



Records of Archæological Finds

ii—v.

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PREFACE.

THIS is my second contribution to this *Journal* under this heading. It includes a selection from a number of unpublished records of archæological finds in Chester and Cheshire; covering the Prehistoric, Roman, Mediæval and Early English periods. All of them have been communicated to the Society in the last decade or so. During that period, however, several reports of the results of our excavations in the Deanery Field, and the preliminary investigations of the Roman amphitheatre have been published. The former in the *Liverpool Annals*; the latter in our own *Journal*. Apart from the important discovery of the amphitheatre, these reports have thrown new light on the structure and general lay out of the north-eastern portion of the fortress of Deva, including a series of barrack-blocks, two internal towers, and the postern gateway leading to what was (presumably) the retentura. As a guide to these discoveries the reader should refer to the plan (Pl. xxxiii), the blocks for which have been kindly lent by the Royal Archæological Institute.

A general summary of the results of our investigations of Chester in Roman times seems called for in this preface, and the following points may be noted:—

1. *The establishment of the Roman fortress at Chester* may be assigned with some confidence to the early seventies of our era, most probably during the Governorship of

Petilius Cerialis A.D. 71—74. This statement finds confirmation in the direct evidence afforded by the inscribed ingots of lead and the water-pipes found in Chester with the equivalent dates of A.D. 74 and 79, respectively. Furthermore, the evidence of the decorated Samian pottery, points conclusively to an intensive occupation from Vespasian times, A.D. 69—79. Not a scrap of this ware can be dated to a definite earlier period; and there is an entire absence of such plain forms of Samian as Ritterling's types of the Claudian Age, A.D. 41—54. The discovery in Chester of the stamps of the pre-Flavian potters **ALBVS**, **LABIO** and **MOD-ESTUS**, might suggest an earlier occupation, but in his "Roman occupation of Britain," Dr. T. Davies Pryce, states that the stamps of these potters "are not found on definitely Agricolaean sites in North Britain. In view of the absence of pre-Flavian decorated sigillata they should be regarded as survivals."

2. *Date of the stone-built fortress.* The indications from all the evidence so far brought to light are that the fortress wall (south-east angle) and the barrack blocks in the Deanery Field were erected during the last quarter of the first century. These together with the amphitheatre may be taken as the earliest datable structures. No earlier buildings of the post and sleeper type have, so far, been traced, but evidence bearing upon such early structures might result from further exploration.

3. *The period (or periods?) of the Roman occupation.* The occupation seems to have been continuous from the date of the foundation of Deva to the closing years of the fourth century. The latest authentic coins are two bronze pieces of Theodosius I. (A.D. 379—395).^b That of Arcadius (A.D. 408) now preserved in the Grosvenor Museum, is without data of any kind, but is (presumably) of local origin. The archæological evidence, however, points to three well-marked phases during that long period.

^a *Antiquaries Journal*, vol. xviii., No. 1., p. 41.

^b Cf. p. 117.

In *phase I* there was an intensive occupation of the fortress, and also of the extra-mural area by the civil population, from the initial period, *c.* A.D. 74, till near the end of the second century.

Phase II was marked by a considerable reduction of the fortress, by the demolition of the barrack-blocks in the Deanery Field,^c indicating a serious disaster about the year A.D. 180, as seems to have been the case also at York.

At about the same time, the extra-mural settlement, along the lines of Foregate Street, seems to have suffered a violent destruction by fire, over a relatively large area, marking the end of an intensive occupation of that site by the civil population (see p. 105).

In *phase III* the evidence points conclusively to a relatively scanty occupation of the site by both the military and civil populations. The most noteworthy evidence being the paucity in number of the late forms of coarse pottery such as the "hammer-head" types of mortaria and of the typically late forms of cooking pots, so characteristic of the third and fourth centuries.

4. *The extra-mural ditch* (see p. 83, Pl. xv., text fig. 16). That this formed a part of a defensive system seems clear; and the evidence of the Samian ware, *found within it*, points conclusively to its construction's being contemporary with the initial occupation of the fortress. Did this ditch form part of the military post of the Second Legion Adiutrix?

Haverfield^d says that this legion reached our island in or soon after A.D. 71, and has left memorials of itself at Lincoln and still more at Chester, where it may well have been permanently quartered. About 85 or 86^e it was withdrawn for good from our island and was transferred to the Danube frontier. Furthermore, Haverfield (*l.c.*) in dealing with the Twentieth Legion Valeria Victrix states that when it

^c Cf. Newstead and Droop, *Liverpool Annals, Arch. Anth.*, Vol. xxiii., p. 5.

^d *Catalogue of Roman Inscribed and Sculptured Stones*, p. 9.

^e Dr. T. Davies Pryce (*Antiquaries Jour.*, Vol. xviii., p. 42) suggests the period *c.* 73/74-86.

first occupied Chester is uncertain. “. . . it may have garrisoned the fortress before the Second Adiutrix was there, so that, for a while, Chester may have had two legions. The one certainty, however, is that after the Second Adiutrix was withdrawn to the Continent the Twentieth Legion was the Legion of Chester.”

In the light of our recent find the archæological evidence points—at least in a small measure—to a dual arrangement, and suggests that before the actual building of the stone fortress the two legions may have occupied separate camps until the departure of the second legion early in Domitian's reign; and that the newly discovered ditch formed part of the defences of one or other of the two legions. But there is no real evidence that the two legions were at Chester together, and it is possible that we should consider the ditch as part of the camp used by the one legion until the fortress was finished.

5. *The civil settlement in Roman times.* Archæologically, there is considerable evidence, from isolated sites, that the civil population occupied an area eastwards of the fortress almost as great as that which lies within the lines of the mediæval City walls, or nearly twice the size of the Roman fortress. On both sides of Foregate Street—which (presumably) follows the line of Watling Street—there was evidently a most intensive occupation (see p. 64), as the abundance of pottery amply testifies. Indeed, with the possible exception of London, no other Romano-British site seems to have yielded such a mass of material of historical significance. But, so far, no structural remains of permanent buildings of stone have been discovered; and but very scanty traces of roofing tiles. On the other hand there has been found traces of burnt floors and charred timber, suggesting that the houses were built of timber and clay.



Excavations on the site of the New Telephone Exchange, St. John Street, Chester

(Plates i—viii, Text Figs. 1—3)

This report embodies the results of the excavations carried out during May, 1938, under the auspices of the Chester Archæological Society. The total cost of the work amounted to about £50, and this sum was defrayed by public subscriptions. This report also deals with some early English window glass which was discovered in 1937, in the cut made for the boundary wall between the Timber-yard and the new site for the Telephone Exchange. (Pl. i. Site A).

Permission to explore the site was kindly granted by H.M. Office of Works; but the area was limited to certain boundaries (see plan), and the cuts to a maximum depth of eight feet.

As the area lies immediately north of the Roman amphitheatre hopes were entertained that structural and other remains in connection with that building might be brought to light; but only the barest traces of the Roman occupation were discovered. Indeed the paucity of finds of this period was remarkable. On the other hand we were fortunate in discovering two refuse pits containing a mass of small material finds belonging to the early part of the 17th century, and these form the major portion of this report.

It should be noted here that the comparatively modern buildings which formerly existed on the site were demolished in the year 1937, to make way for the new Telephone Exchange. The plan and general layout of these are clearly shown in the Ordnance Survey maps. Fortunately the footings of these buildings were not lying at any great depth below the surface; but two small cellars and two refuse pits, had penetrated well into the glacial deposits.

ROMAN PERIOD.

(Plan and Section Pl. i.).

The most pronounced stratum of the Roman occupation was that found in cut No. 2. This lies about 44ft. north of the main entrance to the amphitheatre. It attained a maximum width of 26ft., and a maximum thickness of 2ft. 9ins.; and tapered downwards, eastwards and westwards (Section Pl. i., fig. 2). It was made up almost entirely of fairly clean sand, with scattered fragments of sandstone. Both sides were capped with sandstone including blocks of rather roughly trimmed ashlar. The whole mass had evidently been transported, as it rested upon a thin stratum of stiff dark loam, and hard glacial sand. The former very probably represented the original land surface as its dark colour seemed to be due to the presence of decayed vegetation.

In section this deposit presented a distinct camber; and it is possible if not probable that it may have formed the foundations of a roadway leading to the main entrance of the amphitheatre. This view is strengthened by the capping of sandstone on both sides, which may have originally have extended over the whole surface. No trace of a similar formation was found in cut No. 1, but the ground in that section had been disturbed in recent times, in many places.

The finds from this deposit consisted of the following:—

POTTERY.—A few bits of samian form 18/31; one small fragment of form 37; the rim of a small mica coated beaker; side fragments of a shallow dish (near Collingwood's form 39); part of rough cast beaker with oblique rim (Collingwood's type 77); and the reeded rim of a carinated bowl. Other finds consisted of several pieces of "tile-mortar" flooring (*Opus signinum*) lying together in a compact mass in the centre of the deposit (see section fig. 2); and two or three small bits of roof-tiles.

PERIOD.—The pottery is assignable to the last quarter of the first and the early years of the second centuries. None of the sherds bears characteristics of a later date.

The Roman stratum was traced here and there in the other cuts; and some loose blocks of ashlar were found near the south end of cut No. 4. Nothing of interest was found in it. Sherds of coarse ware vessels did not reach a round dozen; and only one fragment of decorated Samian (*Terra sigillata*) was discovered. This belongs to a bowl of form 37, and shows part of a medallion enclosing the blurred impression of a juggler (Oswald 961) as used by Frontinus and Passenus of La Graufesenque, and datable to the Nero-Vespasian period, and therefore not much later than A.D. 79. Three fragments of pale blue glass belonging to flasks or bowls; and an iron linch-pin complete the list of finds attributable to the Roman period.

ENGLISH REFUSE PITS.

Pit No. 1. (*Pl. ii., Fig. 1*). This pit was faced on all four sides with large ashlar blocks of sandstone, set in puddled clay. Odd bits of early "two-inch" brick had been used as packing, here and there; and there was a considerable patch of them near the top of the western wall. Unfortunately most of the south wall was destroyed by the Contractor in cutting a "trial hole" through it, shortly after the demolition of the buildings in 1937; but the south-west and south-east angles were left intact. Its dimensions were as follows: east and west sides, 10ft. 6ins. and 10ft. 2ins., respectively; the north and south sides, 6ft. 10ins. and 8ft. 6ins. respectively. The depth of the pit from the upper course of masonry, 9ft., and from the existing surface of the land, 11ft.

There was a small recess or niche in the face of the north wall (*Pl. ii., Fig. 1*); 19ins. deep, and it was backed by a solid block of sandstone. The external opening measured 17.5-ins. at the base; 14.5-ins. at the top, and was 11-ins. high. The use of this in a refuse pit is obscure. On the other hand its presence and the great size and depth of the structure seem to suggest that it may have been used primarily as a cellar to a tavern or large dwelling house. The stump of an oak post, 6-ins. in diameter, and 3-ft. long

was found standing erect in the hard glacial sand, 10-ins. from the face of the east wall and 4-ft. 10ins. from the north-east angle of the pit.

The northern half was completely sealed over by a substantial floor, composed of two courses of bricks set in very hard mortar. This had evidently formed part of one of the buildings recently demolished, and seems to have been constructed in the early eighteen hundreds.

The material with which the pit was filled consisted largely of domestic refuse of all kinds. The matrix was blackish in colour, due in part to the presence of wood ashes and soot. The upper portion of the deposit was soft and moist; the lower sloppy and horribly fetid. Of animal remains there were skeletons of three dogs; meat bones of sheep were plentiful; bones of the ox and pig were rather sparingly met with; and there was a single breast bone of the domestic goose. Shells of the edible mussel occurred at most levels and in some places in considerable patches.

Of building materials there were many roof-slates, of which two only were complete. These were of remarkably small dimensions, measuring 10.5×3.5 ins., and 9×4.2 ins., respectively. Much clay was found at the bottom of the pit; but it was patchy, and not evenly distributed over the area.

Fragments of glass occurred throughout the deposit; but was most plentiful at and below the 8ft. level from the existing surface of the land. It consisted for the most part of blown and moulded vessels (*Pl. v.*). The fragments of painted window glass (*Text fig. 2*) seem to belong to an earlier period. Pottery sherds were abundant at all levels; and those belonging to loving cups or tygs (*Pl. iii.*) preponderated. Of lathe-turned objects in wood there were four bowls and the hollow finial-shaped object (*Text fig. 1*) which may have served as a hiding place for small treasures or coins.

The leather shoes (*Pl. vi.*) are of much interest, especially the square-toed type, which Grose¹ (1785) states, "were anciently worn in common, and long retained by old men."

¹ *Dictionary of the Vulgar Tongue.*

PERIOD. All the material included in "Group A" may be attributed to the first half of the 17th century. Numismatic evidence which helps to link up the chronology of the whole series follows:—

A small, but incomplete example of the loving cup precisely similar to that of No. 14, was found under a doorstep to a cottage at Trafford, near Chester, in 1895. It contained a hoard of Elizabethan silver coins, part of which went to the British Museum, the rest, consisting of thirty-eight pieces together with the vessel in which they were found, are now preserved in the Grosvenor Museum, Chester. The coins there preserved include nineteen separate issues, dating from A.D. 1559 to 1594. This evidence proves that this class of vessel was in use during the 16th century; and the date of the burial of the coins may have taken place at the beginning of the sixteen hundreds. This evidence, however, does not give a limiting period for the life of the vessels, but the use of such seems to have petered out before the middle of the 17th century when slip ware came into general use. Not a scrap of the latter occurred in the deposit. Furthermore, no examples of the common glass wine-bottles so characteristic of the latter half of the 17th century² were represented; nor were there any clay tobacco pipes or any other material characteristic of the latter half of the 17th century.

SURVIVALS. The occurrence of relics demonstrably of a much earlier period than the preponderant mass of later finds seems noteworthy. These include the following:—

a. A Roman bronze coin of the Emperor Hadrian, A.D. 117-138. This occurred in the centre of the deposit. It is just possible that it was found on the site, kept as a treasure, and subsequently lost or thrown out with the domestic refuse.

b. Portions of decorated mediæval floor tiles (text fig. 3). Datable to the 14th century.

c. Painted window glass (text fig. 2), which seems also to be of an earlier date than the deposit in which it was found.

² A. Thurlow Leeds. *Antiquary*, August, 1914, p. 1-8, Offprint

POTTERY. GROUP A.

(Pls. ii.—iv., Figs. 2—27).

1. The clay used in the manufacture of the vessels, Nos. 2—9, is buff-white in colour, sometimes with very scanty traces of small, dark brown to blackish particles of grit. It varies in its degree of hardness: in the Jugs, Nos. 2 and 3, it is almost as hard as that used in stone-ware vessels; but it is softer in the pipkin, No. 9. All are glazed inside and out, and the glaze is generally spread evenly over the surface with the exception of the under side of the base. None of the vessels is complete; but all those with complete sections which have admitted of reconstruction and restoration are illustrated.

2. Spoutless Jug with single handle. There is a band of broad shallow grooves below the outwardly splayed rim; and a rather deeper groove near the base. Glaze pale yellow scantily freckled with ferruginous marks, and reticulated or crackled in patches. Capacity, $2\frac{1}{2}$ pints.

3. Jug of similar form to the preceding; but the interior of the rim has a broad shallow concavity. Glaze, dusky olivaceous green, sparingly streaked with ferruginous marks. Capacity, $2\frac{3}{4}$ pints.

4. Small Apothecaries' pot of ointment or the like, with a rather deep groove immediately below the oblique rim for the attachment of the cover with string. Glaze, yellow with a few bright ferruginous spots and streaks. This type of vessel or drug Jar and its variants is well represented in the collections at the Grosvenor Museum, Chester.

5. Small cup with yellow glaze and brown handle.

6. Pot lid with frilled knob. Glaze, pale yellow, a large patch on one side burnt and smoked by the action of fire.

7. Jug with short cylindrical body, and relatively small handle. Glaze, pale orange yellow freely streaked and freckled with ferruginous marks. Base heavily burnt and smoked by the action of fire. Capacity, $2\frac{1}{2}$ pints.

8. Jug of similar form to No. 7. Glaze, dull olivaceous, and very scantily freckled with ferruginous marks. The handle of this vessel reconstructed. Capacity, $2\frac{1}{4}$ pints.

Both vessels seem to have been used for cooking purposes—
“ Hot-pots ”?

9. Three-legged pipkin. Part of handle and two of the legs missing. Glaze, yellow, and finely reticulated. Base smoked.

There are portions of a similar vessel, also in yellow glaze; but this did not admit of reconstruction.

10-19. Brick-red clay was used in the manufacture of these vessels; and they are all coated inside and out with a thickish glaze, varying in colour from black or piceous to a rich dark brown or castaneous. Nearly all of them are fluted horizontally, and the smaller vessels have grooves or incipient cordons at the junction of the rim with the body. The vessels (Nos. 12-19) known, generally as *tygs* or “ loving-cups ” occurred in considerable quantity throughout the deposit, all of these were in a more or less fragmentary condition, and only those which gave complete sections have been reconstructed and the missing parts restored with plaster of Paris. They are here illustrated and may be taken as a representative series of the types in common use at the period when the pit was filled in.

10. Jug or flagon with a relatively small pinched-in spout, and tall everted rim.

11. Vessel of unknown use. Barrel-shaped in form, with three handles and a short everted rim. Near the base on one side is a round hole for the insertion of a tap, bung, or spigot, and the wall surrounding it projects slightly in advance of the body of the vessel. Capacity, 23 pints. The basal portions of three other vessels of a similar type occurred in the same deposit, one of them has a rather bluntly pointed lip projecting well beyond the bung-hole on the lower side of the opening, evidently intended to direct the fluid contents of the vessel into a receiver.

Vessels provided with a hole for the insertion of a stopper of some kind seem to have had a long life. Marshall³ records vessels with “bung-holes” from the Mediæval Kiln

³ Surrey Arch. Collections, Vol. xxxv., pp. of Offprint, 1-19, figs. 1-15.

Cheam (13th or 14th century); and a very large example, with a capacity of nearly four gallons, was found in a tan pit at Chester, in association with a long-toed leather shoe, and datable to the 14th century (see page 109).

12. Tyg with three handles. Capacity, $1\frac{1}{2}$ pints. Other examples were represented, one of them of much larger dimensions.⁴

13. Tyg with two handles, one restored. This elegant form was the only one of its kind found in the deposit. But another example of precisely similar form was found in another pit on the same site and forms part of Group B. (*Pl. iv.*, No. 28).

14. Tyg with two handles. It is somewhat biconical or hour-glass in outline. Capacity, $\frac{1}{2}$ pint. Several examples occurred in the deposit; the larger ones, with three handles, had a holding capacity of about 1 pint. One example, found elsewhere in Chester has a maximum height of 6 inches; another very large one has a maximum diameter at the lower bulbous portion of 5.4 inches. Numismatic evidence of the dating of this form to the reign of Elizabeth is discussed elsewhere (p. 13).

15. Tyg with two handles. Capacity, $\frac{3}{4}$ pint. Fragments of other vessels of this type occurred also.

16. Cylindrical cup with one handle. Capacity, $\frac{3}{4}$ pint. Nos. 18 and 19 are slight variants of this form.

17. Cylindrical cup with three handles and pronounced horizontal flutings. Capacity *c.* 1 pint.

Another imperfect example of this type has six handles, three of them arranged alternately at a slightly higher level than the others.

18, 19. See 16 above.

20. Pie-dish with straight overhanging sides. Hard buff-yellow clay; coated with thick, dark yellow glaze, scantily streaked and speckled with rich red-brown. Underside of base unglazed and heavily smoked by action of fire. Rim broad, the outer edge grooved.

⁴ Larger squat forms of this type of loving cup have been found elsewhere in Chester with six or eight handles, the larger handles arranged alternately with smaller double looped ones.

Half of the vessel represented.

21. Pie-dish of buff-white clay; the whole of the interior thinly coated with pale yellow glaze. Sides deeply concave at the base of the interior, then sharply bent outwards into a broad oblique brim, which is decorated with submarginal grooves. The base and sides are heavily burnt and smoked on the exterior, the vessel seems, therefore, to have been used extensively for cooking purposes.

Many fragments conjoined representing the major portion of the vessel.

22. Pie-dish of similar form and technique to that of No. 21, but the base of the interior is slightly convex and not concave. Fragments of three other vessels of this type are also represented.

23. Dish with a rather deep hemispherical centre and very broad brim. The clay is like that of Nos. 2 and 3. The whole of the upper portion of the vessel is thickly coated with orange-yellow glaze, streaked with red-brown; and where the glaze has collected thickly in the grooves it is also of the darker colour; and the margin of the brim has a broad band of much darker glaze, varying from a rich dark castaneous to a piceous colour. This vessel, although somewhat severe in its general form, is nevertheless of most excellent technique. Unfortunately only about one-fourth of it is preserved.

24. Dish with oblique straight sides and broad rim. Hard pale red clay; glaze of the interior yellowish brown, streaked and speckled with dark brown. One small section only.

25. Small dish of excellent technique, with the clay and glaze as in No. 4. One quarter of the vessel is represented.

26. Circular Pie-dish of coarse brick-red clay, charged with very small pebbles and grit. The interior thickly coated with orange-brown glaze; the exterior completely blackened by fire and soot. It seems to have been made, in part at least, by hand, as the interior and the external surface of the wall bears blurred impressions of the potter's

fingers or the like. In its general form it closely resembles the shallow incurved dishes of the Roman period, which are not uncommon in the early deposits at Chester.

Two-thirds of the vessel are preserved.

27. Costrel or Delft ware. The pattern in blue and dark lilac colours; whether of English or Dutch manufacture is not clear. Unfortunately the whole of the body of the vessel is missing.

GROUP B (BRICK-LINED PIT).

(Pl. iv., Figs. 9, 10).

28. Tyg or two-handled cup of graceful form coated with brownish-black or piceous glaze. This form was in use during the reign of Elizabeth (see p. 13).

29-31. Moulded pie-dish of oval form, with a pinched-out spout at both ends. Clay pinkish-white to pale buff-white, flaky and very brittle; the interior coated with bright green glaze; and there are patches of the glaze also on the exterior. But much of it has flaked off leaving bare patches of the clay exposed inside the vessel. About one-third of the vessel is missing. Its association with the two-handled tyg (No. 10) and other vessels of a similar type places it in the first half of the 17th century (see also p. 13), 30 and 31 are sections of the spout and side respectively.

LEATHER SHOES. GROUP A.

(Pl. vi., Figs. 1a-4c).

Four leather shoes are represented. None is perfect; and the uppers of all the examples were badly distorted and flattened by earth-pressure, but by soaking them in water for many days it was possible to restore them to some extent, and thus obtain a fair idea of their general form and salient characteristics.

1a-1c. Small shoe with very broad, obtusely rounded toe. Upper incomplete; pierced with two transverse rows of circles and one of rectangles, the latter forming the central row. Insole, outsole, welt and heel-lift intact. The last named lined with two layers of leather; one thick, the inner-

most very thin. The welt in this shoe (1c) is formed of relatively thin leather, its inner edge being very broad and spread out over the surface of the sole, to which it seems also to have been partly attached by a bituminous substance or the like. Length 6.5 inches; width of toe 3.3 inches.

2. Outsole of large shoe, with very broad, obtusely rounded toe. Type similar to No. 1. Length 9.9 inches; toe 4.4 inches.

3a-3d. Small shoe with a single sole and broad square toe. Upper, worn through at the toe (3b), is decorated with a transverse row of enseaming stitches, which do not pass through the entire thickness of the leather, but form a narrow cicatrice or construction on the upper surface. Welt (3d) narrow. Length of sole 6.1 inches; width of toe 2 inches.

4a-4d. Large shoe with broad square toe. Outsole worn through at the toe. Heel missing. Insole (4c) much smaller than the outsole, and seems to have belonged to another shoe originally. Both soles however were, when found, firmly stuck together with a bituminous substance. Upper of very thick leather like that of the sole; it is decorated with a transverse row of stitches as in 3a; but it is badly preserved, pieces having been cut from it for re-use in mending or for other purpose. Length (c) 9.6 inches; toe 3.4 inches; heel 2.4 inches. From various illustrations this type of shoe would seem to have been in use for a very long period.

LATHE-TURNED VESSELS OF WOOD. Group A.

(Text Fig. 1)

1-4. The four bowls here illustrated were found lying together in the south-west corner of the pit, between the 8-10ft. level, in a water-logged and putrid deposit which had reduced the timber to a soft caseous-like degree of hardness. The vessels Nos. 1 and 2 were sadly incomplete. Nos. 3 and 4 were almost complete and in a fair state of preservation; the timber used for the former was of sycamore, for the latter of ash.

After the vessels were cleaned they were soaked in water for many days; then boiled in strong glue size for three hours; and immediately afterwards bound with spring clamps, etc., and given frequent dressings of cuprinol. By this means the forms of the vessels are fairly well preserved, but slight shrinkage has taken place.

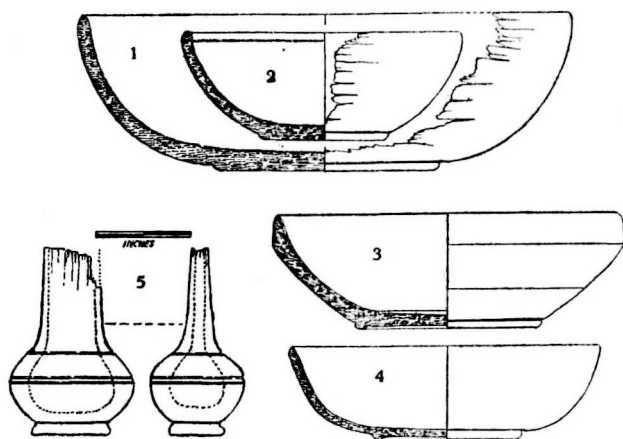


Fig 1. Lathe-turned vessels of wood ($\frac{1}{4}$).

5. Flask-like object of lathe-turned wood. In its external form this object bears a somewhat striking resemblance to a finial or terminal ornament to a slender post or the like, and as such it was put aside: partly as a relic of the period, and partly also as an interesting example of the turners' art. When, however, the earthy material which filled the interior of the bulbous portion of the vessel had shrivelled and hardened, it produced a somewhat metallic sound when the vessel was shaken. The base of the vessel was then cut away in order to determine the nature of the imprisoned object; this somewhat vandalous act at once revealed the true form of the interior of the vessel. It appears to be a somewhat remarkable find; and its construction seems as puzzling as the use for which it was intended.

Exterior.—Bulbous in form but compressed bilaterally, its wider axis being oval in transverse section; the neck is long and tapers gradually upwards on all sides. The body is decorated with very shallow grooves; and it has a well formed footstand, the base of which is flat. Height 4 inches; the bulbous portion 2.6×1.9 inches.

Interior.—This follows the general contour of the exterior, the bulbous cavity measuring 1.8×1.1 inches.

Capacity (c).—One fluid oz. Dry sand was used for this test.

BEADS (not illustrated). Three examples were found but one only was perfect; this was spheroid in shape, being slightly flattened at both ends of the rectangular bore-hole. Dimensions: 20×17 mm. Timber: sycamore.

This example was dehydrated in alcohol, and then soaked in cuprinol for two days; by this means the original form has been well preserved.

VESSELS OF GLASS. Group A.

(Pl. v., Figs. 1—8).

1. Posset Cup: of dusky blue-green glass, with highly polished surface, and scanty traces of vesicles. There are two or three small iridescent patches due to slight corrosion, otherwise the surface of the glass seems to be unchanged. The collar-like rim is vertical and arises from a deep concavity. Spout broadly pyriform and flattened transversely; tip missing. The base is also missing, but there is a definite thickening of the longest side-fragment which seems to indicate that the vessel was slightly taller in its complete form. What the handle was like is mere conjecture, as unfortunately the fragment to which it may have been attached is missing.

In the stratum 6 to 8 feet below the surface of the pit.

2. Neck of large bottle, of pale milky-green glass. Vesicles small and scattered, corrosion slight.

3 Neck and shoulder of square sided bottle of bluish-green glass; badly corroded, and on the removal of this the surface presents a fine mat-like surface. Two examples.

4. Tall cylindrical vessel of blue-green glass, deepening in colour at the thickened portions of the rim and base. Sides tapering inwards towards the shallow rim; base broadly rounded, and with a central bull's-eye kick-up. About two-thirds of the vessel is represented by many fragments conjoined, including a series from base to the thickened rim. It has suffered much by corrosion, which has given the surface a bronzed and slightly iridescent appearance. Height, 11.6 in.=29.5 cms.; diameter of lip, 3.1 in.=8 cms.; maximum diameter, 5.1 in.=13 cms.; height of kick-up, 0.8 in.=2 cms.; average thickness of body-wall 1 mm., but thickens at the base and rim. Capacity, 4 pints.

The basal portions of two additional examples of this type of vessel were found in association with the above; these gave a maximum diameter of 6 ins., and the rim belonging to one of these measured 3.3 ins.

Fragments of these vessels occurred at various levels between 6 ft. and the bottom of the pit.

5. Upper portion of ale or wine glass, with straight outwardly sloping sides, decorated with applied threads of spun glass arranged horizontally. Colour very pale blue-green. Surface badly corroded, but easily removed.

6. Base belonging to a vessel of similar type to the foregoing. It has a high kick-up, and a broadly dilated and folded foot.

7. Vessel in the form of a bell-jar, of smoky blue-green glass. Rim missing. Very slightly stained or corroded with black and yellow-brown.

In the stratum 6-8 feet below the surface.

8. Fragments of a moulded ale-glass or tumbler, with diagonal flutings. The "rigaree" or notched base folded or hemmed beneath; kick-up moderately high. There are nine fragments belonging apparently to this vessel, all of them corroded and brilliantly iridescent. There are also fragments belonging to other vessels of this type including the base of one with a notched foot-rim.

Three fragments of a thin-walled vessel (not illustrated), probably parts of an ale-glass, with large lozenge-shaped pattern, similar to that illustrated by Mr. S. E. Winbolt (*Trans. Soc. Glass Tech.*, 1932, vol. xvi., p. 267, fig. 2).

PAINTED WINDOW GLASS. Group A.

(Text Fig. 2)

The window glass found in the refuse pit No. 1. seems to belong to two periods:—

a. The painted or decorated (*Text fig. 2*) to an earlier date than that included under b. This in its general technique and design bears a close resemblance to some of the glass (*Pls. vii., viii.*) found stratified on "site A" (*Pl. i., top*) and may have been brought to the site as cullet.

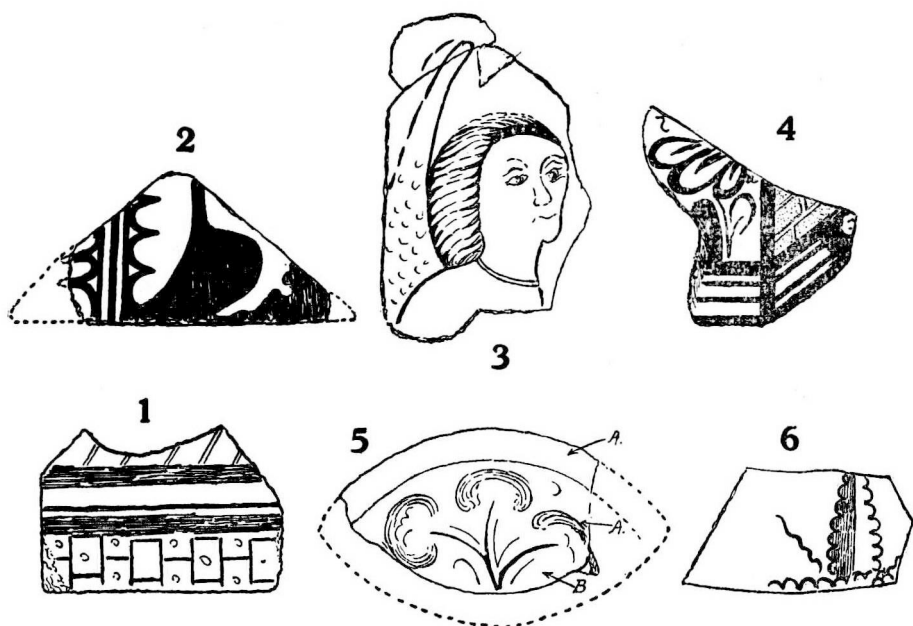


Fig. 2. Painted Window Glass. (4).

b. Window glass of a later date and contemporary with major portion of the finds included in "group A." (*See below*).

Period "a."

1. Pane complete with all the edges grozed. Glass thick, pale milky-green, but badly corroded. The decoration consists of three parallel bands of opaque brown; the rest of it in uncoloured burnished lines with a highly polished surface reflecting light as from a polished metallic surface.

2. Fragment with the lower edge grozed. Glass highly polished, but completely corroded and opaque. Design in opaque brown.

3. Fragment with the straight edge grozed. Glass highly polished and hyaline, but opaque from corrosion. Design faintly indicated—in part by burnished lines and in part also by colour; subject head of female (Angel?) wearing diadem or jewelled fillet, and to the left what appears to be the upper portion of an undisplayed wing.

4. Fragment with the upper edge fractured, the other edges grozed. Milky-green glass; the clear spaces or background stained yellow; the design in opaque brown. Corrosion relatively slight.

5. Part of oval pane of cobalt blue glass; upper edge grozed, the rest fractured. The central area painted with opaque brown (*B*) on which the floral design is scratched so that the cobalt blue shows through by transmitted light. The broad border (*A*) is also blue and undecorated.

6. Fragment of very pale greenish glass, or almost clear by transmitted light; surface highly polished; left edge grozed, the others fractured. Design in opaque brown; the shaded half of the conventional leaf translucent brown, the other half stained yellow, as also are the portions of other leaves at the bottom of the figure. The yellow stain, however, is confined to the leaves and is barely traceable beyond the opaque brown outlines.

In addition to the above are: (*a*) one small fragment of pale ruby, painted with three opaque brown diverging lines; (*b*) one small fragment of clear greenish glass, with traces of a design in opaque brown; and (*c*) part of a narrow

rectangular pane of ruby glass, grozed on three sides. All of these are rather badly corroded, more or less opaque, and evidently belong to the same period as Nos. 1-6.

Period "b."

Window glass of a much later date also occurred in the same deposit at various levels. This is much thinner and only slightly corroded. It is of a pale greenish colour, but almost colourless by transmitted light. One fragment has a salvaged edge, and evidently formed part of a large disc of spun glass. There are also portions of two triangular panes of window glass bearing traces of the lead frames to which they were attached, and the edges bear marked traces of having been cut with a diamond, an instrument which did not come into use until the early part of the 17th century.

MISCELLANEOUS FINDS. Group A.

(Not illustrated).

1. Comb of ox-horn, with coarse teeth on one side and fine on the other (one end missing). Form similar to that in the Guildhall collection,⁵ but the cross bar in our example is undecorated.

2. Tanged knife-blade of iron (incomplete), with a rectangular shoulder, 1.4in. long, and similar to that in the Guildhall collection.⁶ After cleaning with water this object developed marked traces of vivianite.

MEDIAEVAL PAVING-TILES.

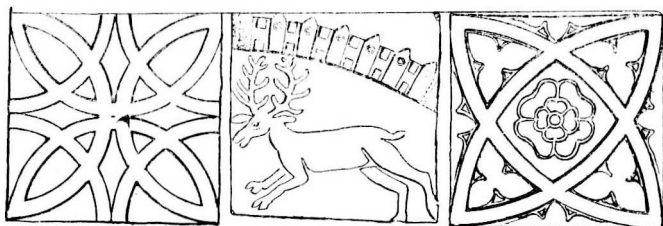
(Text Fig. 3. Nos. 1-3).

The picture-tiles here illustrated are generally attributed to the 14th century. Fragments of Nos. 1 and 3 occurred in the 17th century refuse pit with the material finds described elsewhere as "Group A." Like the Roman coin, which was found in the same refuse pit, they must be considered of a much earlier period.

⁵ *Catalogue, Guildhall Mus.*, lxxx., No. 4.

⁶ *Ibid.* Pl. lxxxiii., No. 11.

1. Two examples of this type were found. One almost complete, but badly worn, was found in the deposit with Nos. 2 and 3. The other example is sadly imperfect, much worn and with traces only of the olive-brown glaze. This is a common type, and has occurred on other sites in Chester.



1 2 3
Fig. 3. Decorated floor tiles (4).

2. The design on this tile is deeply impressed as in cameo, seemingly for the reception of a creamy white slip; but no trace of this remains, and the tile is unglazed. The design—a stag within a pale, seems to be rare, and it is the only known example recorded for Chester. Period: the first quarter of the 14th century.

3. One complete, but badly worn example was found with the above; and a complete half (as manufactured) was found in a mixed deposit on another portion of the site. This specimen has the whole surface coated with yellow glazed slip.

STRATUM OF WINDOW GLASS.

(Pl. i., Fig. 1, Site A. Pls. vii., viii., Nos. 1—23).

On making a critical examination of a cut for the footings of the north-east boundary wall to the new Telephone Exchange (Office of Works), in May, 1937, I found that the excavation had passed through a deposit of window glass, six inches thick, and covering an area measuring 3ft. east-west, and about 2ft. 6ins. north-south. The stratum of glass was lying, unsealed, on a deposit of sandy loam, 8ft. 9ins., below the surface; and it extended on the north

side but not on the south side. Unfortunately much of the material had been carted away, but that which remained yielded a fair amount of glass, and much more was secured by undercutting the north face of the trench. The deposit consisted almost entirely of broken window glass—plain, stained and painted, together with a great mass of fine “shearings,” evidently produced in the process of shaping the panes by “grozing” with an implement resembling a pair of pincers or the like, which nibbles off small fragments, and leaves a finely jagged edge. Other material found in the deposit consisted of a small amount of burnt and unburnt coal; a little lime, two small nodules of glass slag; fragments of two jugs (*see below*); and part of an iron rod.

EVIDENCE OF TECHNIQUE. All the glass seems to have been made by the process known as “blowing;” the selvaged edges of the discs thus formed were well represented, and there were three, more or less complete, “bulls-eyes.” The discs, as indicated by the relatively short sections of the selvaged periphery, gave an average diameter of about 2 feet.

The more or less complete panes of glass were grozed on all sides, forming a slight chamfer on one side; and in the painted examples, generally on the side opposite to that of the painted surface.

Many fragments of clear undecorated glass exhibit finely scratched lines, often two or three side-by-side, which may have been intended as setting out lines for the division of the glass. Similar markings may be produced with the fractured edge of a piece of glass. The glass varies considerably in thickness—that which was cut from near the centre of the disc or “bulls-eye” may have a maximum thickness of 7mm.; and very thin pieces may be slightly under 1mm. thick. The clear glass has a fairly high polished surface, sometimes slightly more so on one side than the other. It may also have faintly wavy rills, and is generally more or less vesicular. The colour of the clear glass varies somewhat but is generally of a blue-green tint when placed against a white background; but practically

colourless by transmitted light. It should be noted, however, that the intensity of the tint varies according to the thickness of the glass.

The colours used in the painted glass were: (a) an opaque red-brown, which appears black when held against the light; it has a fine mat-like surface, is relatively soft, and can be removed with a sharp knife. (b) A thin pale brown more or less transparent by transmitted light. (c) A transparent golden yellow stain applied on one surface only, which appears as a background to the floral and other motifs; it is invariably localized and does not extend over the whole surface of the pane; furthermore it is always on the side opposite to that with the painted surface.

The amount of corrosion varies considerably; generally, however, it is patchy or cloudy, brown in colour, and more or less opaque. The pieces which have suffered most are Nos. 5 and 6. In these the glass is almost completely destroyed, and reduced to a soft and highly brittle mass, due it maybe to different constituents in its composition.

NATURE OF THE INDUSTRY. All the evidence so far available points to the existence, nearby, of a window-glass factory or workshop where cutting and fitting was carried on to a considerable extent. Evidence for the manufacture of glass on the site consists of two small nodules of green vesicular glass; these, however, do not prove conclusively that a glass-house existed nearby, all the more so as no fragments of crucibles were found in the deposit. Further exploration of the site immediately north of the find-spot is highly desirable, but so far it has not been possible to carry out investigations in the adjacent timber yard.

PERIOD. Unfortunately the deposit was unsealed, and the great depth of the superincumbent earth showed evident signs of having been disturbed from time to time, or dumped there from other adjacent sites, as it contained a few Roman sherds, three 14th century tiles (*fig. 3*), and pottery of quite recent date. The only finds in immediate association with the glass were portions of two brown glazed cups, one of them with vertical daubs of dull yellow slip. Both

vessels⁷ may be attributed to the late 17th century, and seem, therefore, to be of a much later date than the glass. On the other hand the presence of flashed glass in blue, green and wine-red or pink point to a 16th century product. S. E. Winbolt,⁸ quoting Winston, says, "I myself have not met with white glass coated with any other colour than ruby earlier than the end of the fifteenth century or the beginning of the sixteenth, about which time coated blue glass appears to have been introduced. Coated pink and coated green seem to be of still later invention."

A few of the painted examples appear to be of an earlier date than the rest, if so they may have been brought to the site as cullet, and rejected as being unsuitable for the manufacture of clear glass.

THE FINDS.

(Pl. vii., Nos. 1—10).

1. Part of triangular pane of ruby glass. Upper edge fractured, the others grozed.

2. Part of ellipsoid pane; edges grozed. Border and eagle with wings displayed, painted in opaque brown on one side; opposite side shows traces of golden yellow stain. Badly corroded.


3. Part of pane with deep emargination on one side. Lower edge fractured; the others grozed.

4. Part of rectangular pane, the straight edges grozed, the others fractured. The zoomorphic *motif* in the lower portion of the design, painted on both sides in opaque brown; the oval spaces in the ear-like extensions in pale translucent brown. The trifoliate leaves and the lozenge or diamond-shaped design are colourless and transparent, and have the appearance of finely burnished lines.

5. Part of pane, with the two straight edges grozed. Design painted in opaque brown on one side; the space between the two horizontal bands, above the black-letter **IR** stained on one side golden yellow.

⁷ A close parallel is given in the British Museum, *Guide to English Pottery*, p. 26, fig. 27.

⁸ *Wealden Glass*, p. 71.

6. Part of rectangular pane; three sides grozed. Black-letter  and floral design painted in opaque brown on one side. There are traces of very narrow bands of opaque brown on the opposite side. This fragment is badly corroded, very brittle and opaque.

7. Diamond or lozenge shaped pane; all the perfect edges grozed. Design painted in opaque brown on one side.

8. Diamond-shaped pane; grozed on all sides. Outline of the letter R in opaque brown, the background *to the letter* stained golden yellow on one side.

9. A complete pane of clear glass grozed on all sides.

10. Part of rectangular pane of clear glass, cut from near the "bulls-eye" centre of the disc of blown glass, and very thick at the square end.

(Pl. viii., Nos. 11—23).

11. Triangular pane of clear glass. All the edges grozed.

12, 13. Two fragments with fractured edge. Design painted in opaque brown on one side only.

14. Complete triangular pane of clear glass. All three sides grozed.

15. Complete pane, one edge clean cut (left) the others grozed. Floral design painted in opaque brown on one side, opposite side of flowers with traces of golden yellow stain.

16. Major portion of triangular pane; grozed on all sides. Floral design painted in opaque brown on one side; opposite side with traces of golden yellow stain as a background to the flowers.

17. Pane complete. Geometrical portion of design and the broader band in opaque brown, the broad outer margin (left) with traces of golden yellow stain. This piece was cut from near the bulls-eye centre of the blown disc and attains a maximum thickness of 7 mm.

18. Fragment of similar design and technique.

19. Fragment. Design painted in opaque brown on one side; the background to the conventional flower, and the outer border (left) including the spine-like projections stained dark golden yellow.

20. Fragment. Outline of design painted in opaque brown, other portions stippled pale translucent brown; background to lower portions of fluted column (?) stained golden yellow.

21. Fragment with all the edges fractured. The broad bilateral bands painted on both sides opaque brown; the narrower bands in pale translucent brown, but these are now very faintly indicated owing in part to slight corrosion.

22. Fragment of pane, grozed on two edges (left and bottom). The bands and outline of the flowers painted in opaque brown on one side; the background to the space with the floral design stained on one side golden yellow.

23. Part of pane; left and upper edges grozed, the others fractured. Design painted in broad vertical bands, the outer edges of which are opaque, the rest pale translucent brown.

NOT ILLUSTRATED.

The coloured or stained glass found in association with the above consisted of the following:—

Green. Stained and flashed, three fragments.

Blue. This occurred in various shades, some stained, and five fragments flashed on both sides.

Ruby. There was a fair amount of this, and all of it flashed.

Wine-red to pink. Some examples stained, others flashed.



Glasshouse in Delamere Forest, Cheshire.

(Text Figs. 4—6)

The existence of a glasshouse site in the Kingswood Division of Delamere Forest, Cheshire, was revealed accidentally a few years ago. Shortly afterwards my friend, Mr. M. H. Ridgway, of Tarvin Vicarage, chancing upon the find spot, brought me some of the material for determination. In a letter, dated June 29th, 1934, Mr. William Gibson, Kingsley Mill, Frodsham, informed me that, "The spot is known as Glaziers' Hollow, and the evidence (that glass was manufactured there) was brought to my notice by a

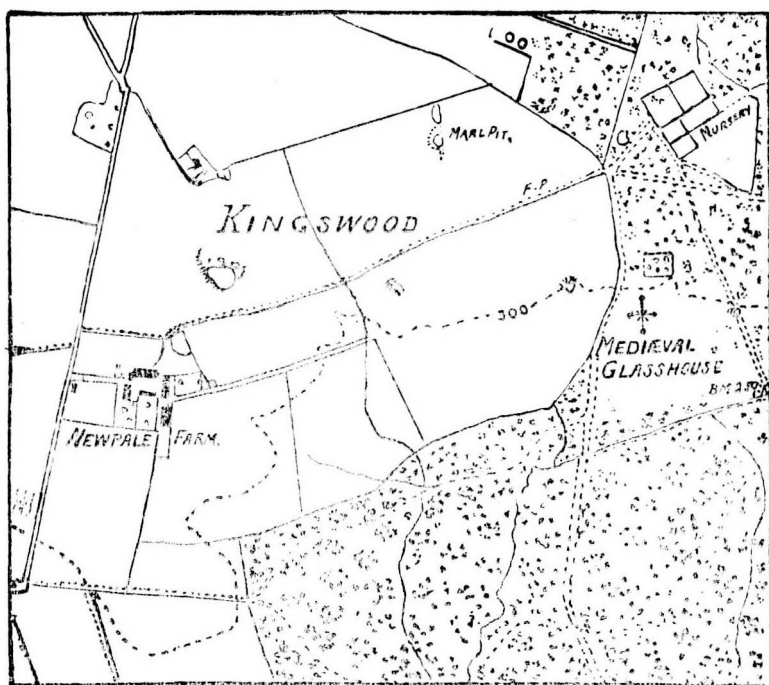


Fig. 4. Site of Mediæval Glasshouse, Delamere Forest.
Based on the Ordnance Survey, Cheshire Sheet xxxii., S.E.
By permission of H.M. Stationery Office.

farmer friend of mine who was digging a hole for the foundation of a water-ram." In February, 1935, a small Excavation Committee was formed and permission to explore the site was granted by H.M. Forestry Commissioners, Shrewsbury, with the request, however, that the excavations were to be confined to narrow cuts between the lines of closely planted larch trees. A wealth of glass in various states of manufacture was found about 12 inches below the surface, and also what appeared to be part of a glazed red brick floor of a furnace; but owing to the close proximity of the trees it was not possible to explore the structure in any direction, and the excavations were subsequently closed down.

The site (*Text fig. 1*) lies about half a mile almost due east of New Pale Farm, and slightly south of the 300 feet contour. It occupies the top of a definite rise from the east and west, and about 62 feet west of the spot where traces of the floor of a furnace were found is a very small stream of water—a mere trickle in fact—and near it is the water-ram, the construction of which led to the discovery of the glassmakers' workshop.

Bracken is plentiful, but the area surrounding the site has within recent years been reafforested with larch. Elsewhere the trees are old and consist for the most part of oak and birch with sweet chestnut here and there.

The place name, "Glaziers' Brook" or "Glaziers' Hollow," is still used by the older inhabitants of the district. The use of the second name is not clear, unless it refers to one of the steep dips on either side of the site.

PERIOD. This is not very clearly defined, but the few small sherds of pottery (*Text fig. 5*) found in association with the glass seem to be characteristic of vessels in use during the 15th century. I have been informed, however, that a silver penny of Edward I. (A.D. 1272-1307) was found by "Jones the Forester," in the material which we excavated in 1935. Furthermore, that the coin in question was determined at the British Museum and that it is or was in the possession of H.M. Forestry Commissioners at

Shrewsbury. If the presence of this coin can be taken as chronological evidence for the occupation of the site, it would bring us to the early years of the 14th century. But the pottery, even in its fragmentary condition, points to a much later date. It is just possible, however, that this glasshouse may have been founded in the 14th century and re-used at a later date.

Whether this glasshouse was included in the Forest Liberties of Vale Royal Abbey is not clear. Mr. W. F. Irvine informs me that there is an entry in the *Ledger Book* of the Abbey (*Record Soc.*, Vol. 68, p. 44) "of a complaint against Warren le Grosvenour, in 1346-7 for encroaching on the Abbeyes' lands in certain places, including 'Le Huvyng and the whole wood towards the glassworks next Heytelegh,'" but he is unable to spot either of these places.

Mr. Irvine also informs me that Ormerod (*Vol. ii. p. 90*) mentions a "Henry de Glasshouse" holding a small tenement in Kingsley. The date is uncertain but in Edward I's reign, being probably about 1280.

Whether these records may be taken as evidence of the manufacture of glass in the Kingswood area of the forest is merely conjectural.

WINDOW GLASS.

This occurred in fair quantity over the whole of the area which we explored. It is generally very badly corroded and stained dark brown by contact with the soil. It has a fairly good polished surface, and the presence of selvaged edges suggest that it was made by the process of blowing. In thickness it varies between 5.5 and 2mm., but none shows the characteristic thickening from the central portion of the disc in the region of the "bulls-eye." Many of the fragments exhibit straight cut edges, and the method of grozing is barely if at all indicated.

Clear glass. This varies from a very pale milky-green to green of a definitely darker shade.

Blue. Three fragments of a rich dark blue and three of pale blue. All of it stained throughout its thickness.

Green. This is of a rich dark colour, and represented by half a dozen pieces, together with two small lumps of the crude metal.

Ruby. A few pieces stained, and one flashed.

Amber. There are two shades of this.

Pink or pale wine colour. One fragment with selvaged edge.

POT METAL, Etc.

Pale opalescent green. This occurred in nodular form, was frequent on the surface and in the fissures of bits of sandstone probably from the siege or cooking platform of the furnace, and also on the surface of some of the bits of crucibles. It had not suffered from corrosion to the same marked extent as the window glass.

Brownish-black. Thin freshly struck flakes of this resembles dark bottle-glass by transmitted light; otherwise it is quite opaque. This was common.

Sealing-wax red. This was usually mixed with pale green, both colours being opaque. It occurred in nodular form (rare), was frequent in the fissures of the sandstone siege, and one fragment of a crucible is coated with it on the interior of the base and side. Mr. S. E. Winbolt, to whom some of this material was sent, thinks that "it is sediment of copper not properly mixed in the batch, and probably denotes making of ruby glass."

Crude metal of other colours were also sparsely represented, viz: pale blue, pale wine-red, amber-green and bottle-green. The last two were common.

Plano-convex discs. There are portions of four of these; all of them opaque pitchy black in colour, but thin freshly struck flakes appear smoky brown by transmitted light. None shows signs of corrosion. The flat under surfaces of the discs are roughly convoluted, and one of them bears traces of lime or the like. The upper convex surface very glossy. Diameter *c.* 3.3in., average thickness in centre 0.7in. The edges bluntly rounded.

CRUCIBLES.

(Text Fig. 5)

Many fragments of the rims, sides and bases of crucibles were found, but, unfortunately, none admits of reconstruction. All of them appear to belong to one type with bulging sides, broadly rounded and everted rims, varying from 13-12 inches in diameter. The bases are flat; and the walls vary in thickness from 0.6-0.8 inch.

The material used in their construction consists of three, apparently distinct, kinds of clay:—

(a) A very hard finely gritted pale grey clay closely resembling a pale grey sandstone rock. It is composed of fine rounded grains of sand (quartzite?) bound together by a grey siliceous film or the like. This was by far the commonest type.

(b) Similar to (a) but of a pinkish buff colour.

(c) A brittle brick-red clay, coarsely rough cast on both sides; and the surfaces overglazed. One example (No. 5).

1. Rather brittle pinkish-buff clay; the majority of the grains of sand in its composition of a translucent pink; the matrix paler. Rim grooved at its junction with the neck.

2. Very hard pale grey clay; neck with a thin coat of pale green glass. Rim rounded.

3. Clay as in No. 2; surface inside and out with patches of pale green glass.

4. Clay smoky grey, core faintly ferruginous. Neck with coating of badly corroded opaque glass and there are traces of it elsewhere on both surfaces; an old kiln-fracture is also coated with it. Rim keeled.

5. Dull brick-red clay and very brittle; the grains of sand in its composition relatively large and white. Both surfaces coated with greenish and brown glass in which small nodules and fragments of a grey vesicular material are embedded and over glazed.

6. Hard grey clay, precisely similar to Nos. 2 and 3 but with a darker core. This example has a very large patch of red clay attached to the neck of the vessel, which is over glazed with green glass.

7. Hard grey clay. Fragment from basal portion of a vessel. The Kiln-fracture coated with green glass.

8. Clay as in No. 7. Fragment from basal portion of vessel. Interior coated with brown glass veined or marbled with sealing-wax red.

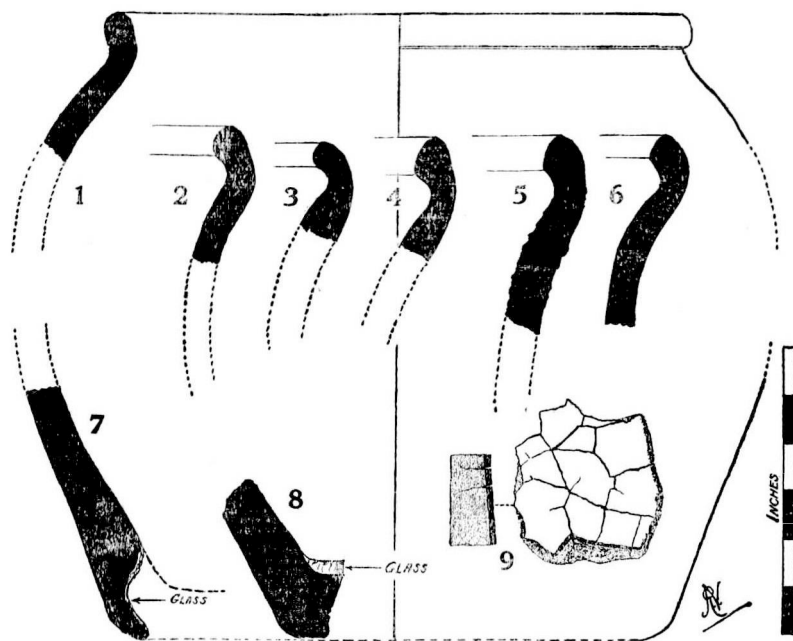


Fig. 5. Crucibles ($\frac{1}{4}$).

9. Fragment of the flat base of a vessel in hard grey clay. Exterior with a thin coating of red and green glass. Interior with a thicker layer of glass of the same colours. The latter is irregularly fissured, the fissures extending far into the wall of the vessel, and in some cases completely through it. As one old fracture is coated with glass it may be taken as a fair inference that the vessel was cracked in the process of baking.

POTTERY.

(Text Fig. 6).

Six small sherds were found in the stratum of glass, three of them seem to be distinctive of the coarse ware pottery in use during the 15th century, and suggest certain parallels found at the Potters' Kiln, Ashton,⁹ Cheshire.

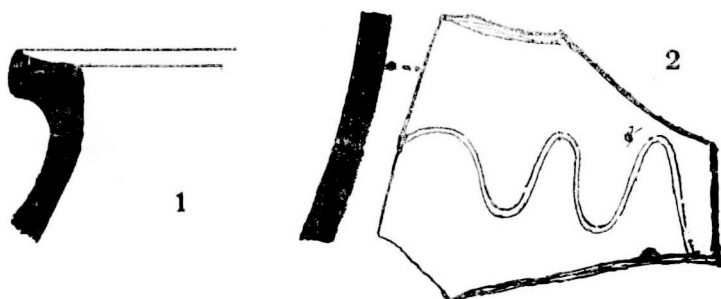


Fig. 6. Pottery (1:1).

1. Rim of jug or pitcher. Fine, hard buff-yellow clay, coated externally below the rim with pale greenish yellow glaze. Upper surface of the angular everted rim concave.

2. Fragment from shoulder of jug or pitcher. Clay and glaze similar to that of the foregoing. Decoration a horizontal wavy line. Both fragments may belong to the same vessel.

CHARCOAL, Etc.

Carbonised wood of birch and oak occurred rather sparingly. Other finds consisted of two small lumps of copper slag, a few meat bones, the skull of a domestic duck, and a pellet of unburnt clay.

Acknowledgements :—I beg to tender my sincere thanks to all those who have assisted in any way in the exploration of this interesting site. To Mr. S. E. Winbolt for his valued help in the determination of the material, and for a mass

⁹ Newstead, *Ann. Arch. Anthropol.*, Liverpool, vol. xxi., pp. 1—26.

of information concerning the glasshouse sites in Surrey and Sussex. To Messrs. G. B. Leach and Maurice H. Ridgway for the use of their cars and material aid in many ways. To the Rev. M. H. Ridgway for financial aid, and to Prof. J. P. Droop, and Mr. W. F. Irvine for much kind assistance.

Further search is sorely needed ; but this would necessitate the removal of all the young larch, and replanting the area.



Bronze Age Burial at Betchton, Cheshire.

(Pls. ix, x. Text Fig. 7)

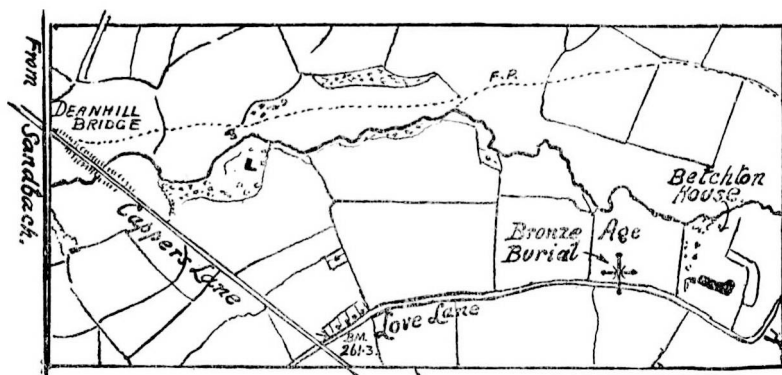


Fig. 7. Betchton, Cheshire. Site of Bronze Age burial.

Based on the Ordnance Survey, Cheshire Sheet, L. S.E.

By permission of H.M. Stationery Office.

A cremation burial of the Bronze Age period was found at Betchton (Text fig. 1), near Sandbach, in June, 1928, by Mr. Yates, while engaged in making a small terraced garden on the south side of his newly-erected bungalow in "Hall Field" (Tithe No. 289). The approximate position of the find was immediately opposite the front entrance to the bungalow, thirteen feet north of the boundary fence in Love Lane, and one hundred and eighty-eight feet east from the south west corner of the field.

Mr. W. F. Irvine and myself visited the site, shortly after the discovery of the relics, and made a thorough investigation of the find-spot, carrying our excavations well into the stratum of virgin sand, but found no trace of the burial. Everything in fact had been removed during the process of levelling the ground. Some of the excavated earth had been used to form a terrace in the garden, the rest had been carted away and dumped in the field nearby. Riddling portions of the dump also proved futile.

Betchton lies in open undulating country, consisting for the most part of arable land and composed chiefly of glacial sands. The burial was placed in the central portion of a tongue of pasture land which ends abruptly, and dips steeply down to the swiftly flowing brook which forms the north boundary to the field and passes westwards under Deanhill Bridge. Both sides of the stream were studded with fine old willow trees, the crowns of which were hidden from Love Lane which lies some 600 feet to the south, and cuts through the tongue of land to a maximum depth of six feet.

My colleague, Mr. W. F. Irvine, informs me that none of the field-names surrounding that in which the burial was placed are in the least degree illuminating, so that there is nothing to be learned from this source. They are given as follows: 116=Blunders; 117 Church Field; 297=Barn Field; 298=Sheep Field; 299=Big Sun Field.

The natural deposit in which the funerary objects were placed consisted of pure glacial sand containing a few small nodules of flint and chert, and small, flat bits of sandstone, mostly of a concretionary nature and bearing blackish crystals of iron oxide. The last named occurred also in small "pans" and veins throughout the deposit of virgin sand. The surface soil close by the site of the burial was comparatively shallow and rich in humus. Although there was no indication of a mound over the site, the burial was placed in a very prominent position near the end of and in the centre of the tongue of land. Any mound, if it ever existed, may have been levelled in part by the action of the plough, as we were informed that the field had been under intensive cultivation until a few years ago when it was laid down as a permanent pasture; and in part also by Mr. Yates when levelling the ground for his small terraced garden.

The finds consist of the following: the upper portion of a large burial urn, containing calcined bones, a small incense cup, and a bone pin. They were found, so we were informed, "lying together in a compact mass, in the natural deposit of sand, surrounded by some discoloured earth, and

not far below the surface." The discovery of this grave-group is of considerable interest owing to the star-pattern on the base of the incense cup—a motif or emblem connected with sun-worship, a cult which seems to have extended from Denmark through Ireland.

1. *Incense Cup*. (Pl. ix.). Biconical in form. The upper portion truncate and decorated with a triangular pattern of parallel lines bordered by one girth-groove above and two below. Lip chamfered and with bilateral sub-marginal grooves, rather faintly impressed. Lower half of vessel obconical, with a deep central pit or depression followed by two concentric rings, a six-rayed star within a concentric ring, a wheel-like pattern, and a marginal ring or groove. The side of the vessel, just below the carination, pierced with two small holes 1.2 in. (= 3 cms.) apart, diameter of rim, 1.8 in.=4.6 cms., maximum diameter, 3.2 in.=8 cms.

In a letter dated 5.iii.37, Mr. T. D. Kendrick, of the British Museum, kindly suggested that the star-pattern on the base of the vessel "should be compared with similar designs on the bases of Irish food-vessels (*Cf.*, for instance, Abercromby, I., Pl. L., 332a). I think you have probably got hold of a rather important link between England and Ireland that may help to establish the position of the biconical incense-cups in relation to the Irish Bronze Age," and adds—"The biconical incense-cups "are quite likely to be derived from the Irish series of vessels."

After many delays during the last decade, I have now been able to consult Abercromby's classic volumes on the Bronze Age pottery.¹⁰ I find, as Mr. Kendrick has kindly suggested, that the cup from Down (Pl. L. 332a) bears on its base a six-rayed star, which is evidently a close parallel to, and probably the prototype of, that on the Betchton example. Abercromby also gives illustrations of two more Irish examples of pigmy cups with star patterns on their

¹⁰ A study of the Bronze Age Pottery of Great Britain and Ireland.

bases, but in these the motifs are four-rayed. In one (Pl. xlv., 285a) it approaches that on the chalk drum from Folkton;¹¹ the other (Pl. xlviii., 302a) might easily pass as a crudely formed cross.

The star-pattern design on the sun-disc from Lansdown, Bath,¹² is also a close parallel to that on the Betchton cup; the star also occupies a central position in the design and is surrounded by concentric rings.

2. *Cinerary Urn.* (Pl. x.). Form with a broad heavily projecting rim, and angular shoulder which is slightly the widest part of the vessel. The rim, however, is squarely truncate on its lower edge on one side, but gradually merges into the concave neck on the other. The inside of the chamfered rim or lip with short impressions, placed rather closely together; the outer face of the rim with alternate groups of rectilinear impressions of the "cogged stamp" type, bordered above and below with similar but much shorter impressions. Clay buff-brown with a free admixture of quartz-like grit.

Diameter of rim, 9.3—9.5 in.; depth of rim, 4.3 in.; neck, 3.3—3.5 in.; diameter at shoulder, 10.2 in.; height doubtful as the base is missing; probably destroyed by the plough during the cultivation of the field.

3. *Bone Pin.* (Pl. x), at foot of large Urn. Is curved and bluntly pointed; the head flat in section with a large eyelet. The distal two-thirds is more or less cylindrical in section. It is calcined, broken in two parts, and seems to have been made from the rib bone of a small mammal. Faint traces of a green stain is indicated, but whether this is due to the action of bronze is not clear. Found with the calcined human bones. Length, 3.2 in. = 8 cms.

4. *Calcined Bones.* A small quantity of these were preserved; the remainder were inadvertently thrown away. Those which are left consist of fragments of the skull, long bones, etc.

¹¹ *Brit. Mus. Guide Bronze Age*, p. 82, fig. 75, 3a.

¹² *Ibid.* P. 90, fig. 91.

It may be of interest to add that the existence of Bronze Age people at Betchton was heralded, long ago, by the discovery there of a beautifully moulded spear-head of bronze (Shone, *Pre-historic Man in Cheshire*, p. 66, fig. 3), now preserved in the Warrington Museum. This, together with our recent find, tends to show that this area, like that of the adjacent Macclesfield Hundred, was more intensively occupied by early man than apparently any other part of Cheshire.

My thanks are due, in the first place, to my brother, Mr. Alfred Newstead, for calling my attention to the discovery. To Mr. W. F. Irvine for motoring me over to the site, for his help in exploring it, and for supplying a copy of the Ordnance Survey Map with the field-names marked thereon. To the owner of the land, the late Mr. Yates, for permission to explore the site, and to his son, Mr. H. C. Yates, and Mr. F. H. Hains for helping in many ways. The grave-group was purchased by myself for the sum of £5 and presented to the Grosvenor Museum, where it now is.



Unrecorded Bronze Age Vessels from the Tumulus, Glead Hill Cob, Houndslow, Cheshire.

(Pl. xi).

Shortly after the death of Mr. Walter Harrison, of the New Pale Farm, Manley, his nephew, Mr. J. A. Harrison, discovered in an attic at the farm, a box containing fragments of four vessels, a fragment of a small cup, a flint flake, calcined human bones and charcoal. To ensure their survival he very kindly presented them to the Grosvenor Museum, Chester, in December, 1929. Written in ink, in a very clear hand, were the following particulars:—"Contents. Pieces of Druidical urns and Bones. found Honds-low, 1878. J. Harrison." This record was duplicated in the same clear script on another portion of the box-lid, and the year 1878 repeated. Inside the box was a slip of paper on which was written in a different cursive hand:—

"Left with Mr Heron 11 March 1881

1 Cup

1 do bottom of

Tin box containing 2 flint arrowheads, 1 piece bronze or copper and two flints."

The latter record clearly refers to the finds briefly described by Shrubsole,¹³ and later by Shone¹⁴ with photographic illustrations. As these authors make no reference to the fragments of the four large urns, etc., which form the subject of this communication, one may assume that their existence in the loft had been overlooked or forgotten. The recovery of the relics half a century after their discovery was brought about by Mr. J. A. Harrison at the time when his uncle's estate at New Pale was sold. We thank him for

¹³ *Jour. Chester Arch. Soc.*, N.S., p. 109, 1892.

¹⁴ *Pre-historic Man in Cheshire*, p. 62, figs 26, 27, 1911.

his kind gift; and congratulate him on his recognition of the historic value of the relics. They throw additional light on the period of the Bronze Age burials at Hounslow. A description of the relics follows:—

1. Urn with slightly projecting rim and very shallow concave neck. The "cord pattern"¹⁵ inside the chamfered rim diamond-shaped; that on the exterior of the rim forming a double chevron, bordered above and below with a shallow cord pattern groove. The neck scored with a large diamond-shaped pattern.

Clay buff-brown, with smoky patches; the interior much darker. It is heavily charged with angular fragments of a very hard, fine grained, drab-coloured rock, obtained it may be by pounding a glacial boulder.

There are many fragments which may be correctly assigned to this vessel; including good sections of the broad rim, a small fragment of the neck, and the whole of the base. Diameter of rim c 12 inches; depth of rim 4.5 inches; base 4.5 inches. Height uncertain.

The shallow overhanging rim in this vessel takes the form of a cordon, but whether the shoulder was similarly emphasised is uncertain. In its incompleteness it may, however, be regarded as a slight variant of the vessel described below (No. 2).

2. Urn with overhanging rim, and concave neck. Chamfered edge of rim with curved impressions, done it may be by a small finger-nail or the like. Outer face of rim with slightly oblique incisions, bordered above and below with a shallow scored groove. Neck scored with a lattice pattern. Clay similar to that of No. 1, but paler, and differs also in having a free admixture of fragments of quartz and golden mica, the latter giving the surface a pleasing effect. Two fairly large sections of the rim and neck are all that are preserved of this vessel. Diameter of rim c. 10 inches; depth 3.3 inches.

¹⁵ Attempts to reproduce such a pattern with twisted cord proved a failure; on the other hand short lengths of twisted wire gave similar impressions.

3. Vessel with a broad inwardly sloping rim and concave neck. The chamfered edge of the rim with oblique incisions; outer face irregularly pitted with somewhat crescentic impressions which may have been done with the end of a broken stick, bone or bracken. Neck undecorated. Clay very pale brick-red, charged with angular fragments of rock precisely similar to those used to reinforce the clay in vessel No. 1.

Though badly broken the whole of the upper portion of this vessel is represented; but no fragments of the base were preserved. Its technique generally is very poor; and although relatively small, its form seems to be derived from the typical urns with overhanging-rim and concave neck.

4. Base of small vessel of uncertain form, but there are indications of a carination at the tallest portion of the body of the vessel. Surface decorated with very shallow concave pits,¹⁶ the more perfect of these impressions with a smooth surface. Similar impressions can be made with the head of a femur of a rabbit. Clay of a peculiar slaty grey shading to buff-grey. Grit particles angular and like those used in the vessels Nos. 1 and 3. Interior of the base with marked traces of powdered charcoal, an indication that it may have been used for incinerated remains.

Not illustrated.

a. A very small fragment of a small and relatively thin-walled vessel (0.2 inches thick), bearing fine oblique incisions on its outer surface. It belongs, apparently, to an incense cup.

b. *Flint flake* with both ends broken off; patina pale buff-white. Length 0.7 inch, width 0.6 inch.

c. *Calcined human bones*. There is a fair quantity of these and they half fill the vessel No. 3. They include part of the left maxillar, and other parts of a skull—one fragment with strongly developed Wormian bones. And there are two bits of long bones very faintly stained with bronze¹⁷ or the like.

¹⁶ For similar pit-marks on the basal portion of a cinerary urn; cf. Abercromby, *Bronze Age Pottery*, Pl. xciv., 468.

¹⁷ Part of a pin of bronze was found in the tumulus. cf. Shone, *l.c.*

d. Charcoal. Eight fragments of oak (*Quercus* sp.) all of it from thick timber.

Period. Late Bronze Age. The incipient cordons on Nos. 1 and 2 seem to be characteristic of that period. It may be of interest to add that the small incense cup and the other small finds from the tumulus at Glead Hill Cob are now, September, 1938, in the possession of Mrs. Charnley, Springside, Mouldsworth, Cheshire. (*Test* : Mr. J. A. Harrison).



Hunter Street: Site of the Odeon Theatre.

(Pls. xii—xiv. Text Figs. 8—14)

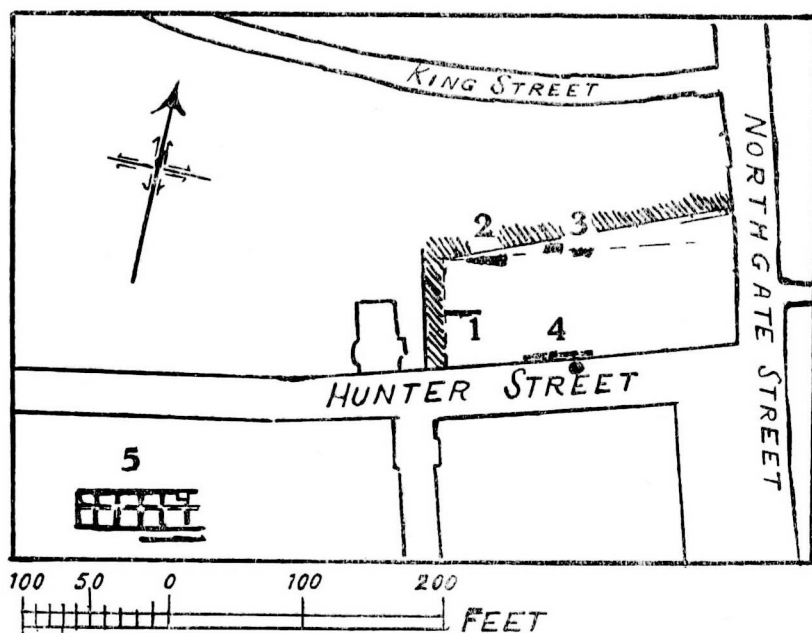


Fig 8. Hunter Street. Plan of Site.

The excavations on this site were carried out by the contractors during the years 1935-1936. Unfortunately the builders of Georgian and Victorian Chester had wrought much destruction of the earlier deposits, especially over the eastern portion of the site, where the extensive cellars to Northgate House had been carried into the virgin rock. Much disturbance had also taken place elsewhere over the whole site, by drains, footings of buildings, refuse and other kinds of pits, and a very deep well near the centre of the area.

Traces of Roman structural remains (*Text fig. 8*) consisted of the following:—A large substantially built drain (site 1); sections of tile-mortar floors (*opus signinum*) (sites 2, 3); and a relatively long section of an ashlar faced wall (site 4). The last two structures seemed to have belonged to buildings of a long narrow type, and may represent a continuation northwards of the Roman barrack blocks (site 5) found in 1914¹⁸ on the opposite side of the street.

The earliest coin found was a bronze piece (1 *Æ.*) of Vespasian, struck A.D. 71. Fourth century pieces are represented by a small group or hoard, found in the street opposite site 4, and dating from Constantine I, A.D. 307-337, to Valens, A.D. 364—375 (p. 61).

A few pieces of pottery were obtained from stratified deposits, notably a fragment of form 29 (*Text fig. 9*, No. 1) and other vessels of late Flavian origin from under the cement floor (site 2). Some sherds of late first-early second century were also found in the narrow packing between the rock and the ashlar facing to the large drain (site 1); but, unfortunately no stratified material was found in association with the foundations of the wall on site 4.

The late third or fourth centuries were represented by a few fragments of pottery (*Text fig. 10*, Nos. 2-4, 8) but these came from mixed deposits.

The most interesting of all the small material finds was the hinged lid of a seal-box with a dragonsque design (*Pl. xiv.*, *Text fig. 11*) of late Celtic affinities. It evidently belongs to the earliest period of the Roman occupation as it was found under the floor (site 2) with late Flavian pottery.

(Pls. xii, xiv. Text Figs. 8—14)

The main drain (*Text fig. 8*) ran approximately east-west. Its distance from the old street frontage, at the west end, was 37ft. 6ins.; and the maximum length explored was 24ft. There were indications that it extended in both directions; but further exploration was not permitted.

¹⁸ Newstead, *Chester Journal*, vol. xxvii., p. 63.

It consisted of a channel cut into the solid rock, and lined on both sides with ashlar blocks of local sandstone set in puddled clay, of which little was left. The narrow space between the rock and masonry was filled with earth and small bits of rock, and in this some fragments of two coarse ware vessels (*Text fig. 10*) were found, and they are datable to the end of the first or early years of the second century. The rock floor presented a slightly uneven surface, and had a considerable fall westwards of 1 in 20. The dimensions at the east end were: depth from covering-stone to floor, 2ft.; width, 2ft.; width of channel in rock, 4ft. 3ins. At the west end it was 3ft. deep, and slightly wider; but all the covering-stones were missing.

Lateral drains. There were three of these, all of them cut into the rock. That on the north was a narrow shallow channel and of an average width of 9ins., but it splayed out at its juncture with the main drain and seems to have served as a lead from the rock-pit, 6ft. away. The second (A-B on plan) was a V-shaped channel, with a maximum depth of 1ft. 3ins., a total length of 2ft. 10ins., and its apex 1ft. above the floor of the main drain. The third was a very shallow channel cut into the rock, of an average width of 8ins.; and at its west end turned at right angles into the main drain.

Rock pits (Pl. xii). There were two of these: one on the north side of the drain, the other, 21ft. south of it; that on the south was roughly circular in outline, with a maximum diameter of 6ft., and an average depth of 9ins. The other was semicircular, deeper and connected with the lateral drain. What purpose these pits served is not clear. Similar rock-cut pits were found in association with the Roman barracks found in Hunter Street in 1914,¹⁹ one of them contained late Flavian pottery, and a fibula of La Tène, type iii.

The wall, site 4. This was traced, over all, for a distance of 50 feet. The ashlar work was good, much of it however had been destroyed, but the footings were intact.

¹⁹ Newstead, *Chester Journal*, vol. xxvii., p. 63.

POTTERY: SAMIAN WARE.

(Text Fig. 9)

This ware was, relatively speaking, poorly represented, as compared with finds of this class of ware from other sites in Chester. Some fragments which call for special comment are here illustrated (Nos. 1—4). The fragment decorated in applied relief (3) seems to be the only known example of this type of decoration recorded from Chester. Another new type (not illustrated) which was also found on the site was a fragment of the rim of a large vessel of the mortaria class, decorated with a row of dots of white barbotine; the glaze, however, is very dull and mat-like. It was found in a mixed deposit, and does not admit of close dating; but its general technique and the rather poor quality of the glaze, point to the late Antonine period.

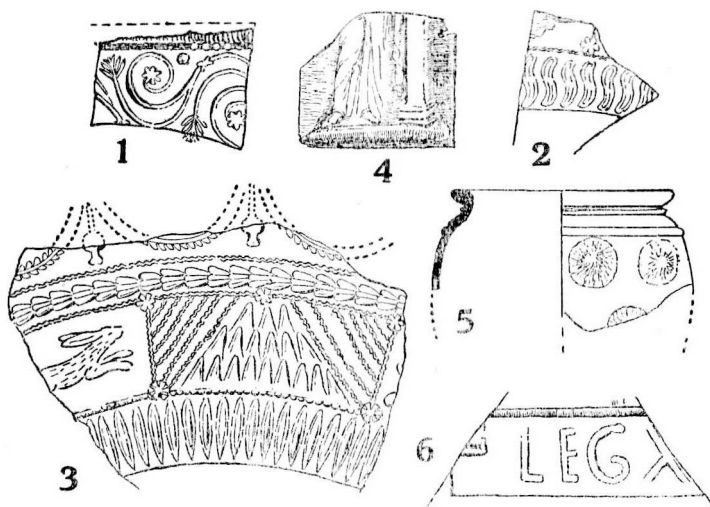


Fig. 9. Samian Ware and legionary stamp (½).

1. Form 29. Part of the upper frieze with scroll decoration. The tendrils ending in rosettes and palmate leaves, and united with bifid bindings. Period: Flavian. Under the cement floor, site 2, with Nos. 2, 3, and the seal-box lid with dragonesque design.

2. Form 37. Part of the lower portion of the vessel, with wreath of S-shaped motifs. Period: Flavian. Found with the above.

3. Form 37. Decoration in two zones divided by a straight wreath between wavy lines. Upper frieze with portions of dentated festoons, the "drop" between them like those in Walters (xxxviii). Lower frieze divided into panels by wavy lines, tied with large rosettes: 1, Hare to right (Osw. 2072); 2, Angles with wavy lines, the central triangular area filled with arrow heads. Below the panels a continuous row of spindle-shaped godroons.

Period: Flavian.

Site 2, under the cement floor.

4. *Déch.* form 72. The fragment here illustrated belongs apparently to this form of Samian ware. The decoration is in high relief, and represents the lower portion of a draped figure standing by a rectangular column with a moulded base. A hole has been bored through the upper right hand corner of the fragment, evidence that the vessel to which it belonged, had been mended in Roman times. The glaze is orange-red and rather dull. Period: probably second century.

In a mixed deposit; and is the first authentic fragment recorded from Chester.

POTTERS' STAMPS.

1. **OFMO.** On 27. Large. Foot-ring grooved. Mommo was a potter of La Graufesenque, and Oswald²⁰ fixes his period of activity as Claudius—Vespasian.

2. **OF. PATRICI.** On 18. Small with brilliant glaze. Patricius seems to have been a most prolific potter and his stamp in this and other forms has been recorded from other sites in Chester. Period: Nero-Domitian.

3. - - - **VLISF.** On 27. Small. Foot-ring plain. Probably part of Regalis of Lezoux. Period: Domitian-Antonine, probably the latter.

²⁰ *Stamps, Terra Sigillata*, p. 208.

POTTERY: COARSE WARE.

(Text Fig. 9)

5. *Beaker*. Rim and side fragment of a very small example. Hard, pale orange-red clay. Neck grooved; shoulder with a shallow cordon. Body decorated with large rugose studs of white clay applied *en barbotine*. Period: Flavian.

Found under the cement floor (site 2), with the Samian (fig. 3, Nos. 1, 2), and the seal-box lid with the dragonesque design.

(Text Fig. 10)

1. *Mortarium*. Similar to Bushe-Fox's²¹ type 38. Bead slightly below the top of the curved rim; the latter with a submarginal groove. Grit particles mixed white and brown, a few examples also on the upper surface of the rim. Clay pale brick-red.

In a late first-early second century deposit, on the northern side of the area.

2. *Mortarium*. Bushe-Fox's type 190,²² dated "to about the end of the third or the fourth century." Clay white; grit blackish.

Unstratified.

3. *Mortarium*. Similar to the above, but the rim is painted with red-brown wavy lines.

Unstratified.

4. *Mortarium*. Rim of the flanged type, near Bushe-Fox's form 150 from Caerwent. Buff clay, with traces of pale orange slip. A few grit particles on the rim.

Unstratified.

5, 6. *Cooking pots* in hard fumed grey clay. Period: late first-early second century.

Under the cement floor (site 2).

7. *Cooking pot*. Rim heavily beaded; shoulder with two girth grooves. Hard fumed grey clay. Period: late first-early second century. Vessels of a similar type have been recorded from late Flavian deposits in the Deanery Field.

²¹ *Wroxeter*, 1912.

²² *Ibid.*

From the main drain, in the thin clay packing between the ashlar work and the rock.

8. *Cooking pot* of "calcited" ware. Coarse clay, varying from dark brown to blackish dusky buff. Much of the calcited or white material with which it is heavily charged, has, when seen in a clean fracture, the

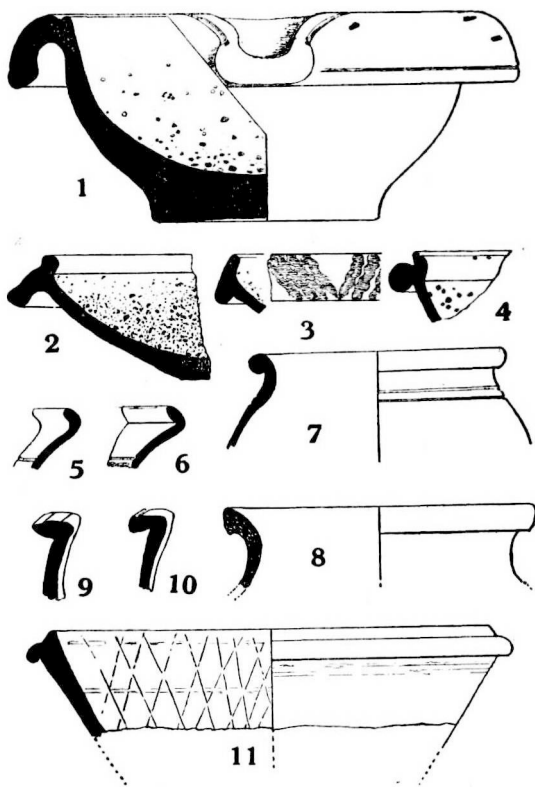


Fig. 10. Coarse Pottery (4).

appearance of finely comminuted fragments of a thin-walled shell of a mollusc, such as that of the common garden snail (*Helix*). Fine fragments of the shell of this mollusc mixed with clay and baked to a "white" heat, and then fractured, present a precisely similar appearance.

Vessels of this type are recorded from Segontium²³ and Prestatyn²⁴ in fourth century deposits.

Three vessels of this type were found on the site, but all of them in unstratified deposits.

9, 10. *Carinated bowls*. The first in hard fumed grey clay, the other in buff-brown clay. In both examples the upper portions of the walls have an inward slope.

Both examples from site 2, and datable to the late first-early second century. Such vessels are commonly met with in late Flavian deposits in Chester. Many examples were also found on other parts of the area.

11. *Flanged bowl* of Collingwood's²⁵ type 30. Very hard grey, and finely micaceous clay. Upper surface of rim finely tooled and burnished. *Interior* decorated with a faintly burished lattice pattern, and very faint horizontal lines; a type of decoration commonly found on the *exteriors* of this class of ware, but there is no trace of such on the exterior of this fragment. The general technique of this sherd is unusual, and points to an earlier date than those found so commonly in Antonine deposits.

Not illustrated.

(a) *Indented beaker*. Side fragment of small vessel. Drab-white clay, coated with coffee-brown slip, but paler on the inner surface. Exterior decorated with a conventional branch and leaves, and part of a crudely formed wheel pattern; all in white slip applied *en barbotine*. The hub in the wheel pattern surrounds the circular indentation; and the branch, placed vertically, follows it. A similar form of decoration occurs on a beaker in a grave group at Colchester.²⁶ The occurrence of this class of pottery at Chester is of much interest; it is very rare however, and is not recorded from the Legionary Kilns at Holt.

(b) *Castor ware*. Fragments of three plain coarse ware vessels all of them slight variants of the flanged bowl (*Text* fig. 4, No. 11), were found on the site. None, however,

²³ Wheeler, *Segontium*, pp. 161, 163, fig. 78, No. 58.

²⁴ Newstead, *Arch. Camb.*, 1938, p. 181, Nos. 2, 6.

²⁵ *Arch. of Roman Britain*, p. 224, fig. 53, No. 30.

²⁶ May, *Colchester*, p. 281; Pl. lxxxvii.

was stratified. The clay varies from dusky white to pinkish-buff; and the slip from blackish to coffee-brown. Similar coarse ware vessels of this class were found in a fourth century deposit at Prestatyn.²⁷

LEGIONARY STAMPS.

(Text Fig. 9, No. 6).

Three types are represented; but none is perfect. The fragment here illustrated (*Text fig. 9*, p. 52) seems to be a new one, and is not represented in the Holt series. Its distinctive characters are the double ridges projecting inwards at the end of the impression (left) and the strongly incurved lower limb of the letter G. The second example is of the Holt type No. 1. The third has an ansate ending with the vertical bar of the letter L close up to the triangular terminal, and seems to represent an undescribed type.

CLASS.

There were a few pieces of pale blue window glass, now beautifully iridescent, due to diffraction caused by the erosive action of acids in the soil, which has split the surface into microscopic layers.

MISCELLANEOUS OBJECTS.

(Text Fig. 11).

Seal-box lid of gilded bronze; the dragonesque *motif* in green enamel, with red eye. The barest traces of the enamel has survived, and that which remains may have been impregnated with bronze due to oxidization. The gilded surface is also barely traceable. The strikingly curious *motif* shows marked skill and decorative stylization, and seems to have been engraved by hand, as it bears, in places, evident signs of having been cut with a sharp instrument. Altogether it may be considered as a remarkable example of barbaric ornament; differing from other zoomorphic or dragonesque motifs by the presence of horns, the curiously serrated legs, and the lanceolate toes.

²⁷ Newstead *Arch. Camb.*, 1938, p. 182, No. 5.

The animal forms on the Aylesford bucket,²⁸ and the curiously angular form on the bronze pendant from Margidunum,²⁹ seem to be the nearest approach to our type.

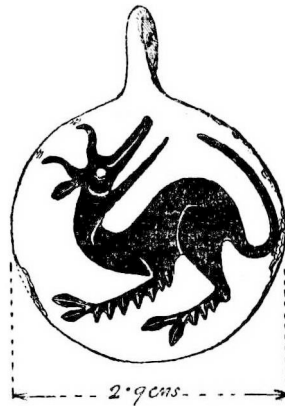


Fig. 11. Seal-box lid (4).

Mr. T. D. Kendrick, to whom we are indebted for the photograph of the relic (*Pl. xiv.*) thinks that our beast has clearly *La Tène* affinities.

Found under the cement floor (site 2) with the Flavian pottery (*Text fig. 9*, Nos. 1, 2 and 5).

(*Text Fig. 12*)

1. *Bronze stud* with quadrangular head. The decoration consists of a central panel enclosing a motif in the form of a X, the submarginal panels with fine transverse markings.

2. *Bronze stud* with circular head, decorated with hemispherical knobs, of which the central one is the most prominent.

3. *Terret ring* of bronze for reins, with two transverse flanges and bilateral knobs in the form of conventional buds. A similar type is figured by Curle;³⁰ and our example seems to be derived from the late Celtic form from Stanwick.³¹

²⁸ B. Mus. Guide. *Early Iron Age*, p. 116, fig. 94.

²⁹ Oswald A.....

³⁰ Curle *Fort of Newstead*, p. 298, pl. lxxv., 2.

³¹ B. Mus. Guide *Early Iron Age*, p. 133, fig. 115.

The examples 1-3 were found together with many scrappy pieces of sheet bronze; the segment of a bronze *trulla* or skillet (not illustrated), with a finely bearded rim, diameter of *c.* 5.5 inches; and a bronze ferrule 1.2 inches long.

Surface of the cement floor. (Site 2, *Text fig.* 8).

4. *Buckle or loop for strap.* This is of bronze, and similar in form to that found at the Roman Fort of Newstead.³²

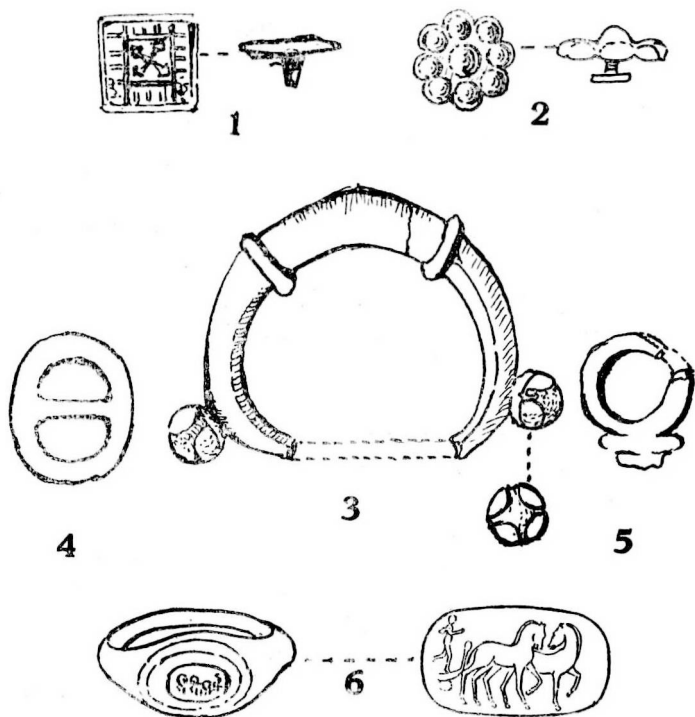


Fig. 12. Objects of bronze (1:1).

5. Part of bronze bolt to lock. Similar examples have been found elsewhere in Chester.

6. *Finger-ring of bronze.* The bezel is set with a blue glass intaglio representing Eros driving a biga or two-horsed chariot. The seal is relatively very small and finely cut,

³² Curle *ibid.* Pl. lxxvii., 14.

with the horse on the near side standing partly in advance of and looking back on its companion, a somewhat unusual attitude, the meaning of which is not clear.

Found with pieces of Flavian pottery, but unsealed and may be of later date than the associated finds.

Two knob-like terminals of bronze (not illustrated) complete the list of small objects found on the site. They were from unstratified deposits.

ROMAN COINS.

VESPASIAN. A.D. 69—79.

1. *Obv.* IMP CAES VESPASIAN AVG P M TR P PP COS [III?]. Bust laureate, r.
Rev. ROMA. In field s c. Roma standing, l. holding Victory on globe and leaning on spear. 1 Æ.
 A.D. 71. This piece is in fine condition. Near surface of rock, west end of site.

RADIATE CROWNS. A.D. 260—297.

2. Probably Tetricus I. c. A.D. 270—273.
 In poor condition and imperfect.
 3 Æ.
3. *Obv.* . . . VN
Rev. Trophy and seated captives.
 Silvered bronze.

CRISPUS. A.D. 327—326.

4. *Obv.* CRISPVS NOBIL G. Helmeted bust, l.
Rev. BEATA TRANQVILITAS. Altar inscribed VOT . .
 3 Æ. Date c. A.D. 324.

CONSTANTINE PERIOD.

5. *Obv.* VRBS ROMA. Bust of Roma, l., helmeted.
Rev. She-wolf, l., suckling Romulus and Remus; above, two stars. Mint mark, TR.S?
 3 Æ. c. A.D. 330—337.
6. *Rev.* GLORIA EXERCITVS. Standard between two soldiers.
Obv. Obliterated.
 3 Æ. c. A.D. 335—340.
 Found together with No. 5.

A group of eleven coins and a plain finger-ring of bronze were found lying together in the upper Roman stratum, in a cut made for the water-main in Hunter Street, April 23rd, 1936. The coins are all of bronze (3 Æ) and in fair condition. Mr. Harold Mattingly has kindly examined all the pieces and determined the doubtful ones.

CONSTANTINE I. A.D. 307—337.

1. *Obv.* [CONSTAN]TINVS MAX AVG. Bust laureated, r.
Rev. [VICTORIAE L]AETAE PRINC PERP. Two Victories facing, shield inscribed VOT PR, on altar bearing X. Mint mark $\overline{\text{T}}$ probably Trier.

CONSTANTINIAN.

2. *Obv.* Illegible.
Rev. VICTORIAE[LAETAE PRINC PERP].
 3. *Obv.* [CO]NSTANTINVS P F AVG.
Rev. GLOR[IA EXER]CITVS. Two soldiers with standard. Mint mark $\overline{\text{S}}$ Barbarous 3 Æ, small.

VALENTINIAN I. A.D. 364—375.

4. *Obv.* D N VALENTI[NIAN]VS P F AVG.
 Bust diademed and draped, r.
Rev. GLORIA ROMANORVM. Emperor and kneeling captive. Mint mark $\frac{\text{O}|\text{FII}}{\text{LVGSD}}$ Lyons.

VALENS. A.D. 364—378.

- 5—8. *Obv.* D N VALEN[S P F] AVG.
Rev. GLORIA ROMANORVM. Types like that of Valentinian I.
 Mint marks $\frac{\text{OF}|\text{II}}{\text{CON}}$ $\frac{|\text{n}}{\text{RQ}}$
 Two with mint marks cut off.
 9—10. *Rev.* SECVRITAS REIPVBLICAE. Victory with wreath and palm branch. Mint marks, $\overline{\text{SCON}}$, $\dots \text{CON}$, Arles.

MEDIÆVAL AND LATER PERIODS.

There is little to report under this heading. But one large pit, cut deeply into the solid rock, yielded some fragments of leather shoes including an out-sole of a long-toed example typical of the footwear in use during the 14th century. The pit also contained fragments of large coarse ware pitchers; many pieces of oak boards, used it may be to line the sides of the pit; and the skeletal remains of a young pig.



Fig. 13. Decorated floor tile ($\frac{1}{2}$).

Decorated Floor Tile (Text fig. 13). Attributable to the 14th century, found in the top soil. The impressed design consists chiefly of a conventional vine leaf and tendrils. The surface is much worn and the dark brown glaze with which it was coated is traceable only in the grooves forming the design.

Coin.—The only coin of the English period worthy of record is a shilling of James I (1603-1625 A.D.). The Latin inscription on the reverse reads :—EXVRGAT : DEVS : DISSIPENTVR : INIMICI : From *Psalm LXVIII*, V.I. —“Let God arise, let his enemies be scattered.”

Knife-handle of Bone. (Text fig. 14). With lathe turned spiral fluting and bands of transverse grooves at both ends. The butt end is hollow and was partly filled with some form of cement, but easily removed with a pointed instrument.



Fig. 14. Knife handle of bone ($\frac{1}{2}$).

The imperfect blade is tang-ended, the oxidization of which has split the handle in places.

Period doubtful, but probably late 17th or early 18th century.

ACKNOWLEDGEMENTS.

We wish to express our sincere thanks to Mr. Oscar Deutsch, Director of the Odeon Company for his gift to the City of all the material found on the site. To the Contractors and their Foremen for much kind help at all times during the excavations, and especially for allowing me to explore the eastern half of the large drain and also much of the cement floors on sites 2 and 3. Also to Mr. Harry Weedon, the Architect, and his Assistant, Mr. R. S. Bullivan, for permission to carry out the investigations.



Foregate Street: Swan Court. Site of the Tatler Theatre.

(Pls. xv—xxi. Text Fig. 15)

Site 1. Plan. Pl. xv.

All the buildings on the site of Swan Court were demolished in 1936 to make way for the "Tatler Theatre," which now covers the space indicated in the plan site 1. Although the ground had been much disturbed by the intersection of Mediæval tanpits, the Roman stratum was found intact in many of the cuts made for the foundations of the new building; and its depth below street level at the north end was 8ft. It was surprisingly rich in pottery of the late first and second centuries, but later periods were very scantily represented. No structural remains of permanent buildings were found; and the only indication of a dwelling place was a small section of a burnt floor at the northern end of the area near the frontage to the street (see below).

Half-a-dozen coins were rescued; those of *Vespasian* and *Hadrian* were heavily burnt; on the other hand those of *Postumus*, *Crispus* and *Tetricus* were in fair condition. A few additional coins were found, but these were handed over to the officials.

No personal ornaments of any kind were discoverable, but such treasures were easily overlooked in the water-logged condition of the deposit; and also by the rapidity with which the excavations were carried out by the contractor.

Judging by the quantity of pottery found, it seems clear that there was an intensive occupation of the site from late Flavian times to the end of the second century, when, like the area next door (site 2), an intense fire seems to have swept away all the dwellings (huts?) and that, subsequently, the site was sparsely occupied.

Burnt floor.—This extended across the narrow space near the frontage to Foregate Street. It was resting on the surface of the virgin boulder clay, eight feet below the level of the kerb, and was composed of rough sandstone burrs, 12 inches thick, set in and capped with clay, into which a few bits of roof-tiles were embedded on the surface. The clay capping was burnt to a brick-red colour, but relatively soft. Near the north-east angle, on the east side, was the stump of a split oak post, buried in the boulder clay just below the level of the floor. It had a saw-cut end and was rectangular in section, measuring $6 \times 5\frac{1}{2} \times 4$ inches. The end uppermost was jagged and heavily charred. Its maximum length was 19 inches. From its immediate connection with the floor and as its top had been burnt to approximately the same level, it seems reasonable to infer that this post may have served as a support to the building or hut, of which the floor formed a part. For another burnt floor of a similar kind see p. 104.

Period.—The only datable object found immediately below the rubble floor was a stamp of the potter Gaius (see No. 9 below) of Lezoux, whose period of activity Oswald (*Stamps*) places between the years A.D. 98—138.

DECORATED SAMIAN WARE.

(Pls. xvi.—xxi.).

1. Form 29. Fragment of lower zone with arrow heads, bordered below with a straight chevron wreath. Period : late Flavian.

2. Form 29. Scroll in upper zone with one tendril ending in a blurred rosette; the other broadly bifid. Lower zone also with a compound stalked scroll, the upper stalks ending in a large pinnate leaves and below them a Nile goose (Déch. 1017). Lower space filled with a somewhat cruciform motif of conventional leaves. Period : Flavian.

3. Form 29. Part of upper zone and rim. Decoration in panels divided by wavy lines, and tied with small rosettes; part of hare, probably Déch. 492. Period : Flavian.

4. Form 29. Part of scroll to upper zone; one tendril ending in a small rosette, the other in a large acorn. For a similar terminal used by Modestus *cf.* O. & P., xxi., No. 30. Period : Flavian.

5. Form 29. A very small example. This fragment shows part of both zones : the upper with a stalked scroll and moniliform binding, one tendril ending with a small rosette, the other with an arrow-shaped head. The lower zone also shows part of a stalked scroll. The horizontal wavy lines demarcating both zones are a somewhat unusual feature of the decoration. Period : Flavian.

6. Form 29. Lower zone, with part of winding foliate festoon, the interspaces with foliate designs. For a similar form of decoration by Janus *cf.* O. & P. xiii., 2. Period : late Flavian.

7. Form 29. Upper zone with part of stalked scroll, the tendrils ending in leaves and rosettes. Period : late Flavian.

8. Form 29. Part of straight wreath beneath the lower zone. Period : Flavian.

9. Form 29. Part of straight wreath of *Acanthus* leaves, as in Walters (*B.M. Catal.* xxiv., 22). Period : late Flavian.

10. Form 30. Decoration in panels divided by wavy lines : 1, dolphin (Déch. 1049); 2, Victory (Déch. 481); 3, Hercules slaying hydra (Déch. 468); 4, part of cruciform ornament. Lower panel with hare or rabbit. Ovolo with a tridentate tongue. Period : Domitianic.

11. Form 30. Ovolo with a truncate tongue and a very large unattached rosette below. In the field part of winding foliate festoon and bird to right. Period : Probably Domitianic.

12. Form 30. Part of panel decoration divided by wavy lines; the central panel narrow and enclosing a row of large rosettes. Period : late Flavian.

13. Form 30. Decoration in panels divided by wavy lines tied at the angles with rosettes; 1, Pan (Déch. 423, Osw. 722) within an arcade, and below a row of arrowheads; and right a vertical row of peltate motifs; 2, upper panel with dog; lower panel with festoon enclosing bird (Oswald

2289); 3, arcade enclosing Eros (Déch. 253) and below a row of arrowheads; outside the arcade a bilateral row of small peltate motifs. Period: Flavian.

14. Form 37. Ovolo with tridentate tongue, with wavy line below. Portion of large stalked scroll with large pinnate leaves. Hare (Déch. 951, Meddillus) enclosed in the upper space, and below it a horizontal wavy line ending with a small rosette. Period: Flavian.

15. Form 37. Part of large stalked scroll with trifid bindings, the tendrils ending in large leaves, and enclosing Nile goose (Déch. 1017). Lower space enclosing indistinct impression of a mammal and conventional plant (Déch. 1151). S-shaped godroons below. Period: Flavian.

16. Form 37. Part of decoration in two zones, divided by a wavy line. Upper zone with tendril ending with a pinnate leaf attached to a cordate stalk. Lower zone with part of large scroll, the tendrils ending in large arrow-shaped leaves and small rosette; above them a Nile goose. Period: Flavian.

17. Form 37. Part of large scroll enclosing detached leaves and hare (Déch. 941), the latter with a knobbed staff or the like close by. Period: Flavian.

18. Form 37. Part of panel decoration: 1, enclosing Eros for which I fail to find a parallel in Oswald's *Index*. 2, part of cruciform ornament. Period: probably late Flavian.

19. Form 37. Ovolo with the tongue ending in a blurred rosette or the like. Panel decoration divided by wavy lines and tied at the angles with large rosettes: 1, large panel enclosing cruciform ornament; 2, divided; upper with hare (Déch. 942?); lower with bilateral spiral tendrils ending in rosettes, and between them three conventional leaves; below two birds facing and looking back, near Déch. 1009; 3, (detached) part of two small panels: upper with dog (Déch. 916?); lower as in 2. Straight wreath (*B.M.C.* 33) at base. Period: c. Domitian—Trajan.

20. Form 37. Part of large scroll, and below it a straight wreath bordered by bead rows. Period: *c.* Trajan—Hadrian.

21. Form 37. Tongue of ovolo ending with a small rosette. Panel decoration divided by bead-rows: 1, large panel with cruciform ornament; 2, narrow panel with tripod (incomplete). Period: *c.* Trajan—Hadrian.

22. Form 37. Fragment from the base of the vessel, with semi circular series of small horse-shoe-shaped motifs. Period: probably Antonine.

23. Form 37. Fragment from base of vessel. Part of large stalked scroll with a trifold binding; below a straight wreath of palmate leaves of unusual form. Period: probably late Flavian.

24. Form 37. Upper zone with conventional plant (Déch. 1151); lower zone with festoons ending in blurred rosettes. (Cf. Walters. *B.M.C.* XXXVIII. 7). Period: Domitian—Trajan.

25. Form 37. Fragment from base of vessel. Part of lower zone, with festoons divided by fine bead-rows. Straight wreath below of faintly impressed volutes.

26. Form 37. Panel decoration divided by thick, blurred wavy lines: 1, hare (probably Déch. 942); 2, Jupiter semi-nude (Déch. 6); 3, divided: upper panel with dog (Déch. 916); lower with part of festoon enclosing a volute tendril. Period: Domitian.

27. Form 37. Panel decoration divided by blurred wavy lines: 1, lower portion of draped figure; 2, narrow panel enclosing straight wreath; 3, divided: upper panel with nude warrior (Déch. 627); lower panel with dolphin (probably Déch. 1049). Straight wreath below. Period: Trajan—Hadrian.

28. Form 37. This vessel is remarkable for the absence of the ovolo border: in its place is a plain bead or fine cordon. The whole of the field below the bead is filled with a conventional vine, bearing a bilobed bunch of grapes (Déch. 948) at the end of each slender branch. Déchelette's illustration of the bilobed grapes also includes

the fore part of a hare. Oswald (*Index*, p. 133, No. 2113), gives a complete drawing of the same animal, and records its occurrence on form 29, at Poitiers and Wroxeter (FELICIO) : and the period as Vespasian.

29. Form 37. Ovolo with the tongue ending in a very small rosette. Panel decoration divided by bead-rows, tied at the angles with six-rayed rosettes. 1, Abundance (Déch. 472) and Mercury (Déch. 290) ; in the field six-rayed rosettes and rings. 2, part of draped female. Period : Antonine.

30. Form 37. Ovolo with tridentate tongue. Panel decoration divided by wavy lines tied with rosettes : 1, lioness? above a festoon with volute, ending in a large rosette. 2, arcade with Eros (not in Oswald's *Index*), and foliate tuft below.

31. Form 37. Part of cruciform ornament divided by wavy lines. Bead-row above the wreath of spindle-shaped godroons.

32. Form 37. Part of large foliate scroll enclosing Bacchus (Déch. 304), with a wavy line in place of the sceptre ; to the right of the latter a small nude figure pointing with index finger to Bacchus. Two cogged circles below. Period : c. Trajan—Hadrian.

33. Form 37. Ovolo with tridentate tongue. Part of narrow upper zone bordered above and below with wavy lines. Part of conventional foliate design.

34. Form 37. Panel decoration divided by rather heavy wavy lines, tied at the angles with small rings. 1, Dolphin (Déch. 1049) ; 2, very small panel (lowest of three) enclosing spiral-spindles ; 3 (middle panel), as in 1 ; and the panel below with dog ; 4, Peleus receiving sword from Vulcan—right hand broken off, left still holding scabbard (Déch. 510 ; Oswald, 883) ; 5, panel with three divisions : upper with lion (Déch. 510) ; middle as in 2 and 3 ; lower with portion of hare or rabbit. Period : Flavian.

35. Form 37. Conventional trees and beasts alternating ; bear (probably Déch. 636) with conventional tufts of

grass below. The technique of this fragment is exceedingly poor and the motifs badly blurred. Period: *c.* Trajan—Hadrian.

36. Form 37. Free style decoration. In the centre of the fragment is a large amphora (Déch. 1072) decorated with godroons with a dolphin on either side at the top; and a marine monster on either side below; that on the left is not represented by Oswald (*Text*, Pl. iii), but is near his No. 42. Period: Antonine.

37. Form 37. Part of horseman or Amazon, near Oswald's 253, but much smaller and otherwise distinct. Period: probably second century.

38. Form 37. Part of panel decoration divided by bead-rows: 1, a basket of fruit with a pair of dolphins above it (Déch. 655 b, 1096 a. Cinnamus), used sometimes as a base to a tripod or caryatid; 2, part of boar (Déch. 834. Cinnamus). Period: Antonine.

39. Form 37. Part of conventional tree with two birds below and part of lion (Déch. 799) to right. Period: Trajan—Antonine.

40. Form 37. Free-style decoration. Portions of two conventional trees, the branches ending in spirals, and between them a wild boar (Oswald, 1696 N). Period: Domitian.

41. Form 37. Part of Apollo driving a biga (Déch. 58. Butrio, Libertus). Period: Trajan—Hadrian.

42. Form 37. Bead-row below ovolo borders. Portions of two bears: upper example probably Déch. 818; the lower one Déch. 808; Butrio, Cinnamus. Period: Trajan—Antonine.

43. Form 37. Panel decoration divided by wavy lines; the only angle preserved is tied with a trifoliate motif. Two panels are subdivided and in each one is part of a mammal: 1, upper panel lion to left; in the lower panel bear (Déch. 818?); 2, upper panel with lion (Déch. 758. ILLIXO M); a boar (probably Déch. 826). Period: Trajan—Antonine.

44. Form 37. Ovolo with small rosette, and a wavy line below. Probably free-style decoration. Lion (Déch. 769?). Period: Trajan—Hadrian.

45. Form 37. Ovolo with sharply truncated tongue, and a wavy line below it. Lion attacking wild boar (Déch. 778. *Libertus*). Period: Trajan—Antonine.

46. Form 37. Wavy line below the ovolo border. Free-style decoration. Part of lion (Déch. 734) and dancer (Déch. 373. *Drusus*). Spaces in the field with rosettes of small pellets, a ring, and the head of a mammal (near Déch. 781). Period: Trajan—Hadrian.

47. Form 37. Lower portion of panel; decoration divided by bead and reel. 1, mask supporting a caryatid; 2, a large decorated reel, and below it part of a bust (Déch. 694). Period: probably early second century.

48. Form 37. Panel decoration, divided by wavy lines: 1, *Peleus* (Déch. 510), as in No. 34; 2, part of cruciform ornament tied in the centre with a very large rosette. Period: late Flavian.

49. Form 37. Wavy line below ovolo. Part of dog and conventional foliage. Period: late Flavian.

50. Form 37. Panel decoration divided by bead-rows. 1, nude figure; 2, dancer (near Oswald's 347), and a large diamond-shaped *motif* at the upper angle. Period: Antonine.

51. Form 37. Part of panel decoration divided by bead-rows, tied at the angles with a small trifoliate *motif*. In the centre of the panel a rectangular pediment or altar. Period: probably Antonine.

52. Form 37. Decoration in panels, divided by bead-rows, and tied at the angles with small rosettes. 1, part of medallion enclosing archer of which only the forearm and part of the bow is preserved; 2, upper portion of caryatid (Déch. 657). Period: Antonine.

53. Form 37. Circular vine branches arranged in scroll formation; with leaves, fruit and tendrils; small birds of two types, at intervals, within the circles. Above the design (one small fragment) a row of beads, but no indic-

ation of the usual ovolo border. Below the design is a band of concentric circles: the outer beaded, the other plain, between two bead-rows. Foot-ring flat, and within it are two radial *ridges* arranged like the spokes of a wheel.

The general technique and style of decoration is precisely similar to that found at Wroxeter (*Report*, 1912, p. 38, fig. 12), which Bushe-Fox states is suggestive of Germanic or East Gaulish origin. He also dates his fragments to about A.D. 90—110, or 120.

54. Form 37. Decoration in panels divided by wavy lines. The first and third panel bear portions of a cantharus. In the central panel is the lower portion of Pan (Déch. 424), and on either side a pendulous group of five conventional leaves, one of which is attached to a two-ribbed stalk. Period: Trajan—Hadrian.

SAMIAN WARE—PLAIN FORMS.

(Text Fig. 15, Nos. 6, 7)

Plain forms were abundantly represented, as may be gathered from the list of potters' stamps given below, of these, forms 18/31 and 27 preponderated. Of the mortaria class, Curle's type 11 was represented by two typical examples, one of which, though badly broken, has admitted of reconstruction; of later types there were three, including the Antonine form (badly burnt) like that from the Roman Fort of Newstead.³⁴ Forms 33, 35 and 36 were relatively scarce, and only two examples of the platter with a quarter round fillet were found: one of these, by the potter Labio, has been reconstructed. Two types not hitherto recorded from Chester are here illustrated.

6. *Walters' 81*. This with its everted rim seems to be typical of *Walter's*³⁵ example, with the outer wall deeply under-cut. *Oswald and Pryce* give this as an apparently early type of *Dragendorff's* form 44.

7. *Dragendorff 44*. In this example the beaded lip is but barely indicated; and the outer wall is deeply undercut as in

³⁴ B. Mus. Cat., pl. xlv.

³⁵ Curle, pl. xl., No. 19.

the above, and not flanged as in typical examples given by Oswald and Pryce. Like Walters' 81, it may be taken as a variant of Dragendorff's 44.

(Pl. xx., 55).

55. Form 18/31, stamped **SEVERI M**. Brilliant orange-red glaze. Sides oblique, and the basal interior markedly convex; internal step (offset) faintly indicated; and there is a broad rouletted ring over the foot-stand.

This vessel seems to be a typical example of the transitional form between Dragendorff's form 18 and 31, and the Domitian-Trajan example from Wiesbaden (*O. and P. XLV*, 14) is a very close parallel. For a facsimile of the stamp cf. Pl. xxi., No. 27. Oswald (stamps) places Severus in the Nero—Vespasian period; but our vessel seems to be characteristic of a slightly later period: Trajan—Hadrian?

POTTERS' STAMPS ON SAMIAN WARE.

(Pl. xxi.).

Numbers 17 (**PATRC**), 21 (**RVFI**), 24 (**SVLRICI**) and 31 are from the Roman ditch (site 2). The rest of the stamps are from site 1.

1. **ALAVCI M**. Alaucus. On 33. Good glaze; foot-ring rounded not chamfered. This seems to be a rare stamp. Oswald (*Stamps*, p. 8) gives London, Silchester and Wroxeter in Britain, and five records from the Continent. Period: Antonine.

2. **OF CALVI**. Calvus of La Graufesenque. On 18 (small). Excellent glaze; plain ring over foot-ring, and another midway between the "step" and the inner ring. Period mainly Vespasian. Cf. Oswald, *Stamps*, p. 55.

3. **CELSI**. Celsus of La Graufesenque. On 27. Fair dark glaze; foot-ring grooved externally, and in the centre of the under surface is incised a large **X**.

Claudius—Vespasian.

4. . . . **ΛGOMA**. Probably part of Dagoma. On 27 (large). Dull orange glaze. Foot-ring with two hair-like grooves near the junction with the side. Underneath is scratched part of **N** or **M**. Dagomarus was a potter of Lezoux, and Oswald fixes his period as Flavian.

5. . . . **SCILLI.M**. Tasgillus of Lezoux. On 27. Dull glaze.

Domitian—Hadrian. Cf. Walters, M.1899.

6. . . **IVICATV**. Divicatus of Lezoux. On 18 (medium size) ; with poor dull glaze ; and a plain ring over foot-stand.

Hadrian—Antonine.

7. **OFFE** . . . (Retro.). On 18/31. Probably part of **OF FELICIS**. Cf. Hayter, *Chester Jour.* Vol. XXVI, Nos. 48, 49. Oswald places Felix in the Claudius—Vespasian period. On 18 (small), with brilliant glaze, and a broad rouletted ring over foot-stand. Cf. Walters, M.645-6.

8. **OF FVSGI**. Fuscus of La Graufesenque. On 18/31. Good dark glaze ; slight central kick. For similar stamp Cf. Nash-Williams, *Caerleon*, No. 30.

Vespasian—Trajan.

9. **GAI . M**. Gaius of Lezoux. On large flat base of 33. From the base of the burnt floor in cut 9 feet from street front.

Trajan—Hadrian.

10. **IBERIVS**. Liberius of La Graufesenque. First century. On 27, with the chamfered face of the foot-ring grooved. Found with the stamp of Habius.

11. **OF LABIONIS**. Labio of La Graufesenque. On 15/17. Good glaze. Claudius—Nero, or most probably Claudius—Vespasian.

12. **LOTT** or **LOTI OF**. Probably Lottius of Lezoux. On 18/31. Glaze like that of the vessel by Mettius ; moderately high cone. Depth of under-surface 21mm. Oswald (*Stamps*, p.168) places Lottius in the Trajan—Hadrian period.

13. **MARCELLIVS**. Marcellus, probably of Lavoye. On 33, the base trimmed down and used as a counter or the like. Interior of base almost flat; clay and glaze very pale orange-red.

Trajan—Hadrian. Cf. Walters, M.1782.

14. **MARTIM**. Martius of Lezoux. On 18 (small); with medium cone; a plain ring over foot-stand, and fairly good orange-red glaze.

Period: Domitian—Antonine.

15. **OF MO**. Mommo of La Graufesesque. On 27. Dull mat-glaze. Foot-ring grooved. Exterior of wall of vessel incised with an X.

Claudius—Vespasian.

16. **MIITI.V.S.F**. Probably the stamp of Mettius, recorded by Oswald (*Stamps*, p.204) from Rheinzabern and Trion. On 18/31; good orange-red glaze; moderately high cone (22mm.), large plain ring over foot-stand (8mm.), the latter with two deep, transverse cuts—II.

Probably second century.

17. **PATRIC**. Patricius of La Graufesenque. On 27, the foot-ring grooved.

Nero—Domitian.

17a. **OF PATRC**. On 18 within a large concentric ring. Good glaze. Site 2. Roman Ditch. Site 2.

18. **PERRIM** . . . P. Errimus of S. Gaul. On 27 (small). Fair glaze on the exterior, but worn inside.

Late Flavian?

19. **PAVL** . . . Probably Paullus of Lezoux. On 18/33 (small). Excellent glaze. Small but relatively high cone.

Hadrian—Antonine.

20. **Q.IVI.HABI**. Q. Julius Habius of S. Gaul. Flavian. On 18 within a large grooved ring over the foot-stand. Fine technique and excellent glaze. Evidently a rare stamp. Cf. Oswald (*Stamps*, p.139).

21. **OF RVFI**. Rufus of La Graufesenque and Montans. On 18 (small). Period: Nero—Vespasian.

Site 2. Roman Ditch.

22, 23. **OF SABI . . .** On 18/31. Probably the stamp of Sabinus of Lezoux. The terminal portions of both stamps are blurred.

24. **SVLPICI.** Sulpicius of La Graufesenque. On 27. Mat glaze. Foot-ring grooved. Period: Vespasian—Trajan.

Roman Ditch. Site 2.

25, 26. **OF SEXCA . . .** Part of Sextus and Canus of La Graufesenque. On 18 (small). Good glaze and technique.

Flavian.

27. **SEVERI.M.I.** Severus. On a large 18 or 18/31. (see pl. xx). Doubtful whether he is identical with Severus of Lezoux dated by Oswald (*Stamps*) as Nero—Vespasian.

28. **OF VIRILL.** Virillis of La Graufesenque. On 18 (large). Rudimentary cone; good glaze. Fragment of base only.

Flavian.

29. . . . **ERI.** Probably part of VAL]ERI—Valerius of Montans. On 29. Excellent glaze and technique. A small fragment of the decoration of the lower zone shows part of a cruciform ornament and a tendril ending in a small cordate bud like that used by Vitalis, Cf. *O. and P.*, v, 9.

Oswald (*Stamps*) places Valerius in the period Tiberius—Nero, but it is possible if not probable that his period extended into the reign of Vespasian.

30. Blundered and of uncertain attribution. On 33, good glaze and technique. **IM** deeply cut on the edge of the foot-ring.

31. Complete but of uncertain origin. On 27.

Roman Ditch. Site 2.

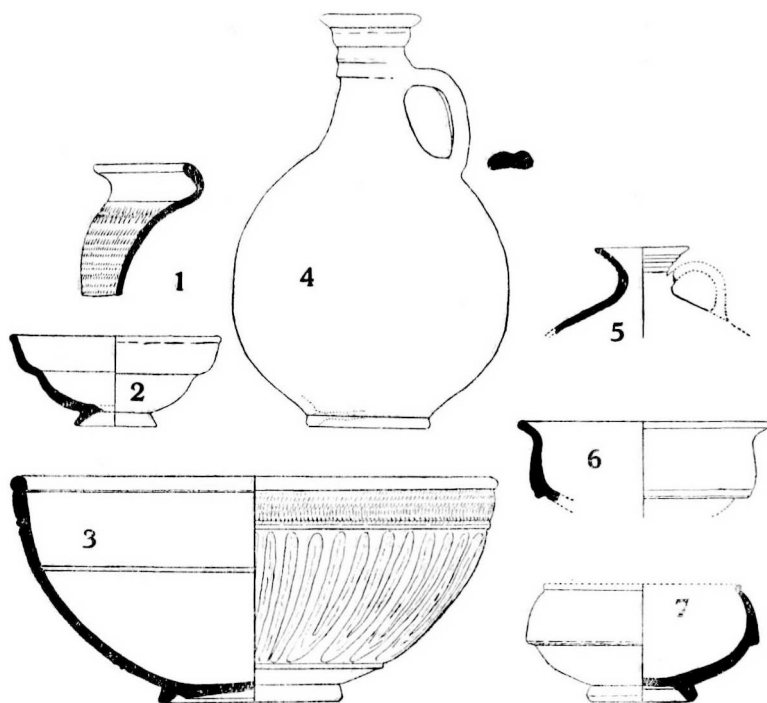
32. . . . **INI.M.** Doubtful. On a heavy, thick walled 31, with good glaze; and a very broad rouletted ring over the foot-stand. Probably Antonine.

33. Incomplete and illegible. On 18, with fine dark glaze. Probably late Flavian.

COARSE POTTERY.

(Text Fig. 15).

Coarse ware vessels of the late first, and second centuries were well represented, but of later periods only three mortaria rims of the hammer-headed type (Collingwood's No. 13) with reeded rims, were found. Nor were there any

Fig. 15. Coarse Pottery ($\frac{1}{4}$).

fragments of the late forms of cooking pots of "calcited" ware which are generally attributable to the late third or fourth centuries. The five vessels here illustrated seem worthy of a place in this report.

1. *Cooking pot*. This fragment belongs to a high shouldered example, with a short neck and strongly out-curved rim. The exterior is closely rouletted horizontally, and the fumed grey clay has a mat-like surface.

Period: probably late Flavian.

2. *Cup*. Imitation of the Samian form 27. Fine hard creamy-buff clay, sparsely mica coated.

Period: late first-early second century.

3. *Bowl*. Imitation of the Samian form 37. The external surface of the wall with its rather pronounced beads or cordons is characteristic of the Holt³⁶ type 154.

Upper zone closely rouletted; lower zone decorated with vertical stripes of dove-grey clay, applied *en barbotine*, each pair usually united at the base and forming hair-pin loops.³⁷ Interior with a deep groove at the junction of the heavily beaded rim and the body; two similar grooves just above the middle line; and a pair of hair-like grooves between the latter and the base. Foot-ring well formed; and the basal interior slightly arched. Finely elutriated dull orange-red clay; the interior and the rouletted zone mica coated.

This interesting vessel, obviously a Holt fabric, was found in immediate association with a fine example of Curle's type 11, of the mortaria class of Samian vessels. It may therefore be attributed to the late Flavian period.

4. *Flagon* with three-ringed mouthpiece and a two-ribbed handle. Brick-red clay coated with creamy-white slip; the latter much discoloured by the muddy black deposit in which it was found.

Period: probably late first-early second century.

5. *Flagon*. Upper portion of an unusually squat bulbous form, with broadly dilated, five ringed mouth. Fine pale red clay, coated with creamy-white slip.

Period uncertain, but not later than the mid-second century.

³⁶ Grimes, *Y Cymmrodor*, xli., p. 161.

³⁷ For a similar type of decoration on a green glazed bowl cf *Liverpool Ann. Arch. Anthr.*, vol. xv., pl. xiii., 8.

STAMPS ON AMPHORAE.

1. **I I I ENNI**, and Wreath=Trium Enniorum. Stamped on one side of the handle near the top. Form of the vessel globular.

Although this stamp differs from those recorded from Silchester,³⁸ Richborough³⁹ and Holt,⁴⁰ it seems to have come from the same firm.



2. **LMVE** and graffito both on the handle of an amphora. The latter, cut in the clay before baking=Veranus or Veranius.



3. Graffito on wall of Samian cup form 38. **VIRALV** . ?

ROMAN COINS.

VESPASIAN. A.D. 69—79.

1, 2. Two imperfect examples, heavily burnt and fused together.

Rev. ROMA S.C. *Det.* Mattingly.

³⁸ May *Silchester*, 279, No. 13.

³⁹ Bushe-Fox, *Richborough*, 85, No. 5.

⁴⁰ Grimes, *Y. Cymmeror*, 126, No. 3.

DOMITIAN. A.D. 81—96.

3. *Obv.* IMP CAES DO[MIT] AVG GERM [CO]S XII CENS
PER P P. Head laureate r.
Rev. FO[RTVAE] AVGVSTI. in field s c. Fortuna
standing l. with rudder and cornucopiæ.
2 Æ. Cohen 122. A.D. 86. (In possession of the
architect).

HADRIAN. A.D. 117—138.

4. Sestertius. Badly corroded and burnt. *Det.* Mat-
tingly.

POSTUMUS. A.D. 258—268.

5. *Obv.* [IMP] C POSTVMVS P F AVG. Bust radiate r.
Rev. HERC PACIF[ERO]. Hercules l. holding olive
branch in r. hand, club and lion skin in l.
3 Æ.

TETRICUS I. A.D. 268—273.

6. *Obv.* [IMP TETRIC]VS P F AVG. Radiate crown.
Rev. PAX AVG.
3 Æ.

CRISPUS. A.D. 317—326.

7. *Obv.* FL IVL CRISPVS NOB CAES. Bust diademed r.
Rev. PROVIDENTIA CAESS. City Gate. Mint mark
PLON=London.
3 Æ.

MEDIAEVAL TAN-PITS.

SITE 1.
(Pl. xv.).

Six tan-pits were intersected in the cuts made for the foundation of the building. They occurred in various parts of the site, but none was completely excavated, and their exact dimensions were not ascertainable. Furthermore the material used for lining the pit was determined in two cases only.

The northernmost example was faced with well dressed ashlar blocks of sandstone. Its internal width from east to west was 5ft. 6ins., and it was carried into the boulder clay to a depth of 5 feet. A few horn-cores of the ox were found in it, but no datable material of any kind. The material with which it was filled consisted largely of vegetable matter, in which chopped straw and bits of thin sticks preponderated.

The other example was faced with a substantial kind of wattle and daub, consisting of vertical stakes of ash averaging 4ins. in diameter, 11—9 ins. apart, and tied together horizontally with sticks which had been driven into holes bored into the upright stakes, like the rungs of a ladder; into the intervening spaces slender branches were woven vertically as in a hurdle. This pit was also excavated in the boulder clay to a depth of approximately 6ft. The filling consisted of a blackish, muddy soil; and in it were found horn-cores of oxen: one of immense size, measuring 11 inches in circumference proximally. Near the bottom of the pit were some fragments of a large pitcher with piecrust decoration, characteristic of vessels in use during the 14th and 15th centuries.

The southernmost pit contained an enormous number of the horn-cores of oxen, and similar masses of these remains were found elsewhere over the southern area.

ACKNOWLEDGEMENTS.

We wish to express our sincere thanks to the Directors of the Chester (Times) Theatres Limited, who, through their Managing Director Mr. C. W. Fennell, very kindly granted every facility for carrying out the investigations, and also for so generously presenting the major portion of the finds to the Grosvenor Museum. As evidence of Mr. Fennell's interest and encouragement in the work, here is an abstract from one of his letters: "Thank you for your kindness in maintaining contact with us. We shall be only too pleased to help you in anyway possible, as time passes,

to further your researches and to stimulate interest in your activities." Furthermore we are also indebted to the contractors, Messrs. John Mayers & Co. Limited, of Chester, for permission to make a critical examination of the various cuts during the absence of the workmen, and also for keeping a strict watch during the excavations. To Col. T. H. Davies-Colley for rewarding the finder of the two coins, Nos. 5 and 6 on the list.



Love Street: Site of the Regal Theatre.

(Plates xv.—xxx).

This site lies 30ft. east of that formerly occupied by Swan Court (*see plan, pl. XV*). It was cleared to make way for the Regal Theatre. Although the area is a relatively large one, it was not completely excavated. Cuts for the foundations of the new building were made all along the periphery of the site; the southern end was completely cleared to a width of about 40ft.; and there were cross cuts and cuts for stanchions, here and there over the northern portion.

Many tan pits (*see p. 108*) were intersected, and their presence here and also on the adjacent site, point to an intensive tanning industry during mediæval times. Much of the western side seems also to have been occupied by pits of a similar kind, but the ground had been so much disturbed that none was definitely traced.

The discoveries pertaining to the Roman era were of surprising interest:—

(a) Sections of a defensive ditch and the wealth of datable pottery found within it (*p. 84*).

(b) A burnt area dating to the closing years of the second century (*p. 105*), and

(c) The vast amount of pottery found in the undisturbed strata both north and south of the defensive ditch (*p. 95*).

ROMAN DITCH.

(Pl. xv. Text Fig. 16).

Two sections of a Roman ditch were discovered in the cuts made for the foundations of the great iron stanchions. In each case a length of 12ft. 6ins of the ditch was excavated, making in all a run of 25ft. These sections were 45ft. apart, and, unfortunately, the ground between them could not be explored. The orientation of the ditch was north-east to south-west and almost exactly parallel to the line of

Foregate Street: the eastern section being 135ft., the western 131ft. south from the street frontage, respectively; and about 840ft. in advance (E) of the East Gate of the City. The ditch in both sections had been cut in the yellowish boulder clay and its formation stood out in marked contrast to the blackish filling and the generally mixed deposit which covered it. For the most part the sections were of the characteristic V-shape, scarp and counter scarp being approximately at the same angle. In depth the sections varied between 4ft. 6ins. and 4ft. 9ins. and in width from 7ft. 3ins. to 8ft. 9ins. The bottom of the ditch was usually rounded and varied in width from 14 to 11 inches. At the very end of the western section (*Fig. 16*) another ditch

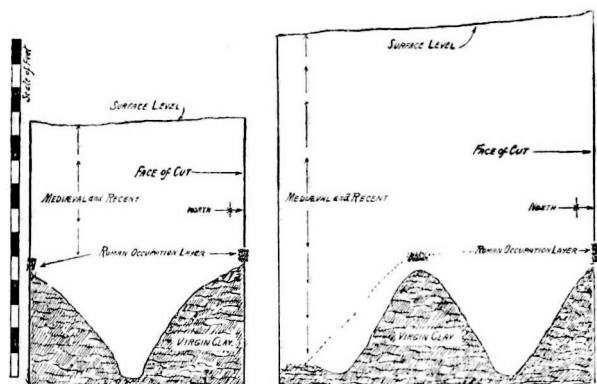


Fig. 16. Sections of Roman ditch. Site 2.

appeared to have been cut parallel to that which had been traced in the other cuts; the two ditches being separated by a relatively narrow mid-rib. Unfortunately, the southern face of the second ditch had been destroyed in mediæval times, apparently for the construction of a tan pit.

The primary filling of the ditch consisted of a very shallow stratum of discoloured clay, probably rain wash, with bits of charcoal and occasional fragments of pottery. The rest consisted of blackish humus, heavily charged with charcoal, shells of the edible mussel, odd meat bones, and

in places masses of broken pottery. In fact the ditch seems to have served as a dumping place for all kinds of domestic refuse.

All the forms of pottery herein illustrated were found in the ditch (*Pls. XXIII.—XXVIII.*), and they point to an intensive occupation during the last quarter of the first century, and at the end of that period, or possibly a decade later, the ditch seems to have been finally closed. Although the ditch yielded a wealth of *terra sigillata*, no examples of Drag. 29 occurred in it; on the other hand between forty and fifty examples of this form occurred on other parts of the site. Potters' stamps (see list) consisted of the following:—Crucuro, Patricius, Rufus and Sulspicius, collectively covering the Vespasian—Trajan period.

One of the most interesting finds was the section of a leaden water pipe eight inches in diameter, which was found at the bottom of the western section of the ditch (*see below*).

DECORATED SAMIAN WARE. (From the Roman Ditch).

(*Pls. xxii—xxv.*)

1, 1a. Form 37. Decoration in panels divided by wavy lines. Ovolo with tridentate tongue. 1, divided: upper panel with part of lion (*Déch. 752*); lower with stag (*Déch. 859*). 2, Cruciform ornament. 3, upper panel: lion (*Déch. 747*) with tuft of grass below; a conventional plant in centre, and lion (*Déch. 752, = Os. 1419*) to right of it; both animals rather faintly impressed. Lower space divided into three compartments: 1, Archer (*Déch. 168*); 2, cruciform ornament; 3, Stag repeated, with grass tuft below; 4, cruciform ornament as in 2. A straight wreath below the panels. This vessel was mended in Roman times with rivets of lead; and the strikingly laminated condition of the latter seem to indicate that the molten metal was poured into a mould which had been previously fixed to both sides of the wall of the vessel. Though badly broken and incomplete this vessel has admitted of reconstruction. Period: Flavian.

2. Form 37. Part of continuous stalked scroll, with moniliform bindings, the stalks ending in pinnate leaves; lower cavity divided by wavy lines into three compartments: upper with dolphin (Déch. 1049); the central one with S-shaped godrooms; the lower with very small arrow-heads. Period: Flavian.

3. Form 37. Part of continuous stalked scroll in the lower cavities of which are: 1, part of hare (Déch. 951), a wavy line ending with a blurred rosette, and below it large arrow-heads; 2, dog in upper compartment, and row of arrow-heads as in 1. S-shaped godrooms forming straight wreath below. Period: Flavian.

4. Form 37. Narrow zone divided by wavy lines. Conventional plant, tufts of grass, and lion (Déch. 763). Straight wreath below. Period: Late Flavian.

5. Form 37. Panel decoration, the corner tendrils ending in lanceolate leaves. 1, medallion with Eros (Déch. 268). 2, cruciform ornament. 3, medallion with Eros (Déch. 280). 3, divided: upper with festoon enclosing bird (Déch. 1036); lower with hare (Osw. 2189?). Straight wreath of S-shaped godrooms below. Period: Late Flavian.

6. Form 37. Part of panel decoration, divided by blurred wavy lines. 1, incomplete, but in three divisions: top, part of dog; middle with straight wreath; lower with rabbit and conventional plant (Déch. 1151?). 2, upper with charioteer (Osw. 1168); lower with foliate festoon and bird. Period: Late Flavian.

7. Form 37. Decoration in two zones. Upper zone with stags (Déch. 854 and 862) and conventional trees, in the style of Germanus. Lower zone, with rabbit and dog (Déch. 916), and conventional plant (Déch. 1151). Period: Flavian.

8. Form 37. Part of large scroll, the stalk or tendril ending with a large pinnate leaf, similar to that in No. 2; and above it a bird as in No. 5. Lower space or cavity divided: in the upper space a tendril ending in a small rosette; in the lower, part of a rabbit to right. Period: Late Flavian.

9. Form 37. Part of panel decoration, the wavy lines tied at the angles with small rosettes. A straight foliate wreath below. Period: Late Flavian.

10. Form 37. Decoration in two zones, in the style of Germanus. Upper zone with animals and trees. 1, stag (Déch. 865); 2, dog (not in Oswald); and stag (Déch. 845) as in No. 7. Period: Flavian.

11. Form 30. Straight foliate wreath between wavy lines. Period: Late Flavian.

12. Form 37. Fragment with conventional plant (Déch. 1151). Period: Late Flavian.

13. Form 30. Tongue of ovolo ending in small rosette, but no line of demarcation between it and the stalked scroll below. Period: Late Flavian.

14. Form 37. Fragment, with mammal devouring human remains (Déch. 967). Period: Flavian.

15. Plain dish, form 22. This form is rarely met with at Chester. As it was found in association with so much Flavian pottery, it evidently belongs to the same period.

16. Fragment of Knorr, form 78.

17. Form 37. Fragment with part of stalked scroll, and wild boar (Near Déch. 842).

18. Form 37. Two Fragments. Panel decoration divided by wavy lines. 1, arrow-heads, and wavy lines in the angle. 2, part of lion. 3=1. 4, stag (Déch. 859), with indications of grass below, and tendrils above. A row of six-rayed stars separating the upper from the lower zone; the latter with part of festoon.

COARSE WARE.

(See also below.)

19. Finely elutriated, grey clay, core slightly paler. Exterior finely tooled and very smooth. Rim oblique and there is a marked step just below it. Decoration in two zones of ivy leaves or the like, applied *en barbotine*, divided by grooves and rouletted bands. The general technique of this fragment is excellent; but the shape of the vessel in its completeness is somewhat uncertain.

20. Fragment from a vessel of (presumably) similar form to No. 19. The clay and general technique is also similar, but the outer surface seems to have been burnished on the potter's wheel. The decoration of the side consists of rouletted bands and a single groove; below the angle or carination is a wavy line, which has the appearance of having been *engraved* in the clay before baking.

POTTERS' STAMPS ON SAMIAN WARE.

(From the Roman Ditch).

1. . . . CVRO.F. On 18 or 18/31. Good glaze, low cone. Probably part of CRVCVRO of La Graufesenque. Period: Vespasian—Trajan.

2. OF PATRC. On 18. Within a large concentric ring. Good glaze. Patricius of La Graufesenque. Period: Nero—Domitian. (*Cf. Plate XXI., No. 17.*)

3. OF RVFI. On 18. Within a large concentric ring. Good Glaze. Rufus of La Graufesenque and Montans. Period: Nero—Vespasian.

4. Uncertain attribution. On 27 (small). Foot-ring without groove or step.

5. SVLPICI. On 27 (large). Mat glaze; well marked groove to foot-ring. Sulpicius of La Graufesenque. Period: Vespasian—Trajan. (*Cf. Plate XXI., No. 24.*)

COARSE WARE POTTERY.

(From the Roman Ditch).

(Pls. xxvi., xxvii.).

MORTARIA.

Six of the examples here represented are variants of Bushe-Fox's types 34, 58, dated A.D. 80-110. All of these have the bead slightly lower or on a level with the top of the flange. No. 6, with its strong falcate rim, is a somewhat aberrant form, but judging by the position of the bead in its relation to the surface of the rim, it should be placed in the same series as the above.

1. Coarse red clay, coated with creamy-white slip. It is an almost exact parallel to that of No. 3.

2. Very hard pale brick red clay, coated with cream coloured slip. It is badly smoked by the action of fire.

3. Hard Buff white clay, without slip. Grit particles small and scanty. Stamped near the spout **ARNV**. A close parallel to Bushe-Fox's type 38, dated A.D. 80-110.

4. Clay and technique like that of No. 3, but the rim is not so strongly hooked.

5. Hard, dull red clay. Rim stamped transversely with three herring-bone *motifs*. For a similar stamp Cf. May, *Colchester*, p. 171, No. 331; p. 241, Nos. 43, 44.

6. Coarse red clay, with creamy-white slip. Form similar to that of No. 3.

From the upper layer of the ditch.

COOKING POTS AND BEAKERS.

7. Fine hard fumed-grey clay. Rim squat-oblique. Two girth grooves at shoulder; body with applied barbotine, forming rather strong irregular rugosities.

8. Red clay, mica coated. An unusual feature in a vessel of this size and form.

9. Pot of similar technique to No. 7, but the rugosities in much lower relief. Rims of three similar examples in grey clay, none showing rugose surface.

10. Fine hard clay. Rim outcurved and angular in section. This vessel, was found in a perfect state of preservation at the bottom of the ditch. Six other rims, all in grey clay, are slight variants of this type of vessel.

11. Fine red clay. Rim oblique, two grooves just below it. Body decorated with sub-vertical stripes of white slip.

12. Fine red clay; smoked by action of fire. Body decorated with large concentric circles in applied white slip, a horizontal groove passing through them.

13. Fine pale red clay. Body decorated with converging stripes of very thin white slip forming inverted Λ .

14. Pale red clay, mica coated. Girth grooves above and below the shoulder.

15. Fine buff clay. Two horizontal grooves at the shoulder and between them and below them an unusual form of rouletting, or the like, which under a slight magnification appear somewhat like the impressions made by a narrow bladed spatula or similar implement. This evidently belongs to the class of beakers with finely rough-cast surfaces. Cf. Grimes (*Holt*, p. 166, Nos. 193-5), and Wheeler (*Essex Arch. Soc. Trans.* Nos. XVI, pp. 24-26). Several examples of the typical form were found in other deposits on this site.

BOWLS.

16. Grey clay. Rim flat, reeded. Body rounded, and with double girth-grooves at the bulge. This type with its rounded wall seems rare at Chester and no exact parallel is recorded from Holt.

17. Very pale red clay. Rim reeded and overhanging the internal wall. Body grooved. In its completeness this vessel had a strongly carinated side.

18. Grey clay with finely tooled surface. Rim reeded. This is an exceptionally small form of the common carinated vessel.

19. Red clay. Rim reeded. Evidently belongs to a carinated form.

20. Red clay. Rim reeded and of similar form to No. 17.

FLAGONS.

Nine examples. All in red clay coated with creamy white slip.

21, 22. The first with a four-ribbed handle, the other with two ribs. The former is a very heavy coarsely made vessel and might be attributed to a later date than No. 22, but examples found elsewhere in Chester in well stratified Flavian deposits show a great range of variation in form and technique. Few examples have been found here in late Antonine deposits.

23. Base of a flagon or similar form of vessel, with seven perforations in the central area. Red clay, coated inside and out with cream slip.

COLANDER OR STRAINER.

24. Colander with plain flat rim, and rounded base, the latter irregularly perforated. Fine hard grey clay, with a relatively smooth external surface. The only example so far recorded from Chester.

POT LID.

25. Hard grey clay. This example is almost complete and in the form of its sharply upturned edge, agrees with examples found in the Deanery Field in late Flavian deposits.

HEMISPHERICAL BOWLS.

There are two types, all, however, are imitations of the Samian form 37. They may be divided as follows:—(a) with a heavily beaded rim (two examples) or a quite rudimentary rim indicated by a groove (five examples); (b) with a fairly pronounced rim and with two cordons round the body (Holt type 226) of which there are four examples (Nos. 27, 28).⁴¹

26. This example may be taken as typical of class “a.” It has a rudimentary bead-rim indicated by a groove; two grooves about midway between the rim and base, and below them, vertical bands of combed incisions, widely separated and converging towards the base. Grey clay of fine hard consistency, smooth externally and slightly burnished. This type is not represented at Holt.

27, 28. These are typical of class “b,” and exact parallels are recorded from Holt (Grimes, *Y Cymmrodor*, XLI, p. 172, No. 226). Both examples are in buff clay and mica coated. There is also one in hard grey clay, and one in pale red clay mica coated inside and out.

29. This has a pronounced overhanging rim similar to that of No. 33. Hard, dark grey clay, the exterior burnished below the horizontal grooves.

30—32. These are all in fine grey clay; and their form, technique, and decoration precisely similar to that of No. 26.

33. Fine pale red clay, with parts of two circles and a horizontal band in applied white slip.

⁴¹ For previous records of this type from Chester Cf. Newstead, *Liverpool Annals Arch. Anthropol.*, vol. viii., pl. viii. 2, 3, p. 57.

34. Pale red clay with a vertical band of combed incisions.

CUPS AND DISHES.

35. Cup probably an imitation of Drag. form 24/25 but without the cordon. Fine red clay. Upper zone decorated with S-shaped white barbotine; lower zone with an irregular scrawled pattern of the same kind of slip.

36. Cup in imitation of Samian form 33, in very fine orange-red clay and carefully polished or burnished on both surfaces.

37. Cup in imitation of the Samian form 24/25. Pale orange-red clay, mica coated inside and out. For similar types from Flavian deposits in Chester Cf. *Liverpool Annals*.

38. Fine pale red ware. Interior of base with a band of very fine concentric grooves. At Chester this type and its slight variants have occurred only in late Flavian deposits.

39. Small cup in imitation probably of the mortaria class of Samian vessels, but with the beaded rim well below the top of the curved flange. The basal portion here illustrated is from a second example. Both in fine orange-red clay, and finely tooled externally. Rims of two additional, but larger vessels of this class, both mica coated, and approaching *O. & P.* pl. LXXVIII., No. 9.

40. Shallow dish with flat reeded rim and quarter round fillet at the junction of the base with the side. Fine pale orange-red clay the basal interior with traces of mica coating.

41. Shallow dish with plain rim. Clay pale orange-red with scanty traces of mica coating.

42. Shallow dish with moulded and carelessly notched rim and quarter round fillet. Orange-red clay heavily mica coated. Exterior smoked by action of fire subsequent to baking in the kiln.

43. Shallow dish with strongly outcurved side and flat base, the last named with a faintly indicated step at the junction of the wall with the base. Smoky buff clay.

44. Dish of fumed grey clay polished externally. Upper surface of rim concave, the outer edge chamfered. Base flat.

45. Dish of pale orange-red clay. Form similar to the preceding, but the rim is strongly fluted.

(Pl. xxx., Fig. 2).

Large two-handled amphora or flagon. Form similar to Curle No. 1, B, XLIX. Fine creamy-white clay with finely tooled surface. Lower portion of body with widely separated and almost equidistant striæ or fine grooves. Neck with cordon just above the handles. Rim heavily beaded, and concave on the interior. Foot-ring beaded, and shallow. Handles two-ribbed. Height *c.* 21 inches, diameter of rim 5 inches, diameter of foot-ring 4.4 inches.

WATER PIPE OF LEAD.

(From the Roman Ditch).

(Pl. xxx., Fig. 1).

This pipe was found in the western section of the Roman ditch (see plan pl. xv.). It consists of two sections welded together with a massive jacket of run metal. The pipe has a maximum diameter of 8.5ins., and a maximum thickness of 0.3in. (=8mm.); it is welded in the usual way with a projecting rib, slightly undercut at the sides, and flat at the top. In form and size it closely resembles the "leaden cylinder⁴² containing human burnt remains; found in the Roman cemetery, Handbridge, Chester, 1862." and now preserved in the Grosvenor Museum.

Inside the pipe was a mass of run lead which fitted the interior, being convex below, and flat at the top, but it was not attached to the pipe in any way, and seemed to have run into the interior at the time when the welding of the joint was made. Obviously the molten metal came into contact with water, wet clay or the like, as there are large blow-holes in it, and portions of the under surface are very irregular.

Professor J. A. Smythe, of Durham University, has very kindly made an assay of the lead pipe, and also other samples of lead found on the site. His report is given

⁴² Thomas Hughes, *Jour. Chester Arch. Soc.*, O.S. Vol. 111., p. 255, and plate opposite.

below. "I am now in a position to report on the Roman leads from Love Street, Chester. I have assayed them all for silver, with the following results :—

			oz.	dwts.
No. 1.	Pipe	- - -	0	13.9
			0	14.5
No. 2.	Weld metal from 1	-	0	18.3
			0	18.8
No. 3a.	Weld metal	- - -	1	22.
No. 3b	Pipe	- - -	0	19.5
No. 4.	Sheet $\frac{1}{8}$ " thick	- -	1	1:9
No. 5.	Sheet $\frac{1}{4}$ " thick	- -	0	17:0

The difference between 1 and 2 is very much greater than the difference between duplicates of each, from which I infer that the weld metal has not been the same as the metal of the pipe.

The difference between 3a and 3b is not quite so big as between 1 and 2, but it points in the same direction. All the silvers are pretty low, 1 and 5 being of the same order as the three pigs at Chester, and also the Agricola pipe. I think all the Chester leads which I have examined so far must have been desilvered.

I have also analysed fully Nos. 1 and 5. Here are the results :—(per. c.).

			1.	5.
Copper	- - -		.0140	.0184
Antimony	- - -		.0013	.0021
Arsenic	- - -		nil	nil
Bismuth	- - -		nil	trace
Tin	- - - -		nil	.0071
Iron	- - - -		trace	trace
Nickel	- - - -		.0004	.0005
Zinc	- - - -		.0075	.0043
Total.—Base Metals			.0232	.0324
Silver			.0025	.0026
Lead (difference)	- -	99.9743	99.9650	

Both samples are extraordinary pure—well up to the best Roman standard. The small amount of tin in No. 5 undoubtedly indicates the use of scrap lead. I have not found tin in any of the Roman pigs in England, but two of the British pigs at Chalons, near Saone, contain a little tin.

ROMAN POTTERY.

(From the areas outside the Roman Ditch).

Tabulated summaries of the Samian and coarse ware pottery found both north and south of the Roman ditch are given below. A descriptive account of these, together with illustrations of the typical forms must stand over for the time being, as it would be much too costly to include even a fair percentage of them in this issue of the Journal. A list of the potters' stamps is given, and one fine Samian bowl is figured (Pl. XXVIII) and described.

SAMIAN WARE.

TABLE I.

A. Decorated—		Number of Vessels	Period (approximate)
Dragendorff.	Form 29	51	A.D. 74-96. (Flavian).
„	„ 30	29	Late first and second centuries.
*	„ 37	377	Late first and second centuries.
Déchelette	„ 67	3	Late first century.
Knorr	„ 78	7	Late first century.
			(Flavian).
B. Plain—			
Dragendorff.	Form 15	14	Late first century.
			(Flavian).
„	18/31	Abundant	Late first and second centuries.
„	„ 22	3	Late first century.
			(Flavian).
„	„ 27	Common	Late first—early second century.
„	„ 33	Common	Late first and second centuries.
„	35/36	15	Late first and second centuries.

		Number of	Period (approximate)
B. Plain—con.		Vessels	
Dragendoff.	Form 38	15	Second century.
„	„ 42	2	Second century.
„	„ 45	8	Second century.
Curle	„ 11	4	Late first century. (Flavian).
Walters	„ 81	5	Second century.
Rouletted	- -	4	Second century.
Cut glass technique		1	Second century.
Approximate total of vessels represented		538	

The number of examples of forms 18/31, 27 and 33 are not included in this table.

* In the series of the decorated bowl, form 37, the Flavian, Trajan—Hadrian, and the Antonine periods, are represented in about equal proportions, respectively.

COARSE WARE.

TABLE II.

		Number of	Period (approximate)
Types		Vessels	
Mortaria	- - -	38	Late first—early second century.
„	- - -	23	Second century (Antonine)
„	- - -	8	Third and fourth centuries
Carinated bowls	-	74	Late first—early second century.
Cooking Pots	- - -	114	Late first—early second century.
„	„ - - -	47	Second century (Antonine)
Flagons (“screw necked”)		48	Chiefly first—early second century.
Flagons with pinched mouth	- - - -	6	Late first—early second century.
Flagons. Oenochoe type ⁴³	- - - -	4	Late first—early second century.
Flagons			
Plain moulded rims		11	Second century (Antonine)
Store Jars	- - - -	36	Do not admit close dating.
Pie-dishes (flat rims)		73	Chiefly second century (Antonine).
Approximate total of vessels represented		482	

⁴³ For similar type, Cf. Wheeler, *London in Roman Times*, p. 148; pl. lvii., 5.

There are also many types of beakers, two frilled tazzas, and other types of coarse ware vessels represented.

The datable material set forth in the above table shows that there was an intensive occupation of the site until towards the end of the second century; and that the late third and fourth centuries are very sparsely represented.

DECORATED SAMIAN BOWL.

(Pl. xxviii.)

Form 37. Zonal decoration, with continuous stalked scroll bordered with a straight chevron wreath above, and a foliate one below. The upper spaces of the winding scroll with ivy leaves at the ends of the stalks; Nile geese (Déch. 1017 and Osw. 2286) at the upper corners, and a bird (not in Osw.) perched on the stalks near the moniliform binding. This design is repeated in all the upper spaces of the scroll. Lower spaces are divided horizontally by a wavy line: 1, conventional plant (Déch. 1151), below it a rabbit (Osw. 2074?) and corner tendrils. 2, Griffon (Déch. 502), the space above with small arrow-heads. 3, upper division with plant as in 1; dog in lower compartment. 4, repeat of 2.

The general technique and design of this vessel are exceptionally good. The glaze is dark and brilliant; and although about one-third of the vessel is missing it has admitted of reconstruction and restoration. Province probably La Graufesenque.

Period: Flavian. Fragments of other Samian vessels, and some coarse ware pottery (not illustrated) found in association with it are all of late Flavian origin.

POTTERS' STAMPS, Etc., ON DECORATED SAMIAN.

(Pl. xxix.).

The stamps described below are all from the area outside the Roman ditch.

1. *Aberrant ovolo*. This consists of a series of circles, without the alternating vertical rods (*Cf. O. & P.* p.151, fig. 81) as used by Libertus. Bead-row below; and part of a large animal, probably a dog. Period: Second century.

2. *Aberrant ovolo*. On 37. This consists of a series of lozen-shaped motifs, within a dotted border. A wavy line below. Period: Probably early second century.

3. *Rosette Stamp*. On 37. This is placed within the decoration and is like that figured by May (*Silchester*, LXXXI, No. 23) but is undated. Period: Probably latter half of second century.

4. *Rosette Stamp*, on 37, below the decoration. Period: Doubtful; but the fragment of decoration points to late first-early second century.

5. *Circular Stamp*. On 37. This is placed immediately below the decoration. It consists of a rosette of six petals within a broad concentric border from which all trace of letters have gone. Period: This is uncertain, but the general technique of the fragment points to the latter half of the second century.

6. . . . **RESTIO**. Probably part of Crestio of La Graufesenque. On 29. Very little of the decoration is preserved. That which is left seems to represent part of a cruciform ornament with oblique wavy lines, and within them a conventional plant, with the bilateral leaves serrated on the outer edge. For similar leaves Cf. Curle, *Fort of Newstead*, p.209, No. 6. Period: Flavian.

7. **PATRC**. Patricius of La Graufesenque. On 37. Sunk letters on a raised label, in the decoration. Ovolo with the tongue bluntly tridentate. Part of panel decoration; the upper corner with seven oblique wavy lines of a peculiar type, having notches on both sides arranged alternately, instead of the usual curves. Period: Flavian.

8. . . . **SI**. Part of L COSI=L. Cosius (see below) of La Graufesenque. On 37. In raised letters within the decoration. Part of panel decoration divided by blurred wavy lines: Dog? to left (not in Oswald), and two tufts of conventional plants below: the larger tuft with lanceolate leaves; the other with tips of all five leaves truncate. Straight wreath at the base.

8a. **L COSI**. On 37, immediately below the position of the line of the ovolo, of the latter, however, there is no trace. Period: Flavian.

9. **PA . . .** (Retrograde). Part of **PATERNI** or **PATERNFE**=Paternus of Lezoux. On 37. Part of panel decoration divided by bead rows. Ovolo with the tongue ending in a small ring. A seven-rayed rosette, and part of semi-nude figure, extending right hand, and the left hand under chin. Period: Second century (Trajan—Antonine).

10. **BVTRIO**. Butrio of Lezoux. On 37. Free style decoration. Wavy line below the ovolo; the tongue to the latter ending with a rosette. The principal *motifs* consist of parts of three animals: a stag (not in Oswald's *Index*); a small horse, and a small mammal of uncertain attribution. Period: Late first-early second century.

11. **ADVOCISI**. Advocisus of Lezoux and Lubié. On 37, below the free style decoration. Bear, apparently with bone in mouth, resembling the figure No. 1578 in Oswald's *Index*, but larger.

12. **MI . . .** (Retrograde). Part of **CINNAMI** (*Cf. Déchelette, I, p.261, fig. b.*)=Cinnamus of Lezoux and Lubié. Part of panel decoration divided by bead-rows. Part of conventional floral *motif* tied in the centre with a small rosette. Period: Second century.

13. Part of the potter's cursive signature below a straight foliate wreath. On 37. Period: Doubtful, but probably late first-early second century.

14. Part of the potter's cursive signature, on 37. This bears a close resemblance to the initial D in Drusus. (*Cf. Oswald J.R.S. XVII, Nos. 36, 37*); a potter of Lezoux. Free style decoration, with mammal and acanthus leaf and part of large mammal above them. Period: Hadrian, A.D. 117-138.

15. Cursive signature of Silvinus, on 37. This signature closely resembles that given by Oswald (*J.R.S. XVII, No. 71*) and is presumably by the same potter. Period: Trajan.

16. Fragment of cursive signature, on 37.

17. **C . . .** (Retrograde). This may be part of the cursive **CR** stamp, which Oswald (*Ann. Arch. Anth. XVIII, p.116, pl. XLI, 5*) attributes to the potter Criciro. Period: Probably Antonine.

POTTERS' STAMPS ON PLAIN SAMIAN.*(Not illustrated)*

18. **ADVOCISI.** Advosisus of Lezoux and Lubié. On 37, with part of decoration. Period : Second century.

19. . . . **TTILLI M.** Attillus of Lezoux. On 31. Part of the initial letter **A** is preserved. Period : Early second century.

20. **OF CALVI.** Calvus of La Graufesenque. On 18. Period : Flavian.

21a. **OF CALV** . . . On 18. As above.

21b. **OF CALV** . . . On 27? As above.

22. **OF CAM.** Camius of La Graufesenque. On very thin walled 18, with brilliant dark glaze. Period : Late Flavian.

23. **OF C.EN.** Censor of La Graufesenque. On 18, with the outer concentric ring plain. Period : Flavian.

24. **CERI** . . . Probably part of Cerialis of Lezoux. On 18/31, with pronounced kick-up. Period : *c.* early second century.

25. **CINT.V.SS.A.** Cintussa of Lezoux. On 33. A somewhat rare stamp. Period : Early second century.

26. **CRESI M.** Cresimus of Montans. On 27. No groove to foot-ring. Period : Late first-early second century.

27. **LV.C.OSIVI** (Retro.). Cosius. Lusius and Virilis. On 18.

28. . . **F.L.COS.VIRIL.** On 18. Within an ansate terminal. Period : Flavian.

29. **COSMINI.** Cosminus of Lezoux. On small 33. Period : Latter half of second century.

29a. **DVPP̄IVS.** Duppius of Lezoux. On 33. Period : Second century, probably Antonine.

30. **O FR. NTNI.** Frontinus of La Graufesenque. On 18/31. Period : Flavian.

31. . . . **F FVSCI.** Fuscus of La Graufesenque. On 18. Period : Vespasian—Trajan.

32. **GEMIN M.** Geminus of Lezoux. On flange of lion-spouted mortarium, form 45. Period : Latter half of second century.

32a. . . . **DERCILLVS F.** Indercillus of Lezoux. On 33 (small). Period: Probably early second century.

33. **IVLLI** . . . Jullinus of Lezoux. On 15/17. Part of the characteristic letter **N** is also preserved, there can be no doubt, therefore, that our stamp is identical with that figured by Curle, *Rom. Fort of Newstead*, p.237, No. 54. Period: Late first century.

LATINVS. Latinus of Lavoye. On 31. Period: Second century, probably Antonine.

34. **LOTI .OF.** Probably Lottius of Lezoux; but in other stamps of this potter recorded by Oswald (*Stamps*) two **T**'s are given. Period: Early second century.

35. **MACRINI.** Probably Macrinus of Lezoux. On a large 31, with broad rouletted circle. Period: Second century.

36. **MARTI M.** Martius of Lezoux. On 27; glaze poor, and no groove to foot-ring. Period: Probably Antonine.

37. **MARTI M.** Martius or Martio of Lezoux. On 33. Slightly burnt. Period: Probably Antonine.

MASCI. Mascus of Lagraufesenque. On 35 or 36. Period: Domitian.

38. **MVXTVLLI M.** Muxtullus of Lezoux. On large 33. Period: Second century, probably Antonine.

39. **OF PATR** . . . Part of Patricius of La Graufesenque. On 18. Period: Nero—Vespasian.

40. **PATER.** Pater of Lezoux. On 18/31. The letter **E** is reversed (*Cf.* Oswald *Stamps*, p. 230. Period: Second century.

41. **PÊCVLIAR .F.** Peculiaris of Lezoux. Two examples, both on 33. Period: Domitian—Antonine.

42. **POTENTIS OF.** Potens of Lezoux. On thick walled 31, with high kick-up. Oswald (*Stamps*), records a similar if not identical stamp from Moulins. But the stamps of this potter seem to be rare, and three only are recorded. Period: Most probably the latter half of the second century.

43. **PVGNI M.** Pugnus of Lezoux. On 33. Edge of foot-ring with five notches. Period: Second century.

44. **QVINTILIANI.** Quintilianus of Lezoux. On thick walled 31. Period: Latter half of second century.

45. **Q.VC.** On 35. Lezoux. Period: Second century.

46. **OF RVFI.** Rufus of La Graufesenque. On 27, with a deeply grooved foot-ring. Period: Flavian.

47. . . . **C.R.I.L.I.MĀ**, Sacrillus of Lezoux. On 31. Period: Latter half of second century.

48. . **SATTO M.** Satto of Blickweiler. On 33. Period: Late first-early second century.

49. . . **ECVNDI.** Part of Secundus. On 18 (large). Period: Flavian.

50. **OF SECO.** Seco. On 27, with grooved foot-ring. Glaze rather thin, the colour resembling that of the Lezoux ware. Two stamps of this potter are recorded by Oswald (*Stamps*) from Trion; evidently, therefore, it is rare, and new to Britain.

51. . . . **SECVN.** Part of Secundus of Les Allieux (*Cf. Oswald Stamps*, p.289). On 31 (large and thick walled). Period: Latter half of second century.

52. **SECVNDI** . . . Probably Secundinus of Lezoux (*Oswald's Stamps* division II). Form doubtful. Our stamp may be distinguished by the round **U** being upside down. Period: Late-first early second century.

53. **SOSIMI** . Sosimus. On 27. the letter **M** in this stamp is upside down. It seems to be a very rare stamp. Period: Latter half of second century.

54. **SVLVIV** . . . Part of Silvius of La Graufesenque. On 27. Period: Late first-early second century.

55. **SVLRIC** . . . Sulpicius of La Graufesenque. On 27.

56. **OF SVLPICI.** On 18/31.

57. . . . **VLP** . . . On 27. Period: Late first-early second century.

58. **TASGILLI . M.** Tasgillus of Lezoux. On 27, the foot-ring without groove. Period: Early second century.

59. **TETTŪRO.** Tetturo of Lezoux. On 27, with a faint groove to the foot-ring, good glaze and technique. Period: Probably early second century.

60. **OF VITA.** Vitalis of La Graufesenque. On 33. Period: Claudian—Domitian.

61. **VITALI . M.** Vitalis of Lezoux. On 33. Period: Probably second century.

62. **VES . . . ONI.** Vespo of Lezoux. On 33. Period: Second century.

GRAFFITO ON SAMIAN CUP.

(Text Fig. 17)

This graffito is scratched on two fragments conjoined of a Samian Cup, Drag. form 27. Professor R. G. Collingwood has examined the fragments, and writes as follows:—
“The inscription runs:—

**IVLISEDATI
OCELL . . NIS.**

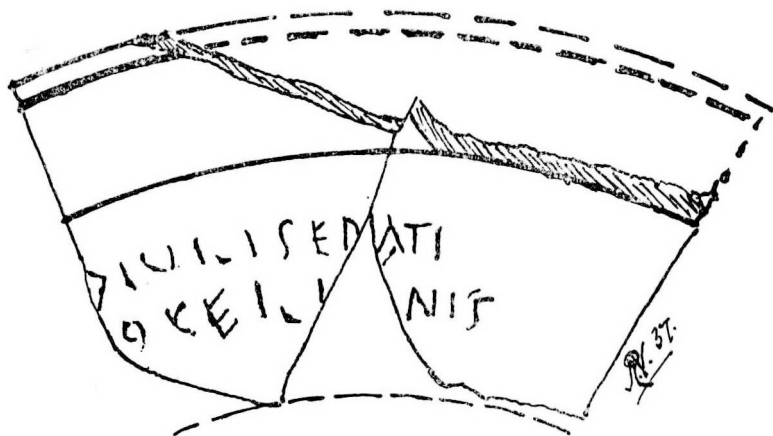


Fig. 17. Graffito on Samian Cup (1 : 1).

Juli Sedati is clear and certain, giving us a new centurion for (presumably) Leg. XX V. V. In the second line, there might be a letter or two missing at the beginning: there is certainly one—conceivably two—missing in the middle.

But nothing need be gone from the beginning. The thing must be a soldier's name in the genitive; evidently cognomen only. **OCELLIONIS** would be possible. *Ocellio* is not a cognomen that I know; but *Ocella* is (Dessau 936) and so is *Ocellina* (fem : Suet, Galba, 4). I cannot find any cognomen ending in *ocellio*. I therefore suggest the reading *Ocellionis*, and translation :—This cup belongs to Ocellio in the century of Julius Sedatus."

FATTY MATTER IN ROMAN AMPHORÆ.

On heating a large portion of the base of an amphora of the common bulbous form, for the purpose of rapid drying, a fatty substance oozed out at various points on the surface and also from the fractured edges. When very hot the substance gave off an offensive smell, resembling that of tallow fat, and on cooling formed a firm, dark, waxy deposit in places, and in others opaque vesicular blobs.

As the presence of fatty matter sealed up in the walls of the vessel, seemed of much interest, fragments of other amphoræ were tested in the same way, but one only gave similar results.

Samples of both vessels were submitted to Professor J. A. Smythe, the University of Durham, for analysis, and he has very kindly given the results of what was evidently a very tedious examination of the material : "I have got two products—a heavy oil of fatty character, and oddly enough, a calcium salt of a fatty acid, which I think is oleic. I am almost certain of this calcium oleate, but have yet to confirm it. If so it is rather interesting and may indicate free oleic acid in the original oil which might mean olive oil which has become neutralized by reaction with either calcium bicarbonate or free lime. I don't feel happy about the calcium bicarbonate idea, since oleic acid is such a feeble acid and I wonder if, in the immediate neighbourhood of the amphoræ, there was much builders' lime. The presence of this would certainly ensure neutralization of the acid." He also adds—"I have, after much labour, got about 10 grams of each product (crude)."

I can only add that no lime, in any form, seemed to be present in the deposit in which the vessels were found.

BURNT LAYER, RUBBLE FLOOR, AND STAKES.

(Pl. xv.).

Burnt Layer.—This was very pronounced and attained a maximum thickness of 9 inches. It was composed largely of clay, burnt to a brick red colour, and irregularly streaked and capped with much charcoal. It also included the burnt rubble floor (see below), and extended, with a few small breaks, over an area measuring 80 feet east-west, and 40 feet north-south. Westward of the burnt layer, the Roman occupation stratum had been completely destroyed in mediæval times, apparently by the intersection of tan pits, of whose construction, however, no definite trace could be found.

Fragments of two decorated Samian bowls (Form 37) were found in the layer. One with a continuous winding scroll, with a large vine leaf and bird in the upper concavity, and figure subjects in the lower. The other in metopes or panels, and large medallions with figure subjects. Both vessels are burnt to a blackish colour. These may be taken as characteristic of the type of decoration used by the potter Cinnamus. (Cf. *O.* and *P.* xii., 3, 4), and be dated to the latter half of the second century.

Of coarse ware pottery there were fragments of half-a-dozen pie-dishes (Collingwood's type 44), all of them burnt to a buff or reddish colour, by the action of fire.

Vessels of this type were found to be of common occurrence in the Antonine deposits in the Deanery Field, and seem to have been in general use in the latter half of the second century.

Burnt floor. This was roughly rectangular in plan, but all the margins were jagged, and the ground surrounding them much disturbed during comparatively recent years. It measured 15ft. east-west, and 11ft. north-south; and was made up as follows: the foundation was composed of rock rubble and a few ashlar faced blocks of sandstone, varying

from 9-6ins. thick, and placed immediately over the boulder clay. The capping of clay 5-3ins. thick, was burnt to a brick-red colour. The only object found in it was a fragment of a large Samian dish, form 18/31, datable to the latter half of the second century.

Row of stakes. These were of split oak, roughly triangular in section, and pointed. The maximum dimensions of one example were: $4 \times 3.5 \times 3$ ins. (section) and 22ins. long. There were six of them, all in alignment, east-west (see plan) and they extended right along the cut, occupying a total run of 10ft. They were standing, more or less, erect, in the boulder clay; and closely resembled those which were found in 1914 on site 4 (see plan). Some fragments of late first-early second century coarse ware vessels were found in immediate association with the stakes; but no trace of a burnt layer or flooring of any kind was found.

It is possible, if not probable, that these stakes formed the main supports to a wattle and daub hut or a structure of a similar kind. By themselves, however, they form no coherent plan; and, unfortunately, further exploration of the site was not within practical politics.

COINS.

Love Street. Site 2.

The nine coins listed below are a meagre haul from such a comparatively extensive "dig." Other pieces were found, however, but they were smuggled away, and their whereabouts have not been traced.

ROMAN.

Republic.

1. A denarius, badly burnt and corroded, is thought by Mr. Mattingly to be attributable to L. VICINIVS.
16 B.C.

EMPIRE.

AUGUSTUS. B.C. 30—A.D. 14.

2. *Obv.* . . . CAESAR AVGVS . . .
Bust right.
Rev. Large sc in field.
 Moneyer: AVOVSIVS. Rome. c. 9—7 B.G.
 Burnt and badly corroded.
Det. Mr. Harold Mattingly.

VESPASIAN. A.D. 69—96.

3. *Obv.* Legend obliterated. Bust laureate r.
Rev. sc in field; in exergue ROMA.
 2Æ. Burnt and corroded. Date c. A.D. 71.

DOMITIAN. A.D. 81—96.

4. *Obv.* IMP CAES DOMIT AVG . . . Bust laureate r.
Rev. VIRTVTI AVGVSTI. In field sc.
 As. Heavily burnt.
5. *Obv.* . . . MIT AVG GER . . . COS XII CENS P P.
 Bust radiate r.
Rev. V]IRTVT[I] AVGVSTI. In field sc.
 Dupondius. Burnt. c. A.D. 86.

HADRIAN. A.D. 117—138.

6. *Obv.* IMP CAES . . . TRAIANVS HAD . . . Bust laureate r.
Rev. Annona standing l. sc in field.
 1Æ. Worn. c. A.D. 119.
7. Legends obliterated.
 1Æ. Worn.

MARCUS AURELIUS. A.D. 161—180.

8. *Obv.* . . . NINVS . . . Bust laureate r.
Rev. Salus feeding snake. sc in field.
 Sestertius. Worn.

ENGLISH.

EDWARD I. A.D. 1272—1307.

9. Silver penny. CIVITAS CANTOR.

LOVE STREET.**MEDIEVAL TAN PITS.**

(Pls. xv, xxxi. Text Figs. 18, 19)

Seven pits occurred on this site but one only was completely explored. All of them were cut into the virgin clay. Judging by the material found in them they seemed to be contemporary with those found on the adjacent site, and datable to the 14th or 15th centuries.

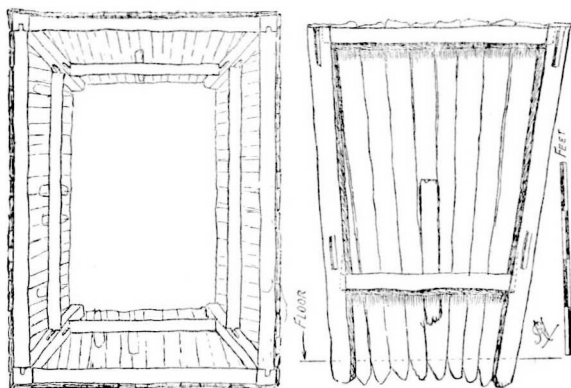
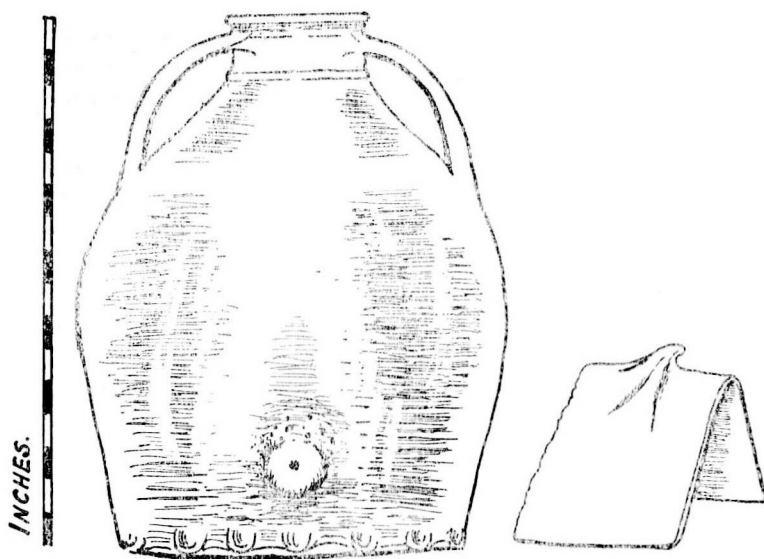


Fig. 18. Plan and end elevation of 14th century Tan Pit.

Pit No. 1. This was placed close by the frontage to Love Street, and was completely explored. All four sides of it were splayed outwards and lined with split oak boards, which were held together by a substantial frame-work of oak timber (*Text*, fig. 18). Its maximum depth was slightly over 7 feet: its dimensions at the base, 5ft. \times 3ft.; at the top, 8ft. \times 5ft. 9ins. The major portion of the pit had been sunk in the boulder clay. The timber forming the corner posts and other parts of the internal framework gave an average measurement of 6 \times 5ins. The horizontal pieces were tongued and the posts obliquely grooved to receive them. No nails or pegs had been used to fix them, indeed no such fastenings were needed as each cross-piece acted as a powerful wedge and could be tightened by driving it downwards—a method which the grooved posts admitted.

The oak boards were pointed at the lower ends and had been driven into the boulder clay below the level of the floor. They varied in thickness from 1-0.8in., but may have been thicker originally. Nearly all these pits contained fragments of Roman pottery at the lowest levels. The filling at the top of the pit consisted of much straw in a soft peaty matrix; the rest of it was blackish in colour, very wet and fetid.

The finds consisted of the following:—



Text fig. 19. Medieval flagon and ridge tile.

a. A large two-handled flagon (*Text*, fig. 19) with a projecting tubular spout two inches above the base. Clay very hard and in the unglazed portions of a dull ferruginous colour. Glaze brown shading to olivaceous brown, and covering most of the exterior. Base bulging, and thumbed down, pie-crust fashion, all round. Handles pierced in three rows between the bilateral ridges. Capacity *c.* four gallons. Height, 16ins.; mouth, 5.5ins.; neck, 2.4ins.; diameter at bulge, 13.2ins.; diameter of base, 11.5ins.

b. Lower portion of a tall pitcher, the base broadly dilated. Fine hard creamy-white clay. Glaze yellowish, streaked and mottled with pale brown. Interior strongly fluted, the flutings faintly indicated externally.

c. Handle of pitcher or jug. Hard, dark grey clay, coated with brown-black glaze. Mid-rib with herring-bone incisions, on either sides of which is a row of crosses each within a circular pit; margins grooved.

d. Portions of two leather shoes, of a type similar to that found in pit No. 5 (see below).

Pit No. 2. This was explored in part only. No pottery or other forms of domestic refuse were found in it. But it contained a large number of the horn-cores of oxen and the skull of a small horse.

Pit No. 3. This was a form similar to that of No. 1, and the bottom of it measured 8ft. \times 3ft. 6ins. Some split oak boards were found in it, but none apparently in situ. The filling at the top consisted largely of small brushwood the rest of it similar to that found in pit No. 1.

The only object found in it was part of a ridge tile (*Text*, fig. 19) of the usual arched type with a projecting peak at the top. The clay of which it is composed is hard and gritty, and of a pale buff colour shading in places to pale red. The glaze is of a dark olivaceous green, shading to yellow where thinly applied. Maximum height, 5.2ins.; width, 11.2ins.; thickness of wall, 0.5-0.3in.

The projecting spur resembles that found at Ogmores Castle (*Cf.* O'Neil, *Ant. Jour.* XV, No. 3; pl. 21, fig. 5) with finger-tip impressions radiating from its base. There are no "slashes" in our example.

Pit No. 4. Excavated in part only. Projecting tubular spout belonging to a large flagon of the type found in pit No. 1. It was coated with dark brown glaze.

Pit No. 5. Three sides of this pit were fairly well preserved, its maximum length east-west was 10ft. 10ins. Some oak boards were found in it, but they had been disturbed. The filling at the lower levels resembled that found in the other pits and contained a mass of short bits of straw,

the glumes and stems of other monocotyledenous plants, and small thin sticks. When dry it burnt readily, like that of peat, and there was but a trace of sand or grit in its composition. The objects found in it consisted of the following :—

a. Portions of two leather shoes (Plate xxxi., figs. 2, 2a), with pointed toes, probably a pair, as the soles of both are alike in form and size. The upper of one example, though imperfect, is formed of three separate parts: heel, instep, and toe-piece.

b. A roughly circular disc of lead, slit from the centre outwards, as if it were intended for attachment to string or cord. A disc of bituminous substance; and part of the handle to a large pitcher or jug.

Pit No. 6. The dimensions of this pit could not be ascertained to any degree of exactitude; but they seemed to correspond roughly with those of pit No. 1. The objects named below were found in it.

a. Portions of three pot lids (Pl. xxxi., figs. 4, 5) very like those in use in Roman times: (*a*) in hard reddish-yellow clay, the glaze yellow with blackish freckles. Upper surface strongly but irregularly fluted. (*b*) buff-grey clay with a red core: glaze purple-brown, but poor and unevenly spread. (*c*) similar to "*b*" but clay overbaked and brownish in colour.

b. Section of large dish or pan in hard smoky-red clay with traces of green glaze on the interior.

Section of large dish or pan, in hard red clay, with buff core; glaze on both sides irregularly applied, and of a red to olivaceous brown colour.

c. Leather shoe (Pl. xxxi., figs. 1-lb) of a very narrow-toed type. The upper (1a) formed in one piece, thereby differing from the example found in pit No. 5, and it is bound all round with strip of very thin leather. The latchet of this example seems to be intact; it passes through a slot in the upper on the inside, and a tongue-shaped terminal prevents removal except from the inside of the shoe. On the outside of the upper is a large metal stud (iron?), now

badly oxidized, round which the latchet may have been twisted before passing it through the external loop evidently intended for its reception (see illustration).

d. Disc of thick leather pierced in the centre, and stitched towards the margin with widely separated thongs of leather. Use unknown.

e. Fragment of thick ornamented leather (Pl. xxxi., fig. 3); its use uncertain, but it may have served to cover the seat of a chair or a saddle. Maximum length 10ins.

Pit No. 7. Dimensions uncertain. Many scrappy pieces of leather were found in it, all apparently unused; one piece measuring 11 × 9ins. Part of another pot lid of a type similar to those illustrated; and the spur from a glazed ridge tile, with incisions at the base, completed the finds from this pit.

Some scrappy pieces of Roman vessels occurred at the bottom of pits Nos. 1 and 7; including part of the base of Form 33. These had evidently been carried down when the Roman stratum was intersected during the construction of the pit in mediæval times.



Co-operative Stores: Sites 3 and 4.

(Pl. xv.)

The "ditch" and row of "stakes" plotted on this plan were discovered in 1903 and 1914, respectively, during excavations for the Co-operative Stores, on the south side of Foregate Street. A brief description was given of them in my "Records of Archæological Finds,"⁴⁴ together with an account of the Roman pottery found on the site.

Viewed in the light of our recent discovery of sections of the Roman ditch on Site 2, further reference to that found in 1903 seems desirable. My all too brief account of it reads as follows (*l.c.* p.94): "Another important discovery here was the presence of a large ditch or fosse, running northwards and southwards. A short section of this was excavated, but the bottom was not reached. Traces of its western lip commenced at a point 32ft. from the Love Street frontage. Its width at the top was 17ft., the sides tapered inwards⁴⁵ (*sic*), and were traced to a depth of 6ft. . . The distance from the centre of the section to Foregate Street frontage was 60ft."

On referring to the original plan and section of the ditch, prepared for me by William Vernon & Son, Chester, I find it necessary to add that the width of the ditch at the bottom of the contractors' cut was 14ft. Clearly, therefore the most important part of it was left unexplored. Evidently, however, the upper portion of the ditch was much wider than in those sections found on Site 2 (see fig. 16, p. 84), and one is doubtful if it formed a part of the eastern line of the same defensive system. Although I have ventured to tie them together, conjecturally, I feel that it is a somewhat risky procedure, as the section on Site 3 was neither thoroughly nor completely explored. Furthermore it is possible if not probable that the so-called ditch may have served as a mediæval tan pit. The Roman pottery found in it cannot moreover be taken as definite evidence of the period of its construction (*see above*).

⁴⁴ *Jour. Chester Arch. Soc.*, xxvii., pp. 93-95.

⁴⁵ This should read *outwards*.

Forest Street: Site 5.

(Pls. xv, xxxii.)

During the months of August and September, 1929, some excavations were carried out for an extension to the Co-operative Stores on the north side of Forest Street. No structural remains of the Roman period were discovered; but a heavily burnt stratum, *c.* 15 × 9ft., was dug out near the frontage to the street, and in it was found a side fragment of Dragendorff's Samian platter form 18/31, datable to the latter half of the second century. It was burnt to a blackish colour. The depth of this layer below the level of the street was 4ft. 6in. Much Roman pottery was found in the narrow cuts for the foundations, especially on the southern half of the site; elsewhere the ground had been disturbed in comparatively recent years.

The coarse ware pottery includes mortaria of Bushe-Fox's types, 54 (dated 80 to 110), and 102 (probably late second century); but later examples were not represented.

The decorated and plain Samian forms (see below) date from Flavian times (A.D. 69—96) to the latter half of the second century.

SAMIAN WARE—DECORATED.

(Pl. xxxii.).

1. Form 29. Part of upper and lower zones. Upper zone with continuous compound scroll, with moniliform bindings; one tendril ending with a large rosette, the other with an acorn. Bead row above and below. Lower zone with straight wreath of trilobed leaves, below it a wavy line and a band of godroons.

2. Form 29. Part of upper zone with compound stalked scroll, the tendrils ending in a large rosette and trifoliate *motif*.

3. Form 37. Part of panel decoration divided by wavy lines, tied with rosettes. 1, warrior (Déch. 136) ; 2, conventional plant (Déch. 1151). Attenuated S-ornament below. Period: Late Flavian.

4. Form 37. Panel decoration ; divisional lines blurred. 1, a pair of birds looking back (Déch. 1036, 1009) with three lanceolate leaves between them. 2, festoon supported by columns ; spiral above and ending in five-rayed star, and two similar stars below. 3, indistinct grass tuft. 4=1. Period: probably Trajanic.

5. Form 37. Panel decoration, divided by bead rows, tied at the base with bead-and-reel. 1, mask and rosette, and lower part of figure (Nude man?). Period: probably Hadrian—Antonine.

6. Form 37. Ovolo with truncate tongue. Part of medallion enclosing wild boar (Déch. 832). Style of Libertus and Butrio (*Cf.* Oswald, 1664). Period: Trajan.

7. Form 37. Panel decoration divided by blurred wavy lines. 1, nude warrior ; 2, upper panel part of charioteer, near Oswald 1167 ; 3, conventional plant with bilateral volutes ending in large rosettes. Period: Trajanic?

8. Form 37. Part of large foliate scroll, and spirals. Period: probably Antonine.

9. Form 37. Part of beaded arcade (*Cf.* *O. & P.* XVII, 5), with beaded rosette ; bird in space above ; and part of foliate scroll beyond. Period: Hadrian—Antonine.

10. Form 37. Free-style decoration. Warrior (Déch. 138) ; mask (Déch. 675?) ; part of lion ; with bead-and-reel in the spaces. Period: Hadrian—Antonine.

11. Form 42. Portion of cup with strap-handle. Good orange-red ware, but rather dull glaze. Rim decorated with leaves, applied *en barbotine*. This is the only known example of this form recorded from Chester. Period: probably Trajan—Hadrian (*Cf.* *O. & P.* p.94).

STAMPS ON PLAIN SAMIAN WARE.

1. **CETI**, on 33, between two phalli. Cettus or Cetus of Lezoux. Period: Trajan—Hadrian. Oswald, *Stamps*, p.372.

2. **OF MAS**, on 27. Masclus or Masculus. La Grauf. also on graffiti of a/cs there). Period: Claudius—Early Vespasian. Oswald, *Stamps*, p.192.

3. **L . . . NI**, on 27. Possibly part of **L[ICI]NI**. La Grauf. Period: Claudius—Nero. Oswald, *Stamps*, p.146.

4. . . . **ARCELLIVS**, on 27. Part of Marcellius of Lavoy. Pont-des-Rêmes (Florent) and Ittenweiler. Period: Trajan—Hadrian. Oswald, *Stamps*, p. 185.



Coins of Theodosius J. A.D. 379=395.

(Found at Handbridge, Chester).

1. *Obv.* D N THEODOSIS P F AVG. Bust helmeted r., spear crossing cuirass.
Rev. GLORIA ROM ANORVM. Emperor in boat steered by Victory. Mint mark $\frac{T|}{SMHA}$, Heracleia.
3 Æ in fair condition.
2. *Obv.* D N THEODOSIVS [P F] AVG. Bust draped and diademed r.
Rev. VIRTVS EXERCTI. Emperor r. holding globe in r. hand and standard in l.
Mint mark $\frac{*|}{SMHA}$, Heracleia.
3 Æ.

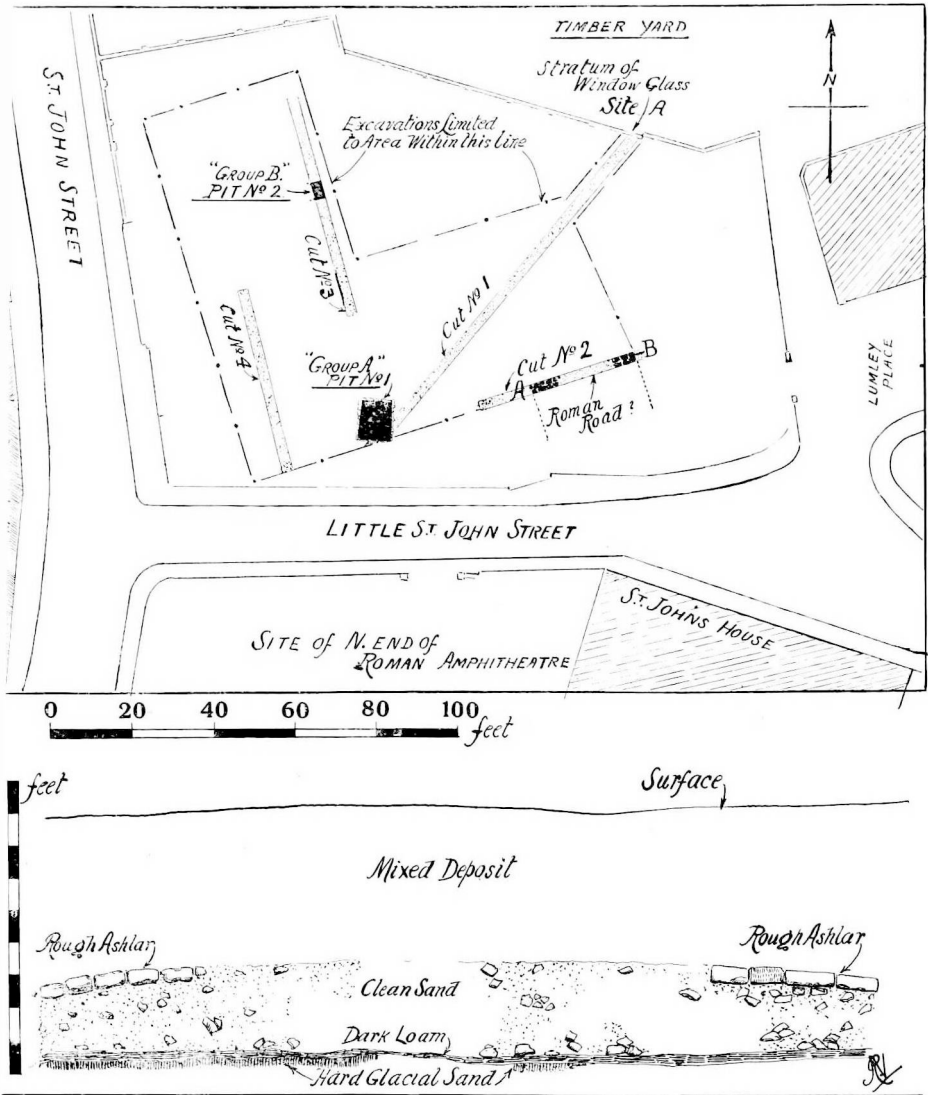
Both coins were found near together on one of the Corporation allotments, by Mr. Buckley, the tenant, 15, Allington Terrace, December, 1938. The mint marks to these interesting pieces were kindly determined by Mr. Harold Mattingly; and the coins are now in the National Collection, British Museum.

ACKNOWLEDGMENTS.

I beg to tender my sincere thanks to my colleague, Professor J. P. Droop, for his kindness in reading the proofs of this report, and to the Editor, Mr. P. H. Lawson, for seeing it through the press.



Plate I.



St. John Street. Site of New Telephone Exchange.
Plan of site (Top); and section A—B of cut No. 2 (below), p. 9.

Plate II.

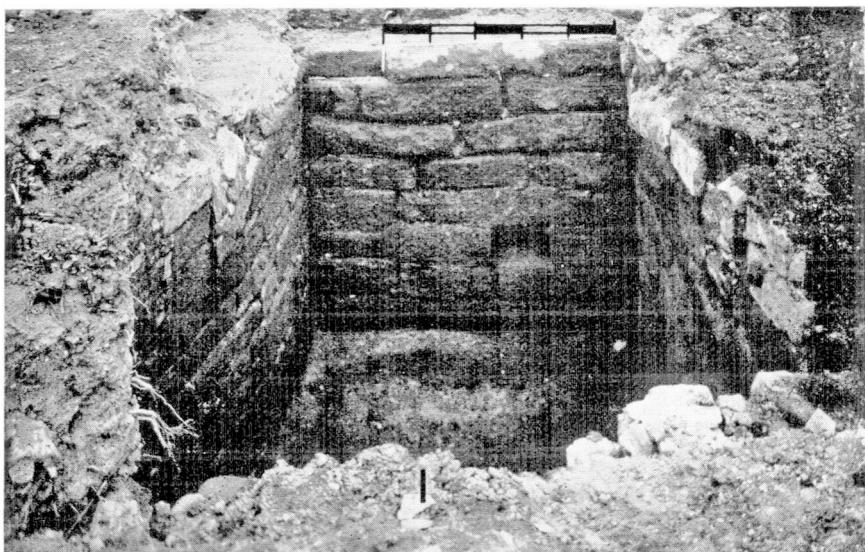


Fig. 1.

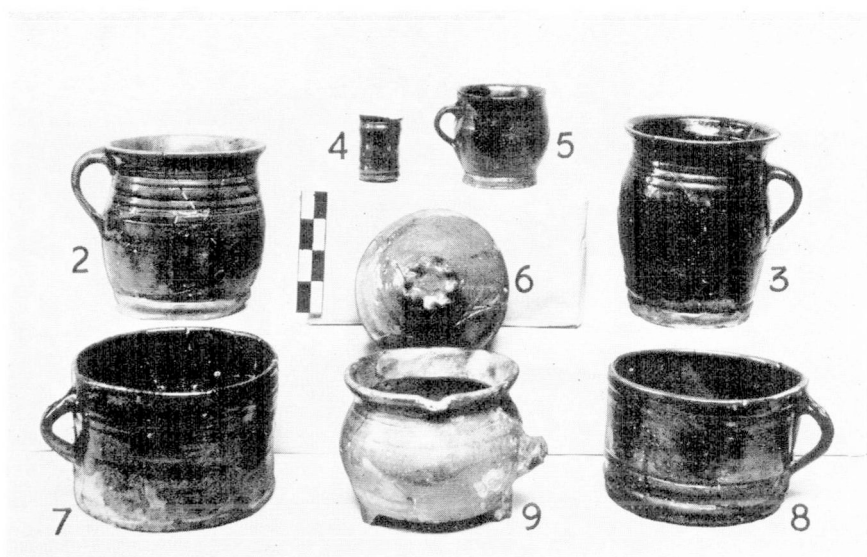


Fig. 2.

R. N., photo.

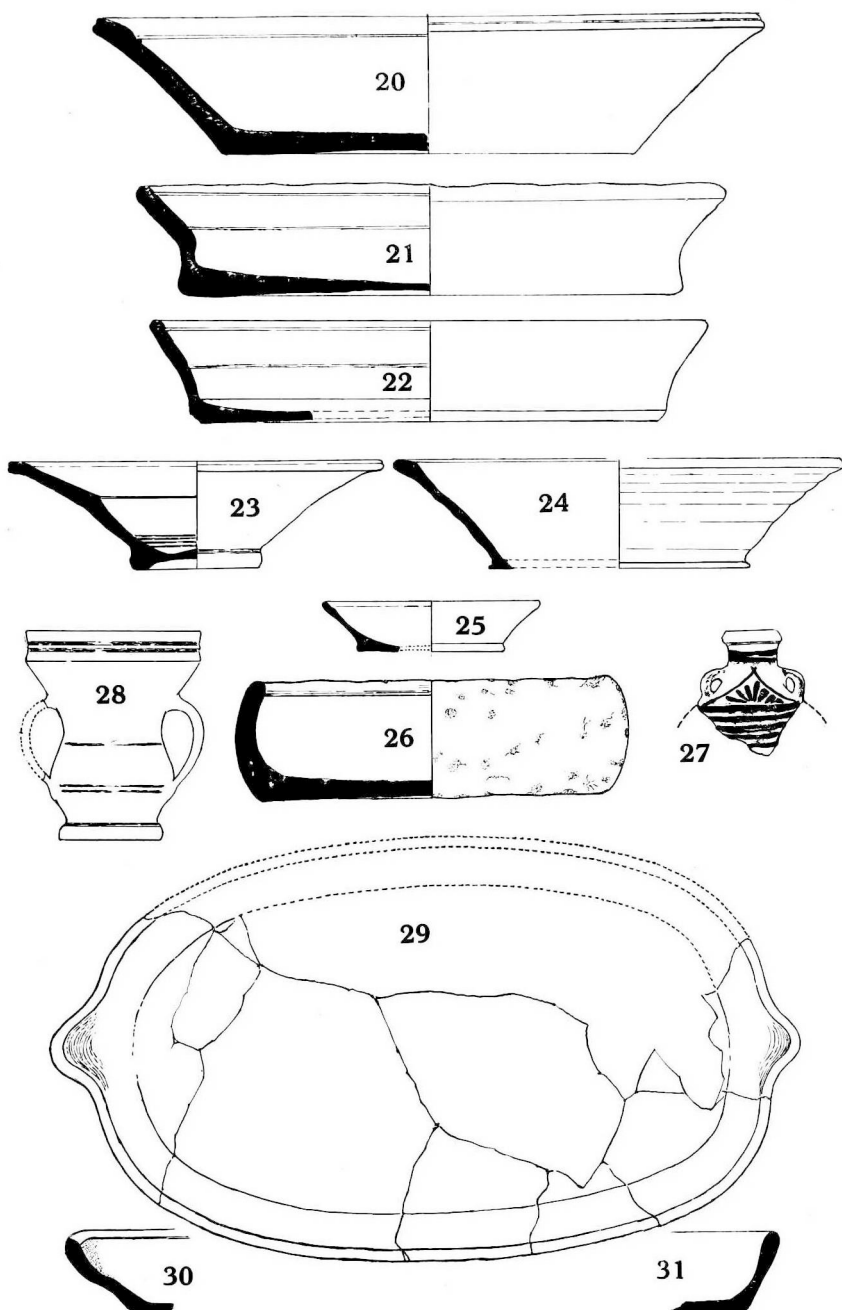
St. John Street. 17th century refuse pit, and pottery found in it, p. 11.
Scale of inches.



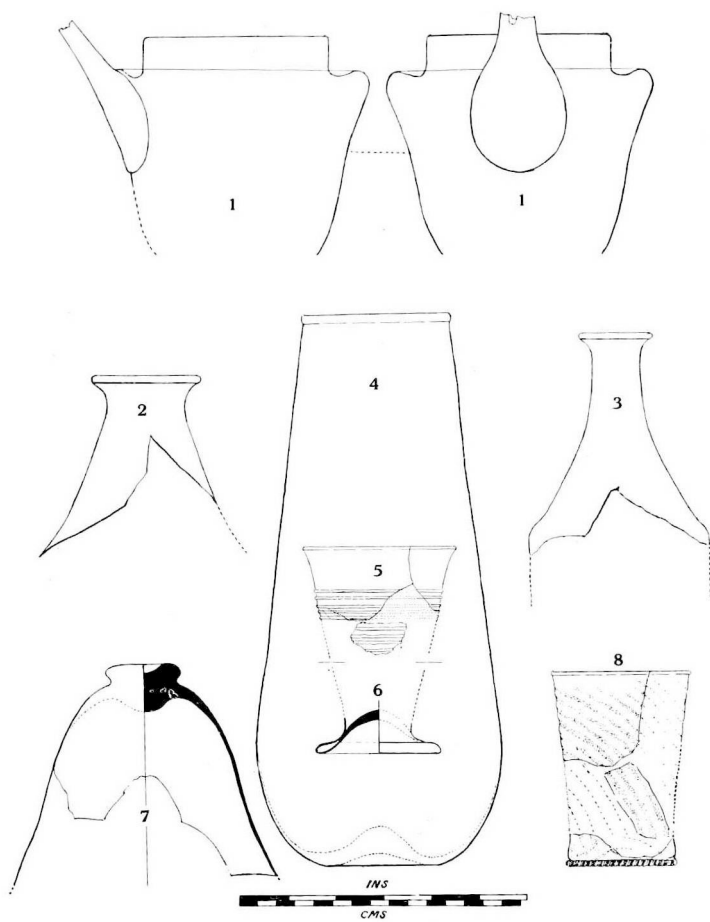
R. N., photo.

St. John Street. 17th century pottery, p. 14. Scale of inches.

Plate IV.

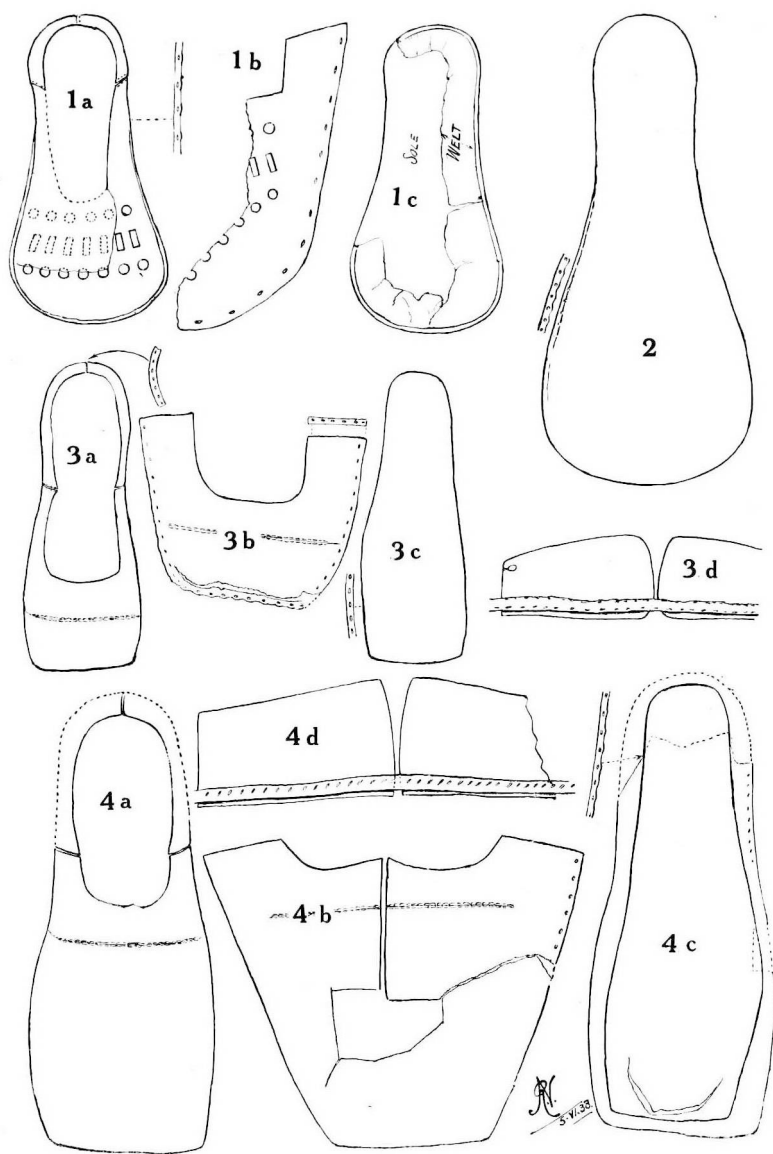


St. John Street. 17th century pottery, pp. 16-18. ($\frac{1}{4}$).



St. John Street. 17th century glass, p. 21. ($\frac{1}{4}$).

Plate VI.

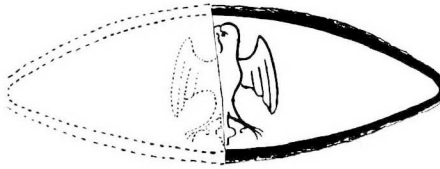


St. John Street. 17th century leather shoes, p. 18. (4).

Plate VII.



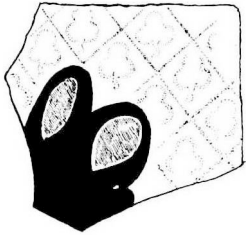
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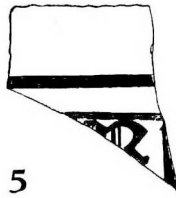
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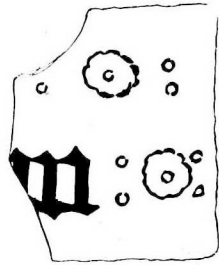
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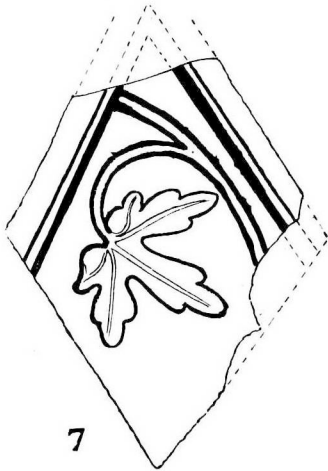
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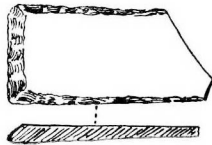
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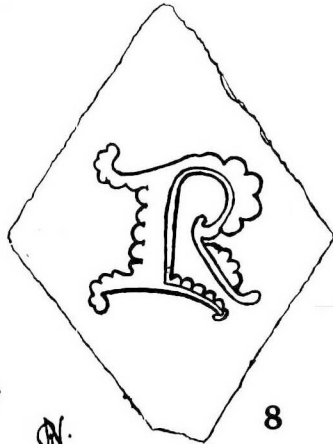
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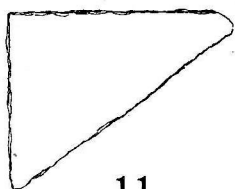
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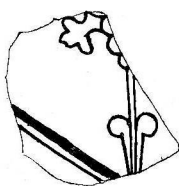
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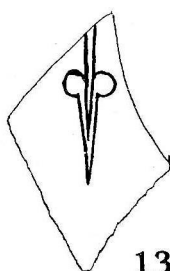
Plate VIII.



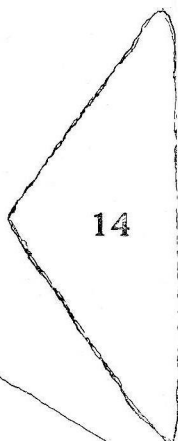
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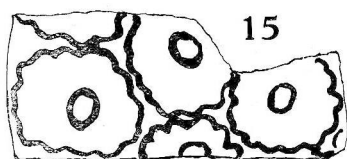
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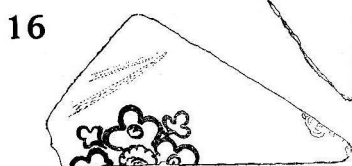
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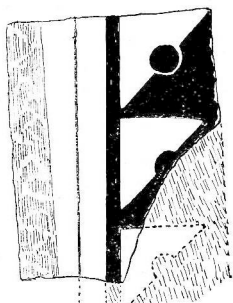
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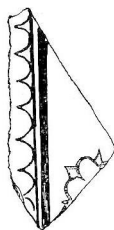
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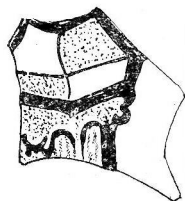
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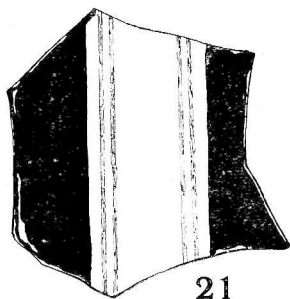
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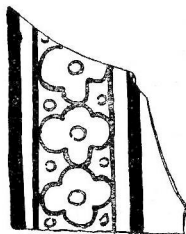
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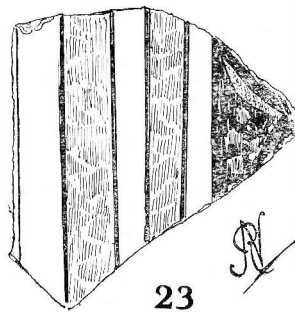
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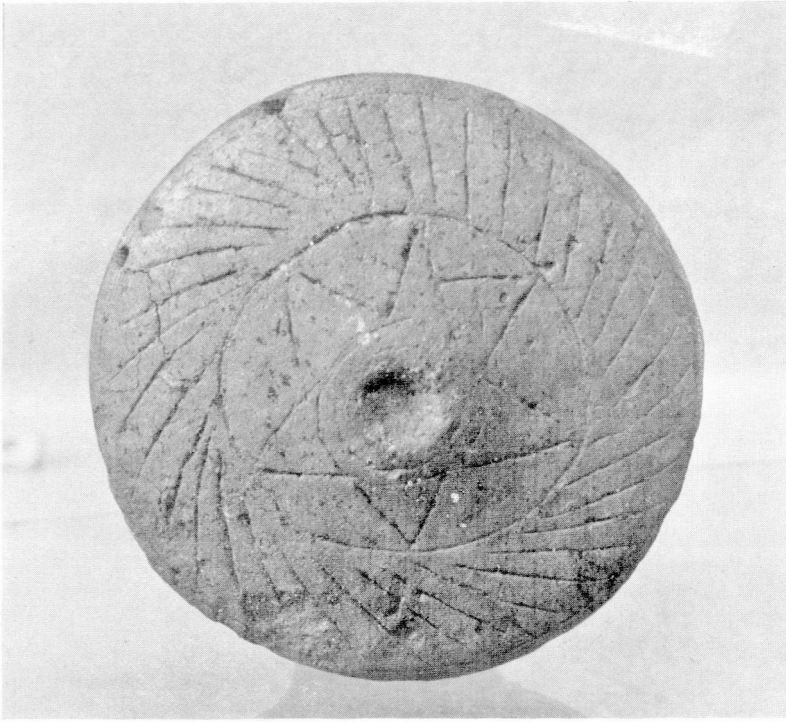
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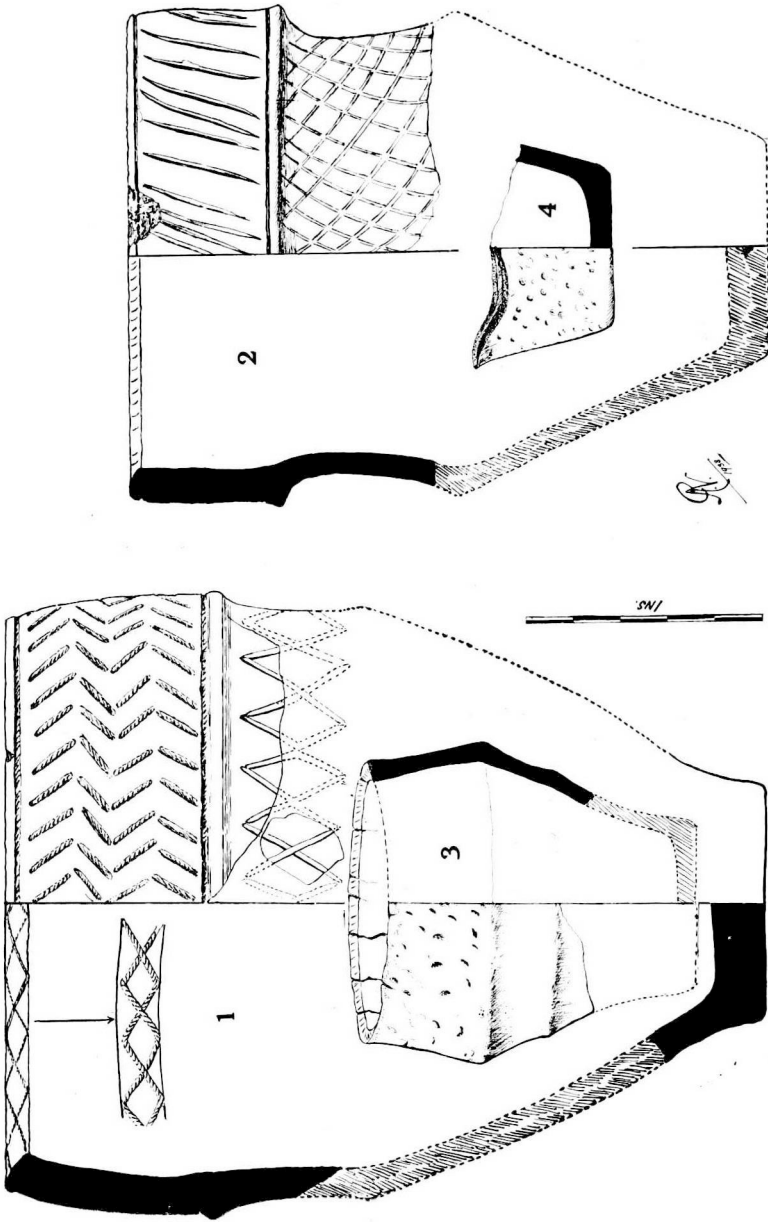


Betchton. Incense cup from the Bronze Age burial, p. 40. (1:1).

Plate X.

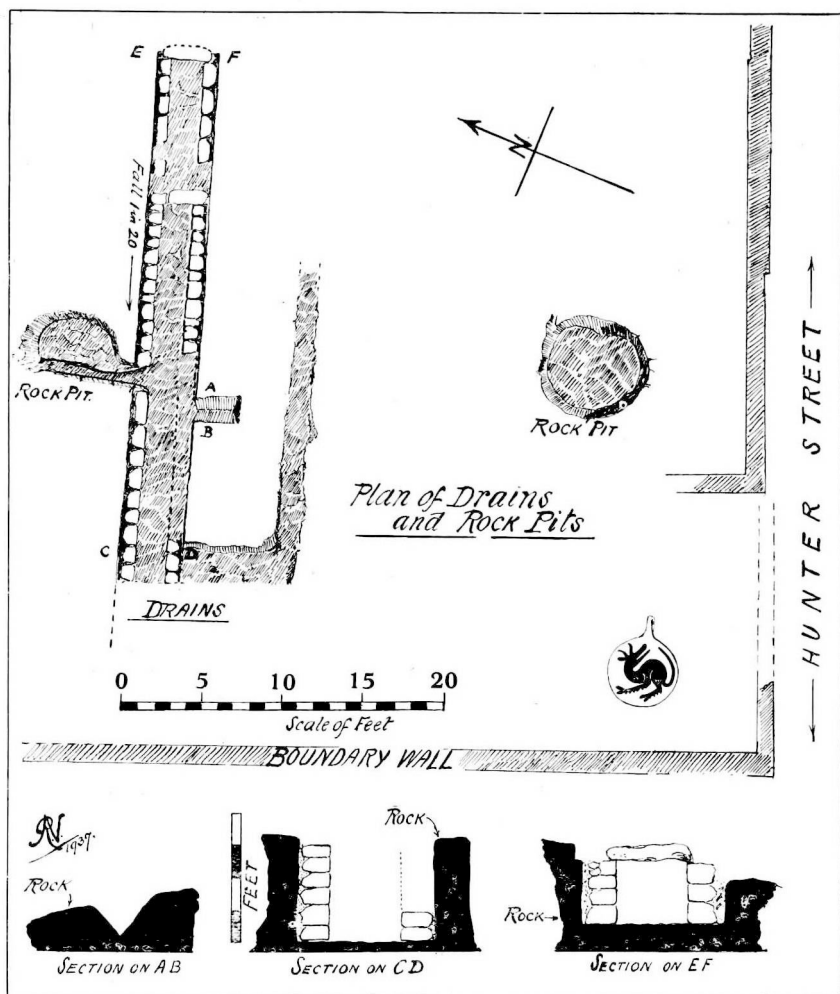


Betchton. Urn, incense cup, bone pin, and calcined bones.
Bronze Age burial, p. 40. Scale of inches.



Delamere. Bronze Age Urns from the Houndslow Tumulus, p. 45. (1/2).

Plate XII.



Hunter Street. Plan and sections of the main Roman drain and the leads into it, p. 49.



R. N., photo.



Fig. 2.

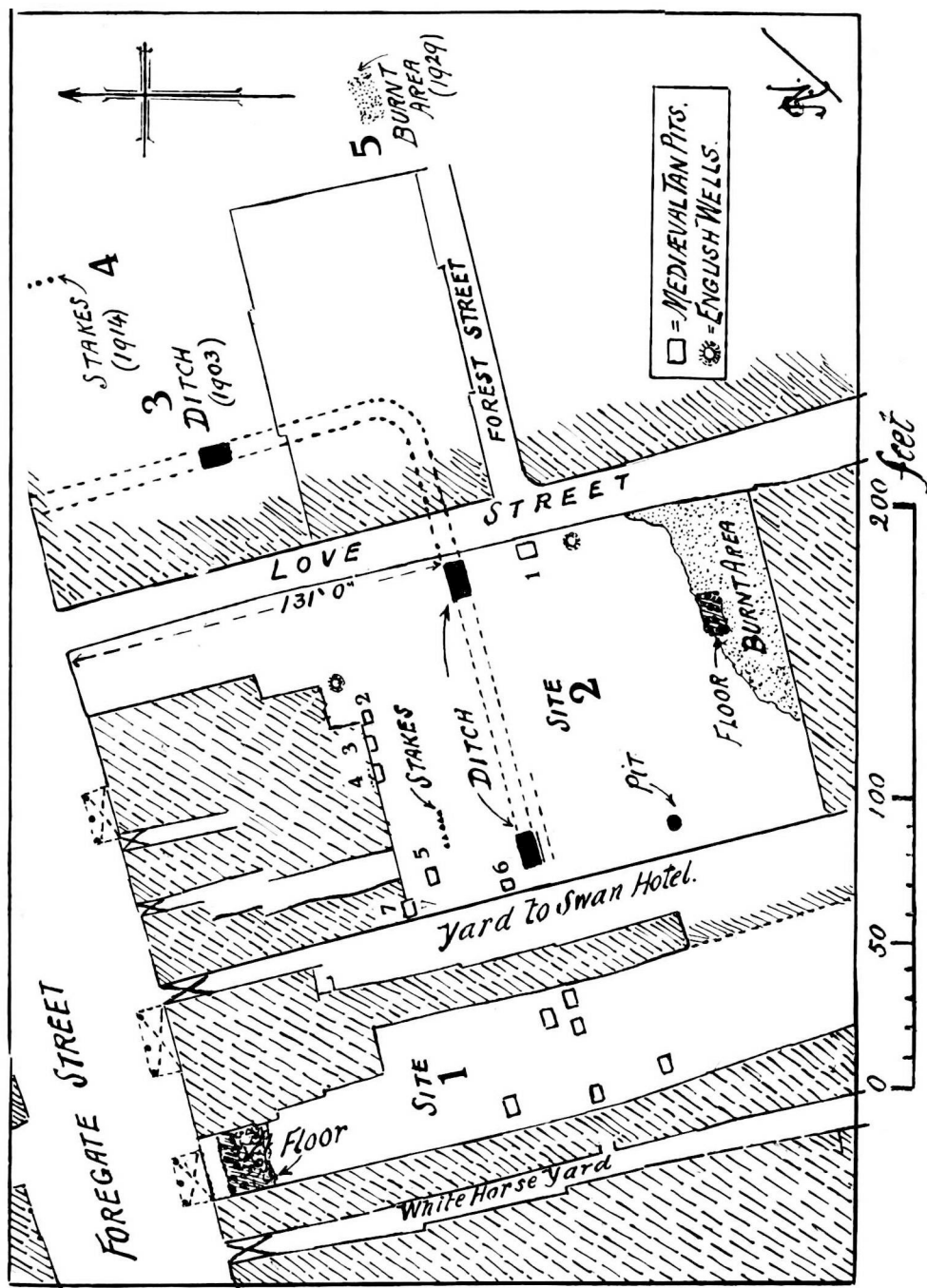
Hunter Street. Roman drain: Fig. 1 from the E., Fig. 2 from the W.
 a, the main drain; b, lead to main drain cut in rock; c, ashlar facing;
 d, rock, p. 49.

Plate XIV.



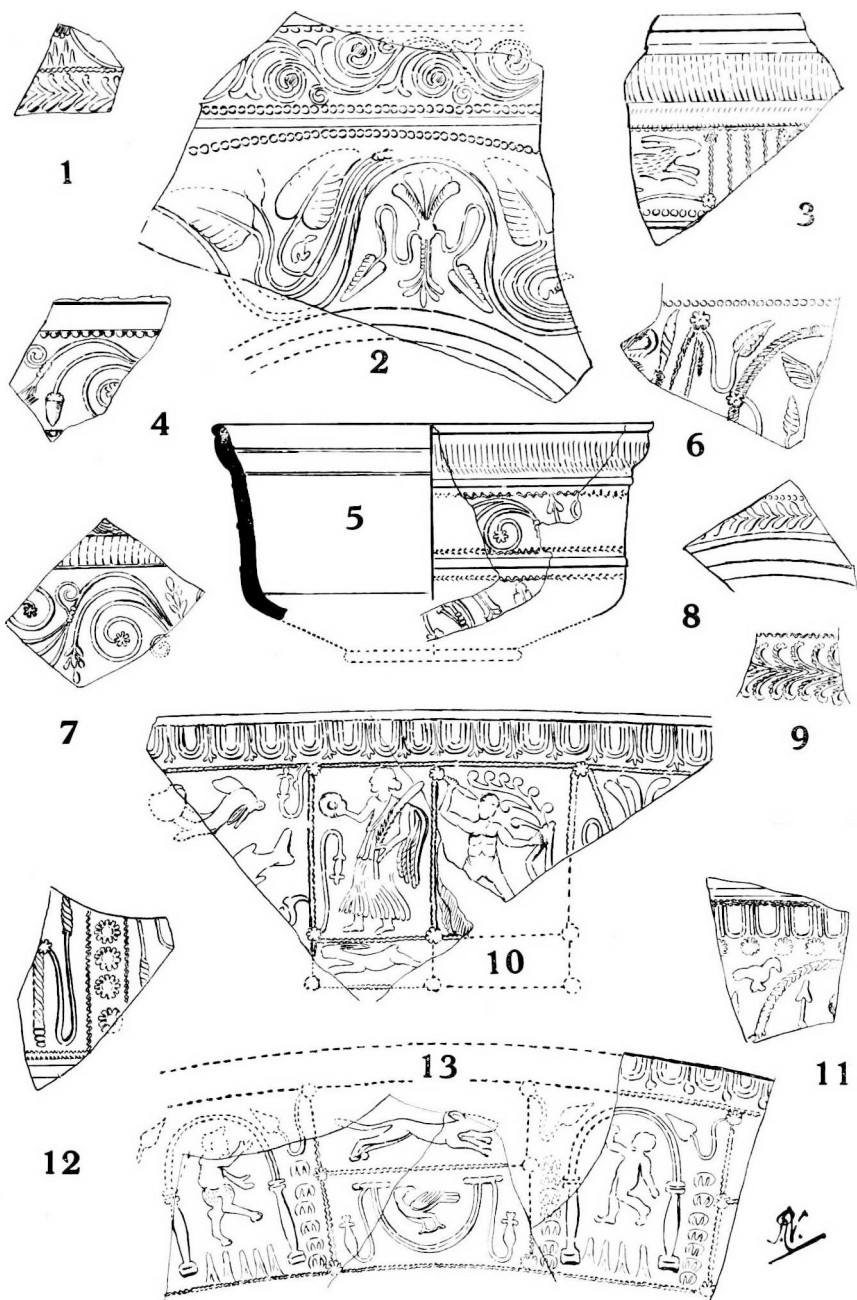
T. D. Kendrick, photo.

Hunter Street. Dragonesque design on lid of gilded Roman seal-box, in enamelled and gilded bronze. c. x3. P. 57.



Plan of sites in Foregate Street, Love Street and Forest Street, pp. 64-116.
Based on the Ordnance Survey map, by permission of H.M. Stationery

Plate XVI.



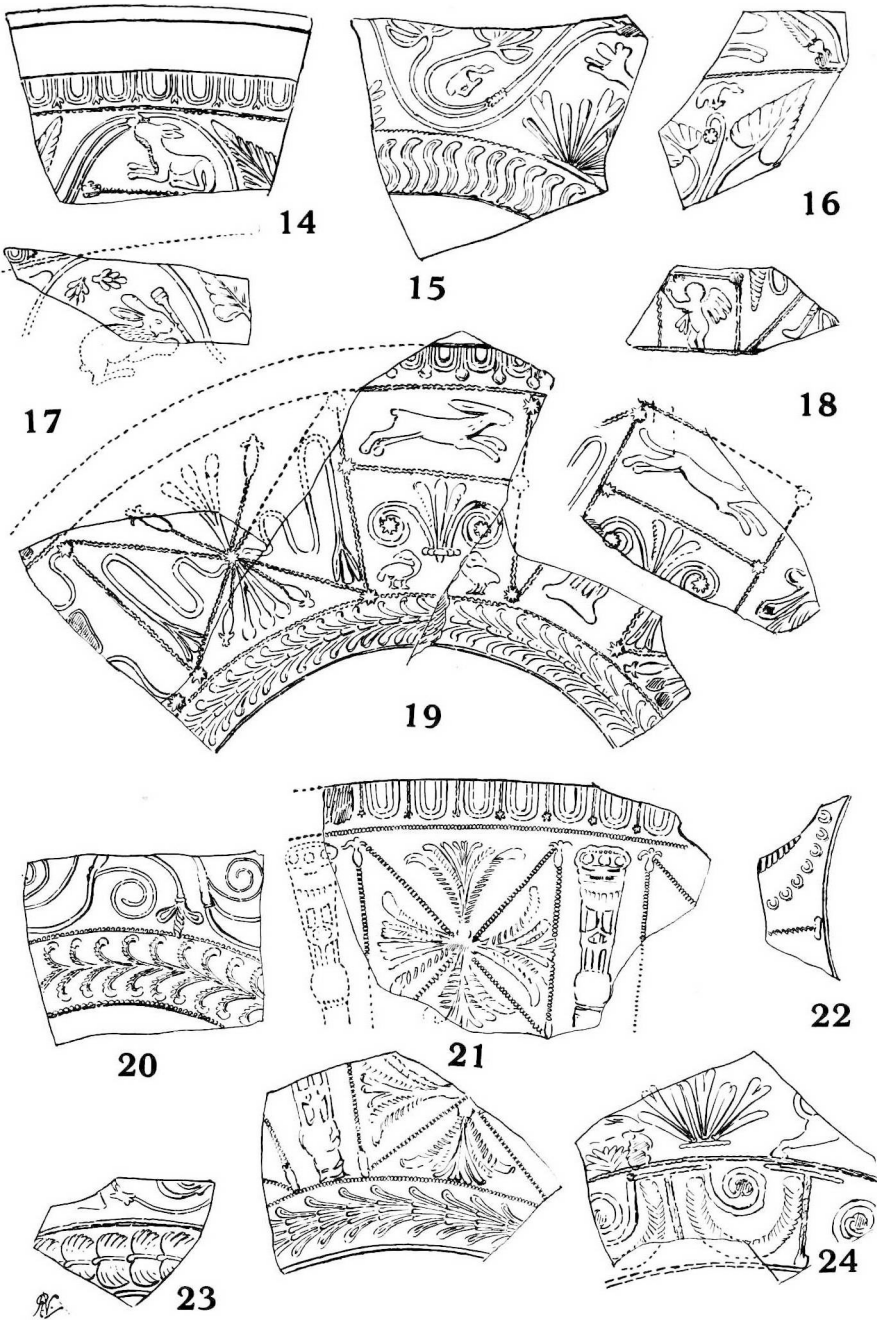
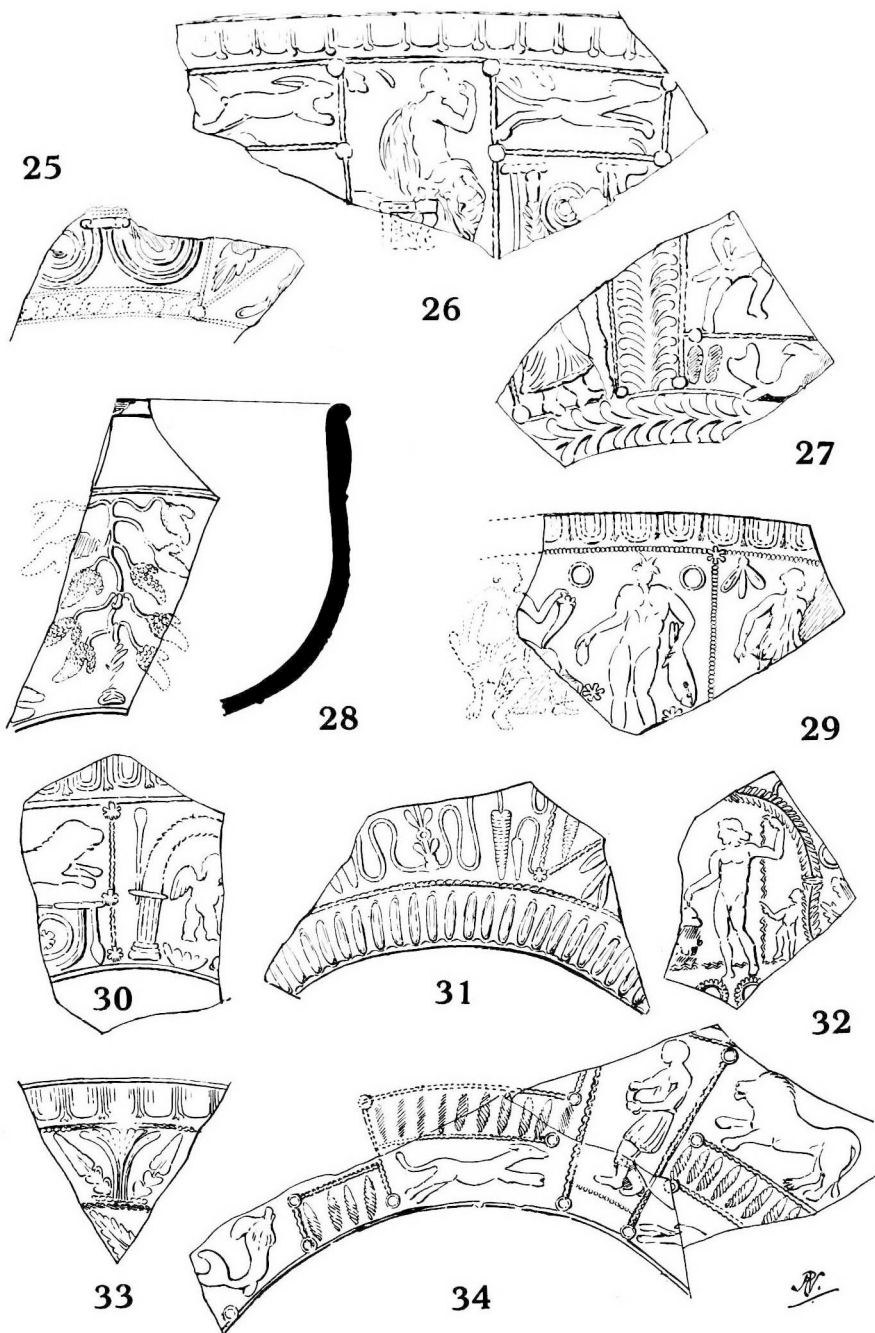


Plate XVIII.



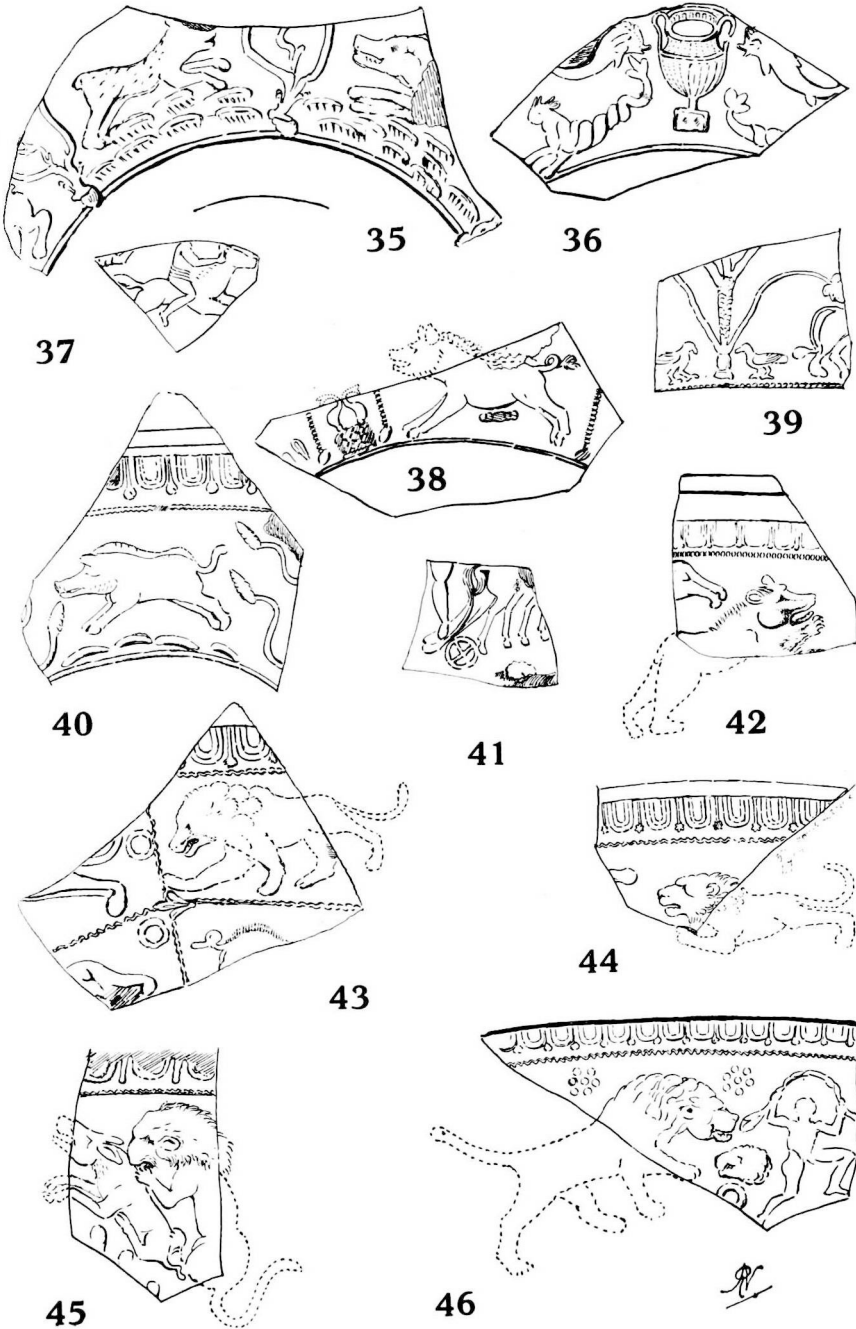
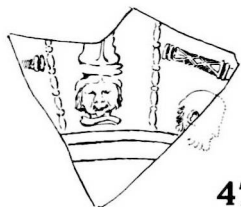
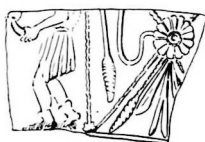


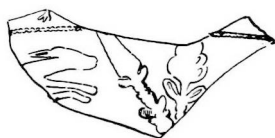
Plate XX.



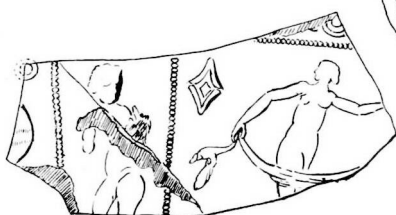
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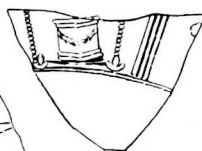
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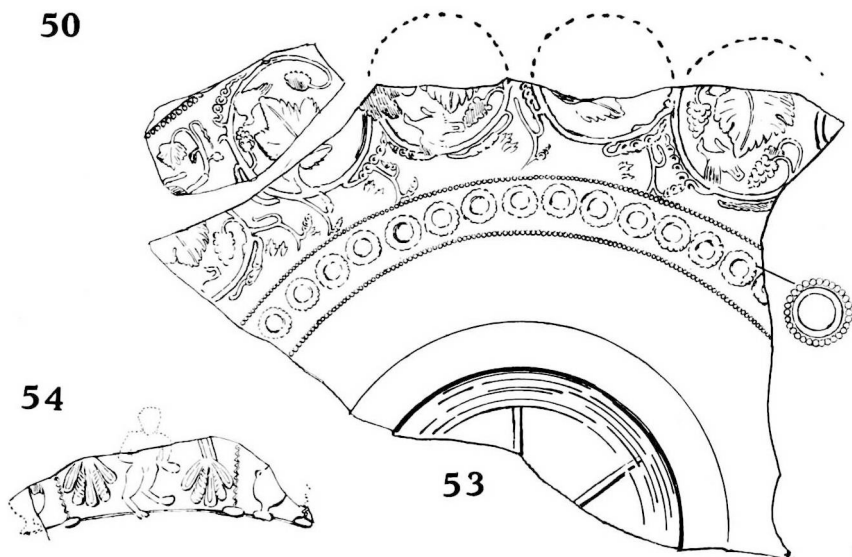
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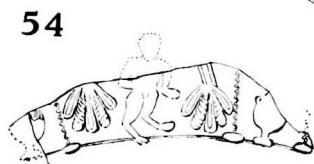
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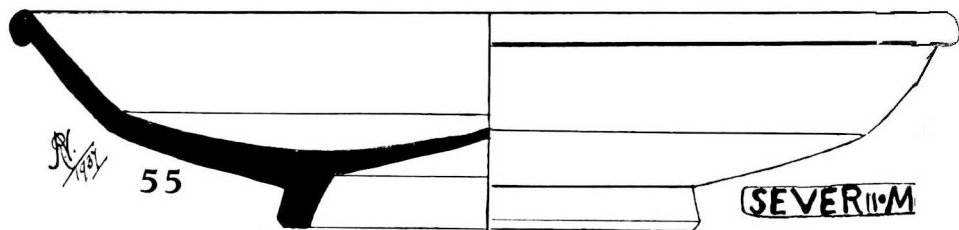
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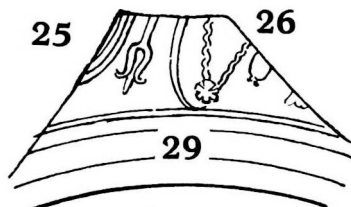
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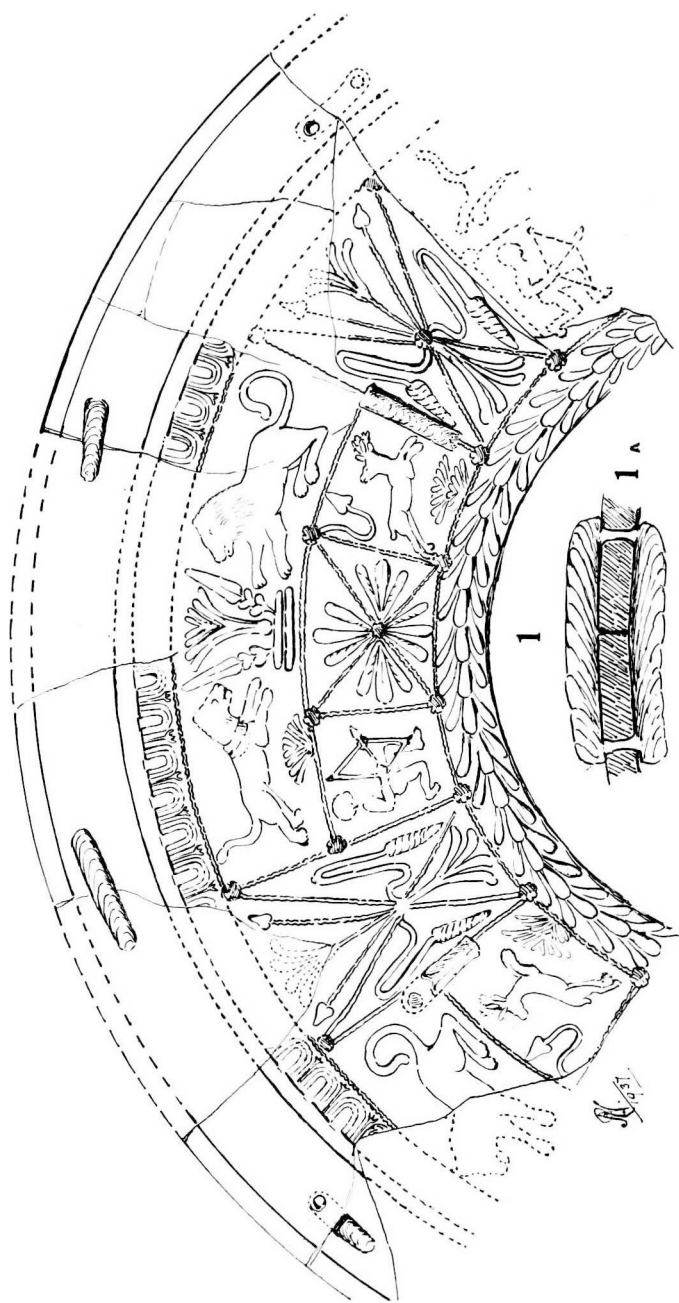
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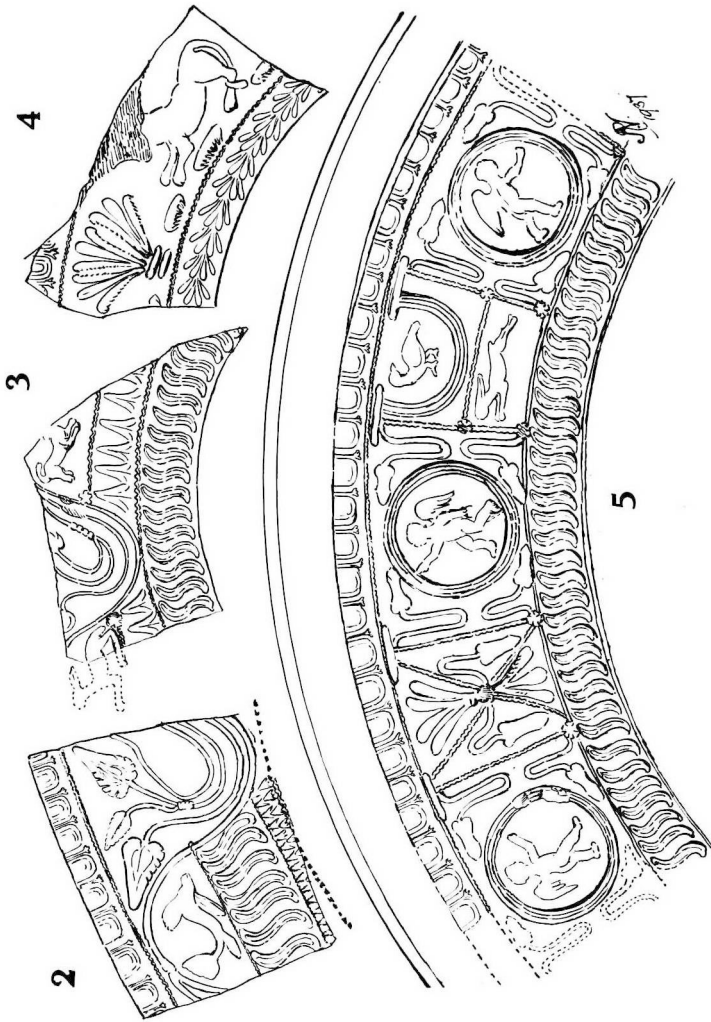
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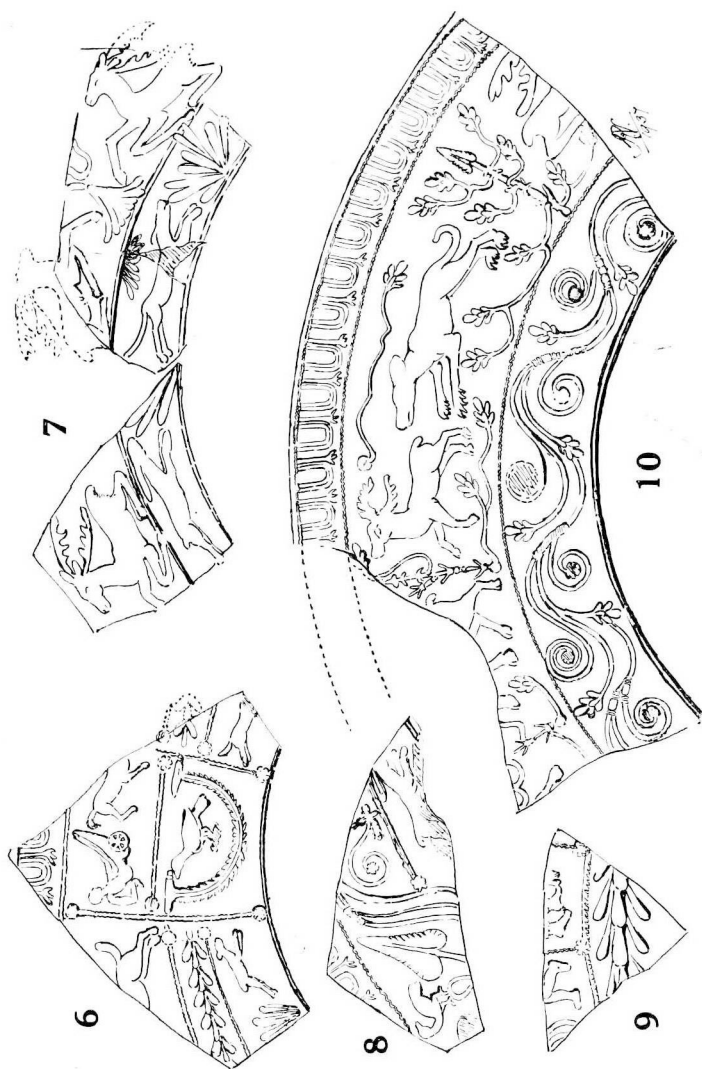


Love Street. Site 2. Samian ware from the Roman ditch, p. 85. ($\frac{1}{2}$).

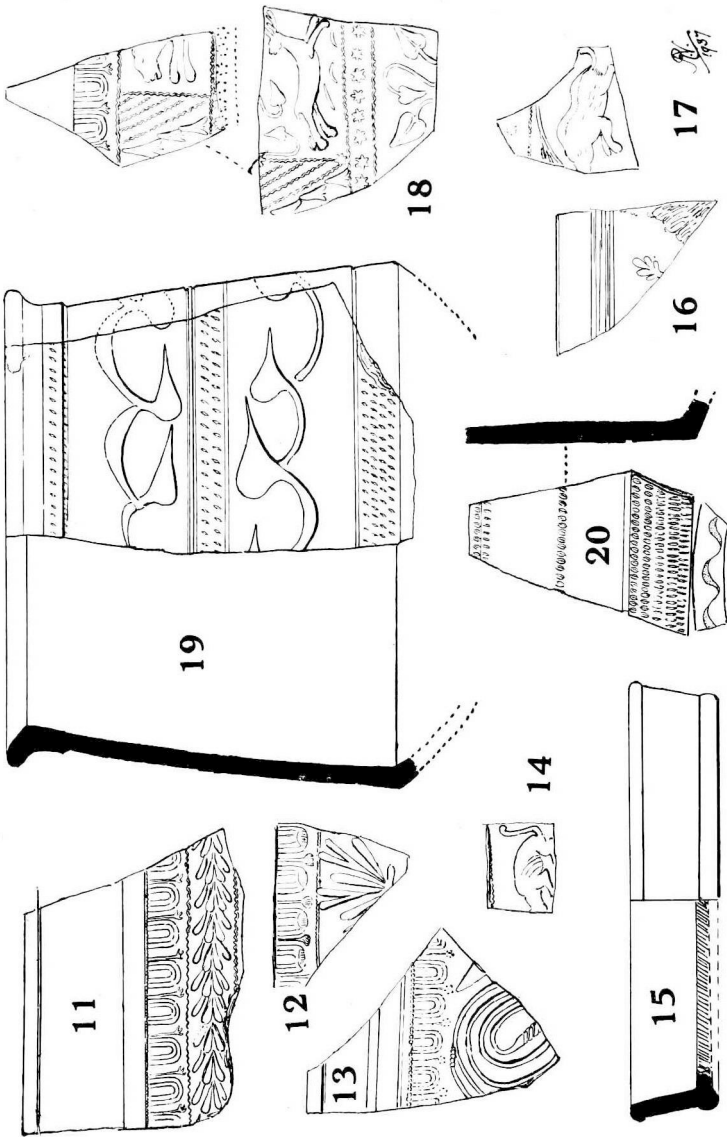


Love Street. Site 2. Samian ware from the Roman ditch, p. 86. ($\frac{1}{2}$).

Plate XXIV.

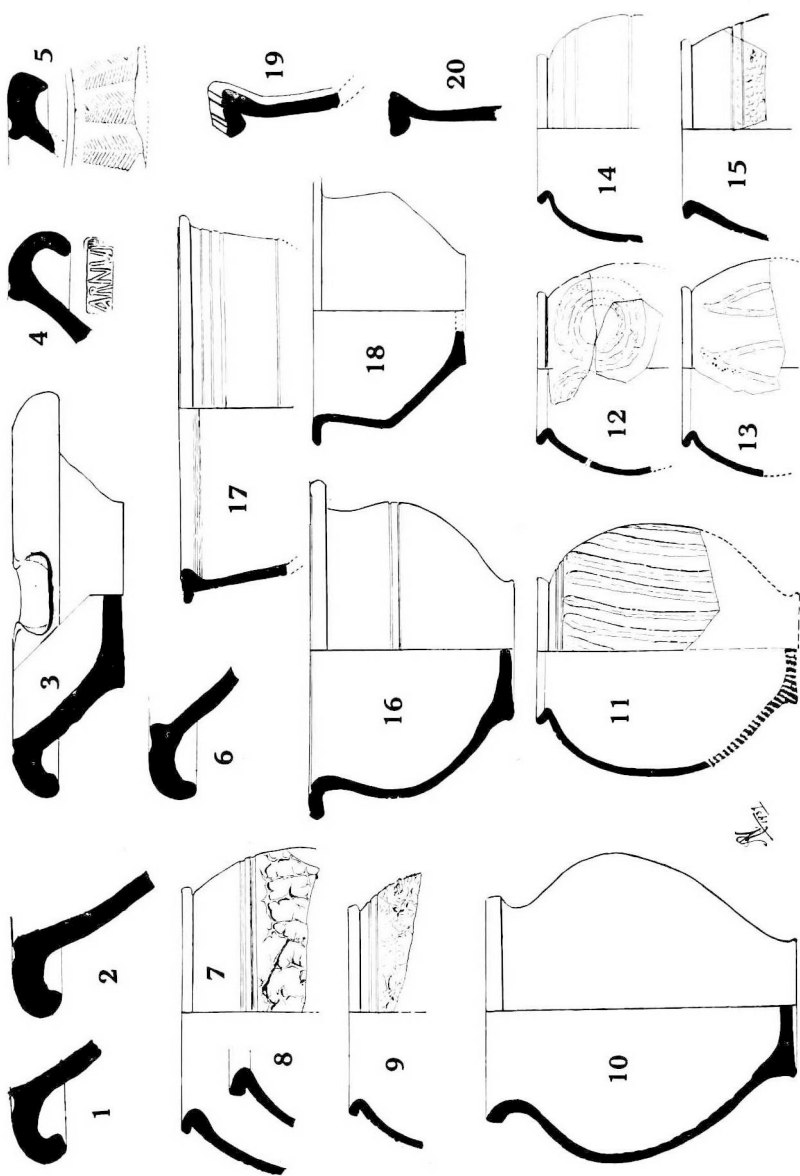


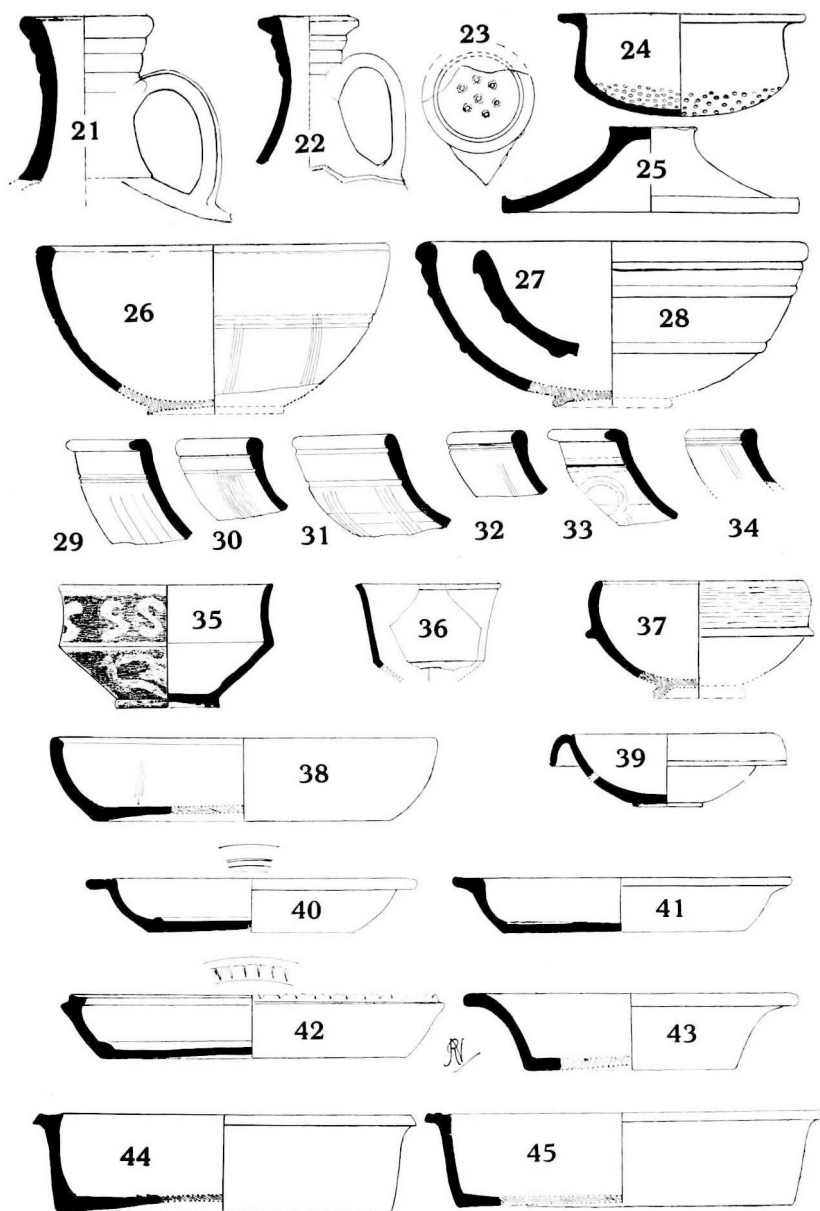
Love Street. Site 2. Samian ware from the Roman ditch, pp. 86, 87 ($\frac{1}{2}$)



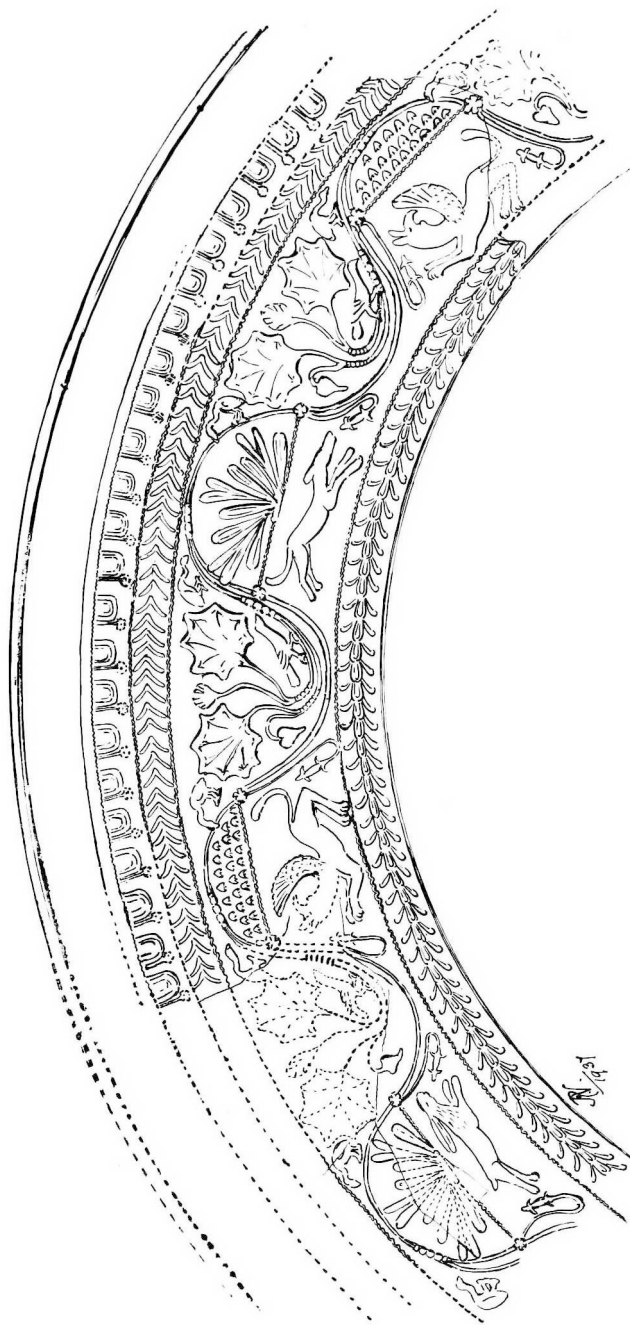
Love Street. Site 2. Samian ware 11-18; coarse ware 19, 20. From the Roman ditch, p. 87. ($\frac{1}{2}$).

Plate XXVI.

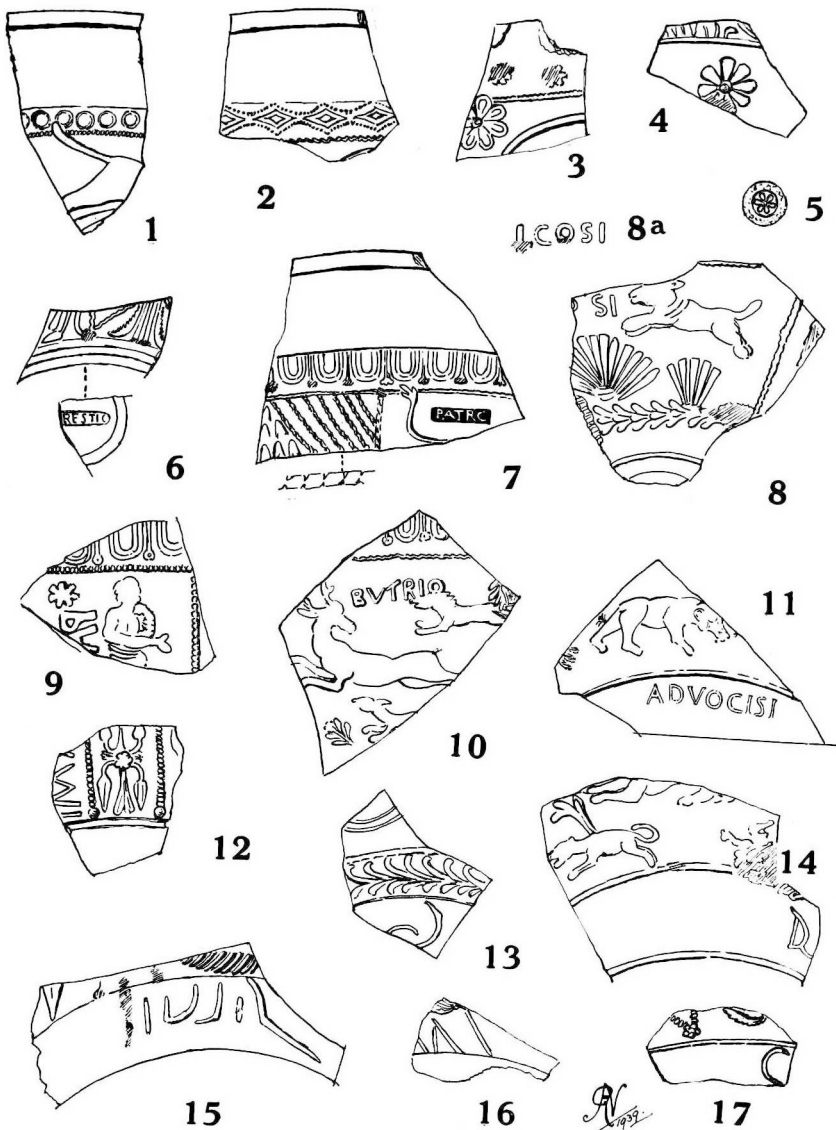




Love Street. Site 2. Coarse ware pottery from the Roman ditch,
pp. 90-93. ($\frac{1}{4}$).



Love Street. Site 2. Samian ware, p. 97. ($\frac{1}{2}$).



Love Street. Site 2. Potters' Stamps and cursive signatures on Samian ware. No. 6 on form 29, the others on form 37. Pp. 97-99. ($\frac{1}{2}$).



Fig. 1.

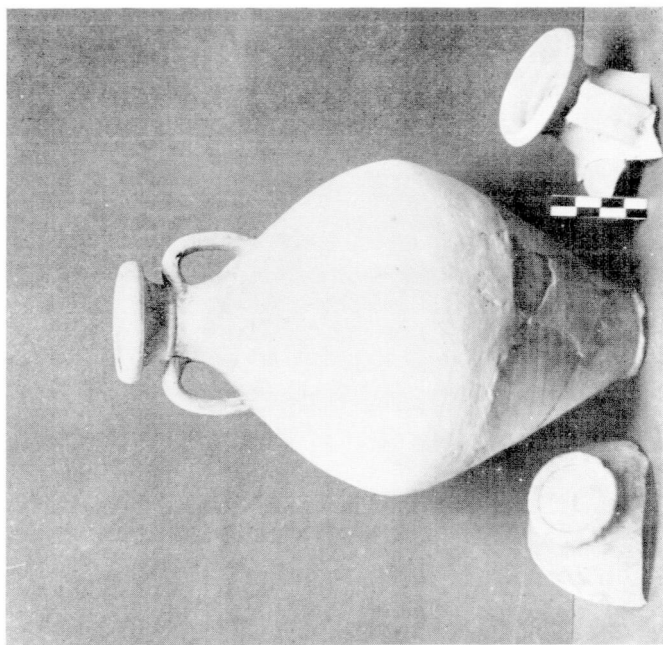
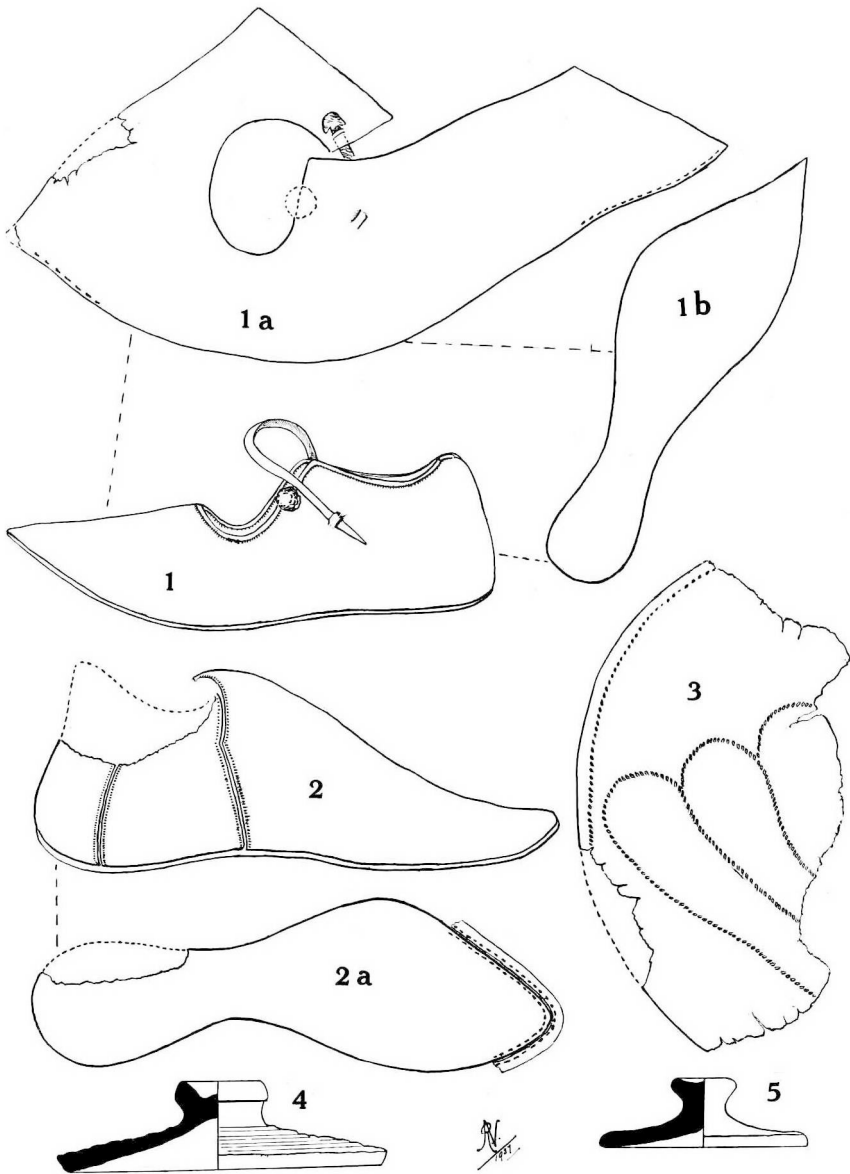


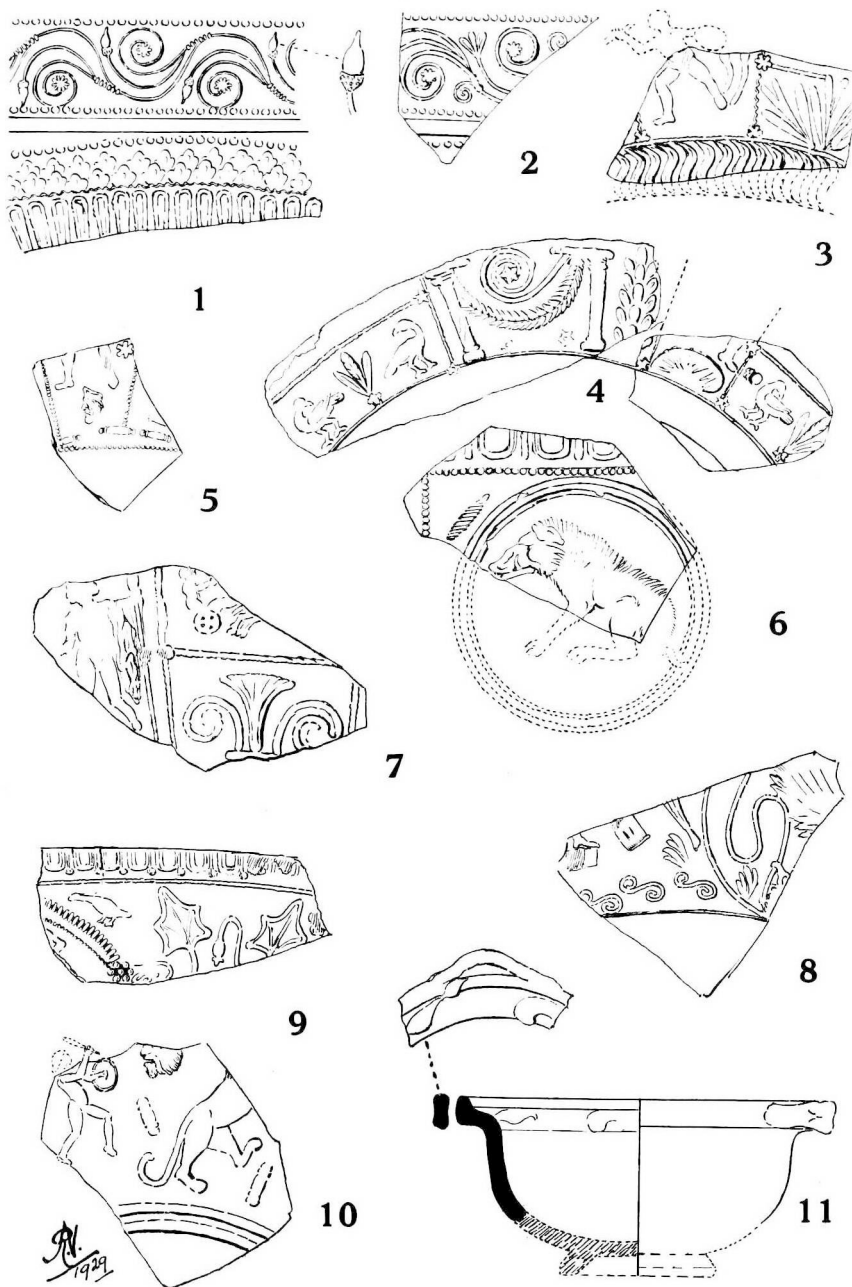
Fig. 2.

Love Street. Site 2. Objects from the Roman ditch. 1. Water pipe of lead. 2. Amphora (restored) with base and upper portions of similar examples. Pp. 93, 94. Scale of inches.

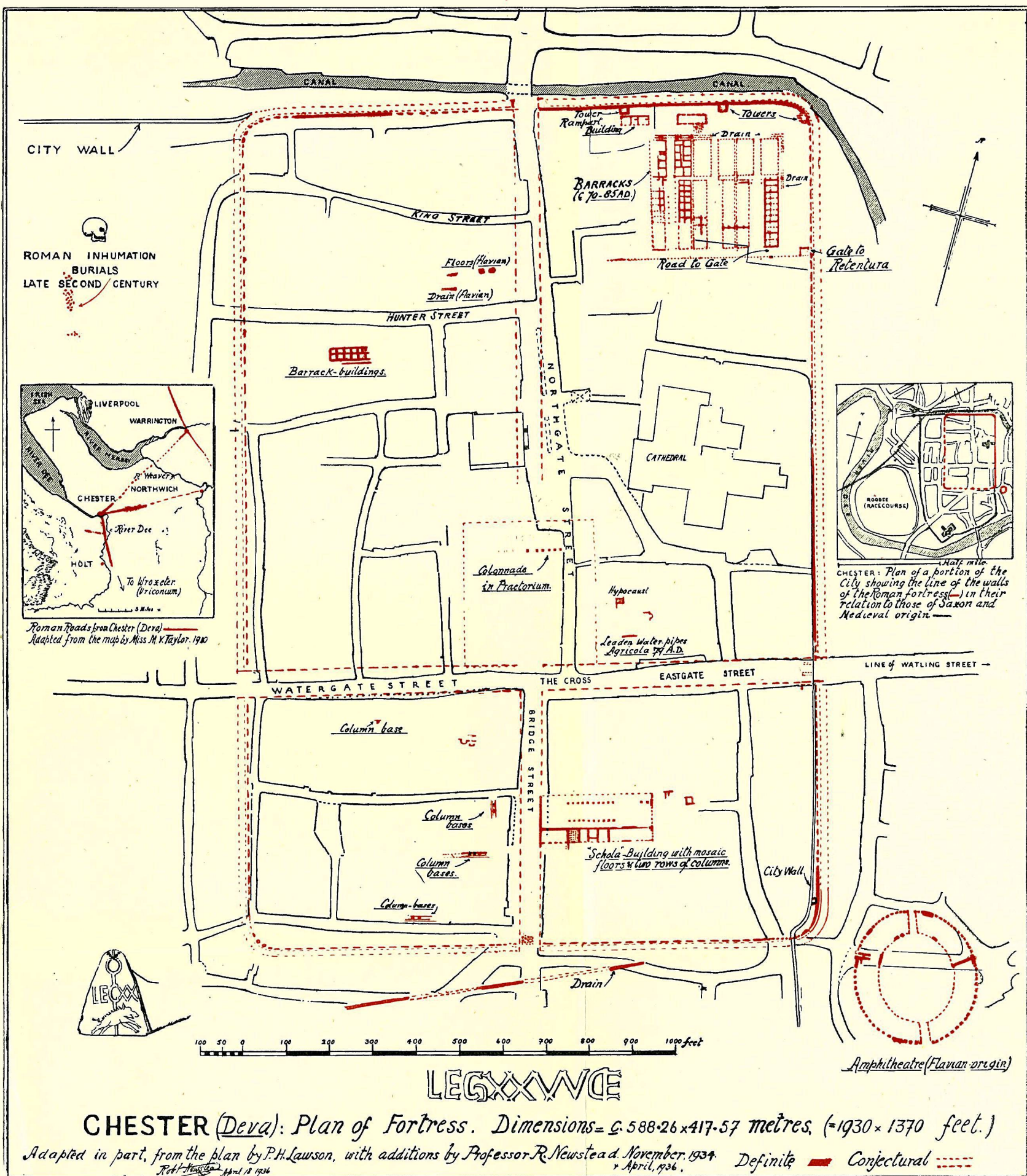


Love Street. Site 2. 14th century leather shoes, etc., pp. 108-112. ($\frac{1}{4}$).

Plate XXXII.



Forest Street. Site 5. Samian ware, pp. 114-116. ($\frac{1}{2}$).



Plan of the Roman fortress of Deva. Adapted from various plans by Mr. P. H. Lawson and Professors R. Newstead and J. P. Droop (Liverpool Annals). The original prepared by the Author for the Augustan Exhibition, Rome, 1937.

Kindly lent by the Royal Archaeological Institute (Arch. Jour., vol xciv., 1937). See p. 5.

