariot-burial at Arras, E.R. Yorks.[2], extra strength is secured by a rib in the centre of the band, which consists of thin bronze; while another specimen with the same rib, but made entirely of iron, was found at the

[1] *Archaeologia*, XIV, pl. XIX, fig. 1; others figured in vol. LX, pp. 280—1.

[2] *Archaeologia*, LX, 285, fig. 28.



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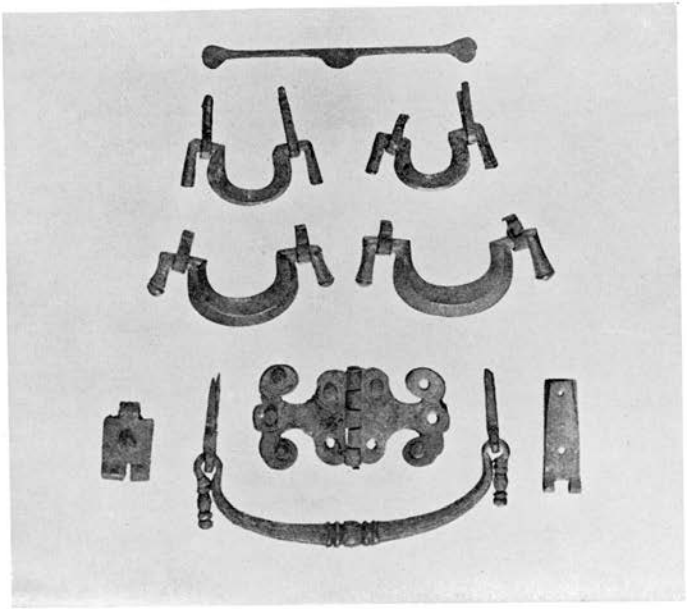

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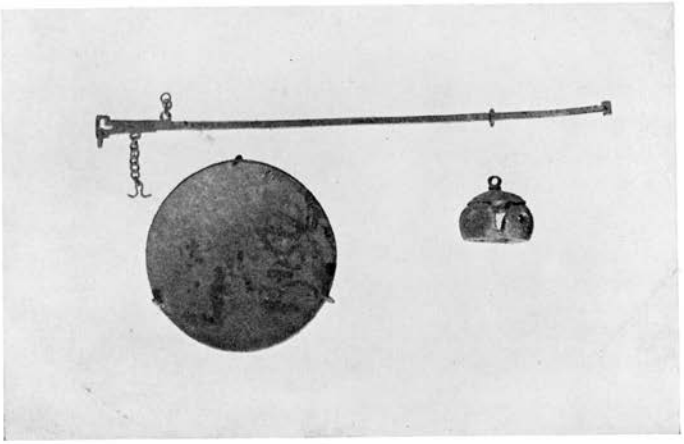


No. 3.

Objects from hoard found at Santon Downham, Suffolk.

Saalburg, near Homburg[1]. It may be added that the Yorkshire specimens just mentioned are $1\frac{3}{4}$ in. deep with a diameter of $5\frac{1}{4}$ in. which corresponds closely enough to the Santon Downham examples.

Three fragments of a bronze band (Plate XVI, No. 1) are embossed with a repeating pattern of swelling curves in the Late Keltic style. On the largest, which measures $8\frac{3}{4}$ in. by 1·4 in., the unit of design occurs in its entirety four times, and some of the angles are filled with rosettes of dots. Small rivet holes in the intervening spaces show that the strip was fixed to some material, probably wood, and it is more than probable that it took the form of a bucket. In the hoard is an arched handle playing on two rivets with broad round heads and bent in two planes, the middle section being flat for convenience in carrying; and the diameter, as calculated from the span of the handle and two flat bands that may also have belonged to it, is about 7 in. This agrees fairly well with the smaller of two from Aylesford, Kent, which was covered outside with thin bronze plate[2]. Very similar strips of embossed metal with repeating patterns were found on Rodborough Common, near Stroud, Glouc., and are now in the British Museum. Other mounts of thin bronze plate were included in the Santon Downham hoard, less elaborately embossed, but heavily coated with tin. They probably belonged to a bucket or similar vessel of wood and have one edge straight to fit the top or bottom, while the other is deeply scalloped, the distance from point to point across each opening being about $3\frac{1}{2}$ in. A close parallel is published from Scotland[3], but fails to explain the use of these mountings. Several lengths were included in a hoard discovered at Balmaclellan, Kirkcudbrightshire, equivalent to a run of 26 in., but Dr Anderson can give no convincing explanation of their use in his description which is as follows:—

> Some have straight outer edges, and the interior edges cut into curves, meeting each other with long and short points; others are triangular pieces, with one convex and two concave edges, while others again are

[1] Jacobi, *Die Saalburg*, pl. XLII, fig. 12; text, p. 448; diam. $6\frac{1}{4}$ in.

[2] *Iron Age Guide* (Brit. Mus.), 119, fig. 97.

[3] Anderson, *Scotland in Pagan Times: Early Iron Age*, p. 129.

long narrow bands with straight edges. They are all bordered with an edging of thin metal doubled over and pinned on, and they seem themselves to have been attached by pins to some object of a more perishable nature. What their precise purpose was—whether they were mountings on wood or leather or whether they formed parts of some object constructed wholly of thin plates of metal (as two other specimens in the hoard)—it is not necessary to conjecture since the form and condition of the objects themselves give no definite indications on these points. Their being wrapped in cloth in separate parcels may imply that they are not all parts of the same object, and their local association with objects of such incongruous purposes as a mirror and a quern, may imply that they were not necessarily even associated with each other when in use.

Another example of embossing is a bronze disc (fig. 7) imperfect at the edge with the figure of a somewhat grotesque

FIG. 7. Embossed disc of bronze.

quadruped, much like one on a similar disc from Westhall, Suffolk[1]. Both belong to the same school as the Aylesford and Marlborough buckets[2]. The diameter is $1\frac{1}{2}$ in., and there can be little doubt that this was the face of a brooch or ornament attached to the dress by means of an iron pin now rusted on the back of an imperfect disc quite plain with the same diameter. Another disc, 1·4 in. across, has three small round holes in it placed symmetrically, recalling the base of a Roman seal-box, but with one side tinned as if meant to be seen in use.

Perhaps the most curious item in the hoard is a bronze fragment of segmental form (fig. 8) with moulded edge and

[1] *Iron Age Guide* (Brit. Mus.), 129, fig. 110. The Westhall series, if a hoard, must be about a century later than Santon Downham.

[2] *Ibid.*, figs. 25, 93.

rosettes engraved in the two angles. In the centre is an oblong hole which is screened by a thin movable plate considerably larger than the hole and affixed to the plate by one of two rivets which have duck-shaped heads. When the movable plate is in position over the hole the two ducks are symmetrically placed at either end and turn on pivots. They are evidently of conventional form, but well modelled in the round and their wings indicated by engraved lines. A similar rivet-head occurs at the end of a girdle-mount found in Bohemia[1]. In the centre of the revolving plate is engraved a rosette larger than those on the under plate, with six lobes and rows of short radiating

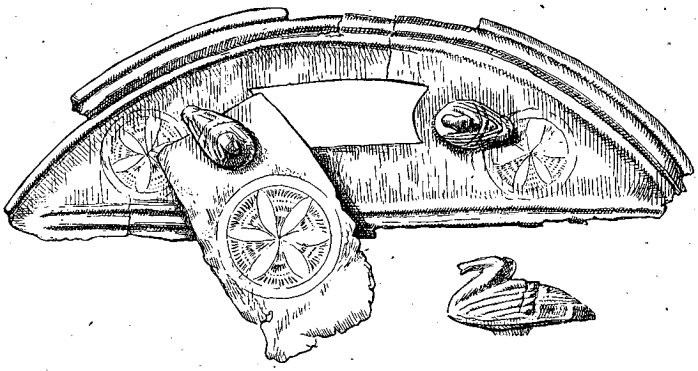


FIG. 8. Engraved bronze plate with lid and movable rivets.

lines on the ground between them. The segmental plate is $6\frac{3}{4}$ in. long and the ducks are $\frac{3}{4}$ in., while the opening at the centre is $1\frac{1}{2}$ by $\frac{5}{8}$ in. The sliding plate is now damaged at the edges and may be described (except perhaps in Cambridge) as a rectangle with more or less curved sides.

A somewhat similar contrivance of which I can find no detailed description is published from the Baltic island of Gothland. It is attributed by Prof. Montelius[2] to the third period of the Early Iron Age in Scandinavia, that is to the century and a half before the Christian era; and consists of a bronze plate of lozenge form $2\frac{7}{8} \times 1\frac{1}{4}$ in., with incurved sides

[1] Pič, *Die Urnengräber Böhmens*, pl. LXXXII, fig. 6, p. 149.

[2] *Den nordiska jernålderns Kronologi*, 190, fig. 25.

and edge-mouldings. Inside one of the obtuse angles sits a bronze bird $\frac{3}{4}$ in. modelled in the round and closely resembling those exhibited. From the drawing one might conclude that it formed the head of an iron rivet which has been broken off and left a rusted stump on the lower face of the plate.

The bronze drop-handles (Plate XVI, No. 2) included in the hoard are comparatively numerous and of various designs, evidently stripped from furniture, and retaining in some cases the slender staples that attached them to a drawer or casket. Two, measuring $2\frac{1}{4}$ and 2·1 in. respectively, were attached by staples that show the material was only $\frac{1}{8}$ in. thick. They are evidently of Romano-British workmanship, and examples are published from the Saalburg[1], near Homburg.

A fragment of flat bronze plate $4\frac{3}{4}$ in. long has one original edge which is curved and would give a diameter of about $6\frac{1}{2}$ in. for the whole. Bronze mirrors of the Early Iron Age in Britain were circular and oval or kidney-shaped[2], and this fragment might well be explained in this way, the presumed diameter being somewhat too large for a Roman specimen which would have been of speculum metal or white bronze and probably edged with a row of small perforations.

Among the bronze oddments is a bowl $3\frac{3}{4}$ in. in diameter that has been tinned and lost its base, the rough edges being carefully turned inwards all round the bottom; there is a fragment of another similar, and a rough jet from casting, as if from a bottle-shaped mould, measuring 1·5 in. Two embossed plates about 1 in. long show a repeating pattern of rosette form with beaded borders, and were perhaps attached to a belt or other portion of the dress. There are eight bronze rivets about 0·7 in. long with domed heads and three heads of others, probably for affixing thin bronze plates to buckets or other wooden vessels.

Other items probably of the pre-Roman period are two fragments of coloured glass—one with a green ground, blue

[1] Jacobi, *Die Saalburg*, pl. LVII.

[2] A paper on Late Keltic mirrors will appear in *Archaeologia*, LXI, part ii, with numerous illustrations. Roman examples are given in *Archaeologia*, XXVI, 467, and *Inventorium Sepulchrale*, pl. XIII, fig. 12.

veins and white crosslines, probably part of a bead or finger-ring $\frac{3}{8}$ in. wide: and the other of bluish-green colour and curved as if belonging to a bracelet. The dimensions and colours of both would agree well with specimens found in the stronghold (Hradischt) of Stradonitz, in Bohemia, and reproduced in colour by Dr Pič[1]. According to M. Déchelette this Celtic settlement was destroyed about 10 B.C. Another insignificant fragment has evidently been bossed in the centre, but all that remains is a ring 0·4 in. across, punched from the back to produce a beaded border. This seems to have been the only piece of silver in the hoard. There must also be mentioned a bronze pin of circular section and enlarged round head, the whole measuring 1·8 in. Another item of bronze is just over 3 in. long and has circular expansions at each end of a rod and a segmental expansion in the same plane in the middle (Plate XVI, No. 2, top specimen), suggesting the beam of a small balance[2] prepared for perforation. That this method of weighing was then in use here is not unlikely, but the steelyard (Plate XVI, No. 3) included in the hoard was a much more serviceable instrument and is practically complete. The beam is $10\frac{3}{4}$ in. long, with a ring at one end and portions of the two chains. A well made scale-pan, 4 in. in diameter, retains three single links of the suspending chains, and the hollow bronze weight, $1\frac{1}{2}$ in. in diameter, has a triskele opening on the under face in true late Keltic style[3]. A weight of the same general form is preserved in the Wallraf-Richartz Museum at Cologne; and steelyards from Kent and Yorkshire may be quoted for comparison[4].

The use of a spatula-like bronze object $13\frac{1}{2}$ in. long is not apparent, though somewhat similar implements of iron, in a more finished condition, have been published[5]. It has iron rust on one face, probably due to contact with the iron tools in

[1] *Le Hradischt de Stradonitz* (trans. Déchelette), plates v.—vii.

[2] Two are figured by Pič, *Le Hradischt de Stradonitz* (trans. Déchelette), pl. xxvii, figs. 4 (2·3 in.) and 5 (2 in.); and one was included in the hoard of iron tools at Silchester (*Archaeologia*, liv, 156, fig. 22). Cf. *Arch. Journ.* xiii, 1.

[3] Examples in *Iron Age Guide* (Brit. Mus.), p. 102.

[4] Figured by Payne, *Collectanea Cantiana*, pl. xxii; *Journ. Brit. Arch. Assoc.* xliii, 238 (Catterick).

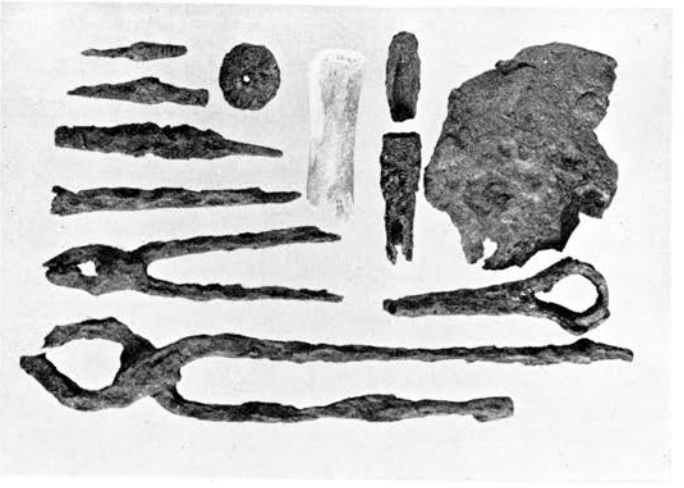
[5] *Le Hradischt de Stradonitz*, pl. xxxvi.

this deposit, and is of a uniform thickness of $\frac{1}{5}$ in., the breadth at what might be called the bowl if it were not quite flat being $2\frac{1}{2}$ in. Another curious fragment, of iron, might be considered a file if the toothed portion were not incrusted with wood-fibre, as though that were the tang fitting into a handle. It is a tapering spigot of square section in an iron socket with transverse grooving on one face, and if the wood on that part may be disregarded as an accidental accretion, the tool might be compared to the file included in a remarkable hoard of iron tools found in the Roman town of Silchester and described by the late Sir John Evans[1]. In that series are close parallels to the iron tongs or pliers from Santon Downham, which measure $13\frac{1}{4}$ in. and $6\frac{1}{2}$ in. respectively; and pick-heads were included in both deposits, those exhibited being one complete specimen 5 in. long with round socket hole and another imperfect, with a shaft-hole 1·8 in. across (Plate XVII, No. 1).

Other iron objects are a tanged knife, with a broken blade measuring 4 in.; three socketed ferrules, probably for spear-butts, measuring 6 in., $3\frac{1}{2}$ in. and 2·8 in.; also a disc $1\frac{1}{2}$ in. in diameter with a small hole in the centre, perhaps a washer. Two specimens not of metal may also be mentioned here—a piece of thin leather now dry and hard, and a lump of yellow wax.

The bone fragments in the hoard were probably included on account of the bronze bands that originally encircled them. One tapering bone of round section, 5·2 in. long and evidently complete at both ends, has the smaller extremity still bound with a bronze ferrule $\frac{7}{8}$ in. wide; other smaller pieces of cylindrical form bear the stain of similar bronze binding and measure 3 and $1\frac{1}{2}$ in. respectively in length. Of their purpose I can give no satisfactory account, but would mention a cylinder of tin washed with gold and furnished with a bronze ferrule at each end, from the British lake-village at Glastonbury. It is about $9\frac{1}{2}$ in. long, and has been thought by some to have been used for rolling parchment. This explanation does not commend itself and will not apply to the Santon Downham bone which is smaller at one end than the other.

[1] *Archaeologia*, LIV, 152.



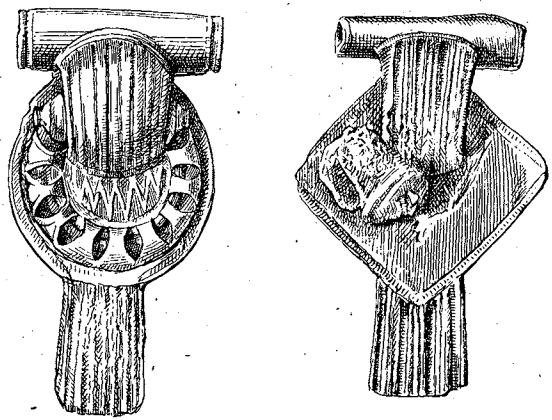
No. 1.

No. 2.

No. 3.

Objects from hoard found at Santon Downham, Suffolk.

Of the purely Roman series the brooches are the most important items for determining the date of deposit, and though fragmentary can easily be separated into two groups. The first is now fairly well-known and can be readily given its proper position in the long series of brooches ushered in by the Roman Empire. This group consists of five specimens of which three are fairly well preserved. Two measuring $2\frac{3}{4}$ in. (figs. 9, 10) are



FIGS. 9, 10. Roman brooches of bronze.

furnished with cylindrical covers for the spring and have a short broad bow connecting the head with a circular and lozenge plate respectively, which form the ornamental part of the brooch. The foot in both cases is grooved and slightly spreading, while the catch-plate is pierced like many of the earlier brooches (La Tène III), with a step-pattern bar across the opening. Another brooch of kindred form has a pointed boss on the disc and another somewhat smaller specimen may once have had a boss of the same kind.

Several similar were found at Colchester in close association with Gallo-Roman redware from La Graufesenque, Aveyron (Dragendorff's types, nos. 18 OF · MODESTI and 27 CARON ?), which dates from about 50 A.D., a tall red jug with cylindrical neck, plain Roman ware and other pottery of Late Keltic character. A good isolated specimen has been published from St Alban's[1],

[1] *Archaeological Journal*, VII, 399; see also Daremberg and Saglio, *Dict. Antiq.* s. v. *Fibula*, fig. 3012.

but this type is more frequent on the Continent, especially on the lower Rhine[1]. The occurrence of both varieties (as figs. 9, 10) in Bohemia[2] and Switzerland[3] is important from the chronological point of view, and the occurrence of a specimen at Mont Beuvray (the ancient Bibracte, abandoned about 5 B.C.) suggests that the type is as old as the Christian era.

Of the remaining four brooches, three range between $1\frac{1}{2}$ and 2 in. in length and consist of a rather massive bow with solid catch-plate for the pin, and across the head a curved cover for the spring, which is missing, but was originally caught in a loop or hook at the top of the bow[4]. A fourth fragment of the same type, consisting of the head and half the bow, retains part of the spirally-wound wire that gave tension to the pin. All four agree in the main with the brooches included in the Polden Hill hoard (British Museum), which is well known on account of a large number of bronze bridle-bits and other portions of horse-harness.

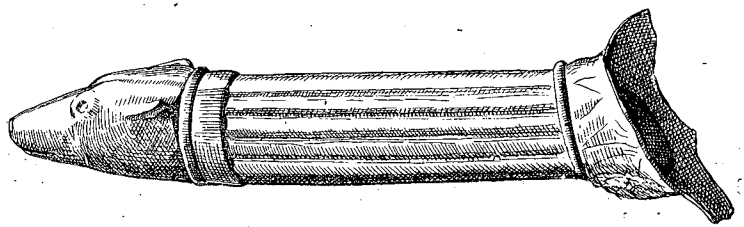


FIG. 11. Bronze handle of Roman *patera*.

The finest Roman specimens in the hoard are undoubtedly the jug with trefoil spout (Plate XVII, Nos. 2, 3) and the handle of a skillet or patera 4·5 in. long and terminating in an animal's head (fig. 11). The height of the jug itself, usually called an oenochoè, is $5\frac{1}{2}$ in., the handle rising 2 in. higher, and an approximate date is afforded by similar finds at Pompeii,

[1] Lindenschmit, *Alterthümer unserer heidnischen Vorzeit*, vol. II, pt. XII, pl. III.

[2] Pič, *Die Urnengräber Böhmens*, pl. LXV, figs. 1, 2.

[3] *Mittheilungen der antiquarischen Gesellschaft in Zürich*, XV, pl. XI, figs. 10, 11; see pp. 135, 149 (Windisch, Vindonissa).

[4] These technical terms are explained in the *Iron Age Guide* (Brit. Mus.), and well exemplified in the Polden Hill brooch, *ibid.* 128, fig. 109.

which must date before the destruction of that town in 79 A.D. Both are familiar types, and have been found together on more than one occasion. Perhaps the most interesting reference is to a paper read by the late Sir Henry Dryden to this Society in 1845[1], where both types are illustrated though not found on the same site. The fluted handle with ram's head from Shefford is there shown attached to a shallow bronze bowl which has a loop handle on the opposite side, of a form resembling that of the Santon Downham jug. The Stanford Bury jug with trefoil lip measures about $6\frac{1}{2}$ in. in height and $4\frac{3}{4}$ in. in diameter, with a female bust on the top of the handle, and two masks at the bottom. Elsewhere the vessels have been found in association on more than one occasion, and reference may be made to some illustrated accounts of such finds. A patera with reeded handle and ram's-head terminal weighing 24 oz. was included in the tomb within one of the Bartlow Hills, Essex, which contained an oenochoè weighing 31 oz.[2] A similar pair was found in a grave at Bayford, near Sittingbourne, Kent[3], and together (probably in a grave) at Canterbury[4]; and a pair in silver found in St Benet's Place, Gracechurch St., London, has just been added to the national collection. The patera from this last site has, like that from Shefford, a loop on the lip opposite the handle. Among Continental finds may be mentioned several from Bohemia[5].

Striking parallels to the Santon Downham find are afforded by two hoards preserved in the Museum of Antiquities at Edinburgh; in particular that found in Carlinwark Loch, Kirkcudbrightshire. It is some years since I saw the things themselves and even then made only superficial notes, but the 'cauldron' in which the iron and other details were enclosed is

[1] *Roman and Romano-British Remains at and near Shefford, Beds.*, with three coloured plates; quarto publication. Bowl, pl. I, figs. 3—6, p. 12; jug, pl. II, fig. 1, p. 15.

[2] *Archaeologia*, XXVI, pl. XXXIII, fig. 1.

[3] Payne, *Collectanea Cantiana*, pp. 45—6, pls. VI and VII, fig. 2.

[4] *Proc. Soc. Ant. Lond.* XVIII, 279 (2 plates).

[5] Pič, *Die Urnengräber Böhmens*, pl. LIV, figs. 3, 4, 6; pl. LXV, fig. 6; pl. LXVI, fig. 3, *see* pp. 121, 124, 406. Other references in *Mémoirés de la Société des Antiquaires du Nord*, 1890–5, 200.

illustrated in the Catalogue[1] and closely resembles the one exhibited this evening. From the Catalogue I select the following as corresponding more or less closely to the Santon Downham items:—bronze cauldron, 25 in. × 18 in., containing a bronze vessel, iron adze and axe-head, blades of sword and knife, file, hinges, handles, snaffle horse-bit, wooden core with bronze mounting, iron nails and rivets. Besides these were fragments of chain-mail, hammers and anvil, saws, punches, tripod, hooks and eyes, staples, key-handle, square iron bar, hoop-iron and gridiron.

The second Scottish example, from Cockburnspath, Berwick, is not so striking, but enclosed an even greater variety of objects, of which a bronze bowl $6\frac{3}{4}$ in. diameter, bronze disc and ornaments, adze and picks, socketed pointed tool, part of bridle-bit and ferrules may be selected as probably similar to specimens on the table. These again were found in a cauldron 13 in. × 21 in., in which another of the same size had been folded up, with many other pieces of scrap metal[2].

The fact that two cauldrons of the same dimensions were found together is perhaps significant, suggesting that they were made closely to a traditional pattern for some one purpose; but whatever their original use, they were in the end treated as mere receptacles for waste metal, as at Santon Downham, by some itinerant tinker. As there are no specimens in these hoards that must have been antiquities at the time of deposit, we may assume that the various items are practically contemporary, and the Santon Downham group gives the best opportunity of dating the deposit. Some of the specimens had been worn out and subsequently repaired before being scrapped; others had been accidentally broken and were either unworthy or incapable of repair, but all had probably been in use a little time before being collected by some frugal metal-worker, who probably carried the bronze vessel squeezed up into the form of a tool-bag across his shoulders. The brooches indicate a date about the conquest of Britain by Claudius, when it became part of the Roman Empire, and southern influence began to be

[1] *Cat. Nat. Museum of Antiq. Scotland*, 158 (cauldron DW 1).
[2] *Ibid.* p. 160.

more strongly felt than in the century that had elapsed since Julius Caesar's abortive invasions; and the present series owes much of its importance to the fact that British art is here seen in the act of being overwhelmed, at least temporarily, by the more formal and commonplace traditions of the Empire. The brooches assigned to the reigns of Augustus and Tiberius (d. 37 A.D.), on the strength of associated coins at Andernach, did not long remain in fashion, and as they are more likely to have been imported after than before the Roman conquest, we cannot be far wrong in dating the deposit a few years after the arrival of Claudius in 43 A.D., or about the middle of the first century.

Monday, 8 February, 1909.

Professor RIDGEWAY, Vice-President, in the Chair.

The Reverend F. G. WALKER, M.A., made a communication copiously illustrated with lantern slides on

COMBERTON MAZE AND THE ORIGIN OF MAZES[1].

[1] The publication of this paper is postponed.

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