

THE POTTERY FROM THE ROMAN SIGNAL-STATIONS  
ON THE YORKSHIRE COAST

By M. R. HULL

*With an Appendix on the coin-finds by H. H. E. Craster*

The following report was completed before Christmas, 1925, since which date circumstances have conspired to delay its publication. Despite the delay and the very numerous and important discoveries which have been made since 1925 it has been found necessary to make very few alterations in the text. This is due to the fact that the report is simply a statement and description of the types of vessels found, and of their relative frequency. Parallels and references to other sites are scarcely required, for the dating of the Signal-Stations (to *circa* 370-395) is sufficiently exact to enable the report to stand by itself; a most satisfactory circumstance, for here is embodied invaluable evidence for the dating and identification of the pottery of the second half of the fourth century.

The pottery from Huntcliff has been published in the *Journal of Roman Studies* (ii, 215). There is none from Ravenscar. Goldsborough produced very little—a remarkable fact, for at Scarborough the quantity was very large and the small part that remains of the Station at Filey, on the Carr Naze, produced quite a large amount. Another site, the pottery from which is included in this report, is that of a (presumably) civil building<sup>1</sup> at Long Whins, on the coast between Filey and Hunmanby. The pottery from this site corresponds exactly with that of the Signal-Stations.

Little reference is made to the various sites in the text, but at the end I have appended a comparative table showing the number of examples of each type found on each site. Certain examples of the unpub-

<sup>1</sup> Discovered and trenched by Mr. P. W. Smith, of Filey, in 1922-3.

lished pottery from Binchester have been included.<sup>1</sup> Wherever no source is given for a fragment the source is Scarborough, whence come nearly all the pieces illustrated.

The outstanding features of the ware of the period under discussion are as follows. There is little variety in the types; 34 are all that are necessary for the purpose of this report. On the other hand many of the types are entirely new,<sup>2</sup> and remarkably original. That is to say, in many cases we have an entirely new type without (apparently) any pedigree behind it from which we can trace its development. This may, of course, be due to the lack of any quantity of pottery from the preceding period. But since 1925 the writer has had a huge quantity of pottery from the fort at Malton through his hands. A very large section of it is undoubtedly fourth-century, yet there are no fragments which can be said to "lead up" to the Signal-Station *types*. On the other hand it is clear that the calcite-gritted ware was in common use at Malton (and environs) for hand-made vessels from Flavian times to the introduction of our wheel-made types. That is to say, that we seem to have a clean cut between the pottery of before 369 and that of after 370. Other work since 1925 has corroborated this observation.

The new elements after 370 are:—

1. The amazing quantity of culinary ware made of black clay copiously charged with white grit (calcite, crushed lime-stone) formerly referred to as 'Vesicular' ware. The term 'Huntcliff Ware' is a more useful designation for it. The most distinctive type in this ware is the cooking-pot (Type 26) which occurs in huge quantities and is characteristic of the period.

2. Another new fabric; light buff clay, very fine and hard, and generally of a biscuit colour, but often varying from pale yellow to nearly white. Painted patterns are common on this ware and the commonest design is a series of hooks, which has not been traced in

<sup>1</sup> Only, of course, such of it as falls within the scope of this report.

<sup>2</sup> *E.g.* Nos. 1, 2, 8, 11, 15, 22, 23, 26, 27.

any other fabric. This was the finer domestic ware of the period. The makers evolved new types (e.g. Types 8, 10, 11) and completely rejected the large *mortarium* or *pelvis* which was typically Roman. The new *mortaria* are small and light in build. It might have been possible to use a pestle in the old heavy *pelvis*, but a light blow would have shattered these. The grit, too, is quite different, it is very fine, copious and always black.

3. With the *pelvis*, its inseparable companion, the white or buff flagon, also completely disappears. Nor does anything adequately replace it. Jugs are as scarce in this period as they are common before it.

4. The number of *ollae* with deeply countersunk handles.

5. Parallels with the Continental ware of the period are almost non-existent.

A glance through the pages of Unverzagt, *Keramik des Kastells Alzei*, demonstrates this very clearly.<sup>1</sup>

My thanks are due to Mr. F. G. Simpson, to whom I owe such experience and grounding as I possess in the pottery of the northern military area, and without whose assistance this report could not have been produced. If I have succeeded in describing fully and accurately the pottery actually found in the Signal-Stations my task is completed.

#### *Samian Ware.*

Is represented at Scarborough by only two very small rim fragments, one of form 33 with good clay and glaze, the other, perhaps of a late form 37, is not so good. A single fragment of form 31 was found at Huntcliff. These can only be regarded as remarkable survivals, for the supply of Samian from abroad to North Britain had long ceased; moreover, at this period the Continental potteries were producing the rouletted Samian which, though found in South Britain, has not been found in the North at all.

<sup>1</sup> One of Unverzagt's types has occurred on Hadrian's Wall. The bowl from Chapel House Mile-castle, No. 9, *Arch. Ael.*, 4th Ser., vii, Pl. lii, no. 31, resembles *Alzei* Type 28, cf. *Alzei*, Abb. 22,

Nos. 6 and 7. *Niederbieder* Type 104 belongs to the same series. The Chapel House bowl has the third-century rim and fourth-century outline and foot. (Unverzagt, *Alzei*, p. 34.)

*Castor Ware.*

The Castor ware is important. In the first place it is noticeable that in the Signal-Stations the familiar 'hunt cups' and 'motto beakers' only exist as mere survivals, whereas on sites occupied before 370 these form a large proportion of the ware. Next it is noteworthy that the Castor ware which does occur is in forms not yet well known in that fabric. A glance at Fig. 1 will show that the types are not the usual Castor types, though the paste and slip are quite normal. (No. 2 has a pattern in white paint on ledge.) Definite conclusions cannot be reached without further data. A new investigation, on modern lines, of the Castor kilns is most urgently needed.

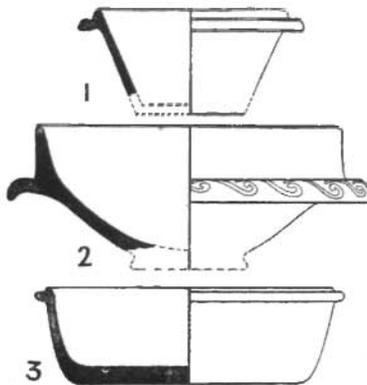


FIG. 1. CASTOR WARE (1 and 3). (4)

*New Forest Ware.*

Although the types largely correspond, none of the characteristic marks of the New Forest ware have as yet been found on sites of later date than 370. It must be remembered that, with the exception of Richborough, in no case has a large fort of this period been cleared. So far we are dealing with small sites or small excavations on large sites. A piece of rosette-stamped brown ware from Ashley Rails (Sumner, Pls. iv, v, vi) in the Binchester collection shows that these potteries did send ware to the North,

but Binchester dates from Hadrian onwards. It is most improbable that many of the vessels of our Types 6 and 7 came from the New Forest, and the peculiar *mortaria* (Sumner, *op. cit.*, plate facing p. 32) are not represented at all. As a matter of fact they were supplanted by another more local fabric for which there is as yet no definite name. This is described in the next paragraph.

*White Ware decorated with Red-Brown Paint.*

This comprises Types 8, 10 and 11. The ware is of a finely levigated clay, finely finished and hard burnt. The colour, generally white, is often tinged a dull brown or bright yellow. The well smoothed surface was coated with a slip of the same colour as the clay and then decorated with various patterns in red-brown paint. A favourite form is Drag. 38 decorated with rows of curved hooks. These are not to be confused with the red and grey vessels of similar form and decorated in white paint which were produced in South Britain. On the contrary, neither this ware nor the 'hooks' pattern occurs in the South. I have not seen it in either the Silchester collection or in Colchester Museum, and I am informed by Mr. Heywood Sumner that it does not occur among the New Forest potteries. It is common on sites of the fourth century in North Britain and particularly at Binchester. A characteristic of this fabric is the flat base with beaded edge.

As regards distribution, I have observed the 'hook' pattern on bowls of this fabric at Scarborough, Rudchester, Housesteads, Ambleside, Binchester, Filey, Aldborough (?) and Ribchester.

Since the foregoing was written Mr. P. Corder has discovered what is undoubtedly the place of production of this ware. Several kilns which he has cleared at Castle Howard, fifteen miles north-east of York, produced vast quantities of the ware, which was clearly the main product on that part of the site.<sup>1</sup> His publication will therefore take precedence with regard to this ware.

<sup>1</sup>P. Corder, *The Roman Pottery at Crambeck, Castle Howard (Malton and District Report No. 1)*; York: 1928.

Most of his types of vessels occur at Scarborough, but certain of them do not.

A few moments with Mr. Corder's mass of pottery completely convinced me of a suspicion which had long been growing. Namely, that descriptions of the colour of Roman coarse ware can be completely worthless. These thousands of sherds, from the site where they were actually made, have baked from every imaginable shade of white to buff, grey and brown, with numerous red examples. In the mass the ware has a definite character, which must be learnt by handling, and which can be recognised if one has a large quantity of the ware to deal with; but it would not be possible in the case of a fragment found, say at Ribchester, to say 'this is Castle Howard ware' unless it showed a definite type-form,—and even then the ware is such that it might be produced at several potteries without visible difference. Whether the microscope will ever assist us on this point remains to be seen.

#### THE TYPES

##### CASTLE HOWARD WARE

*Type 1. Tall two-handled urn or olla. (Pl. i, 1 and 2.)*

This and the following are among the commonest of the types in the finer grey ware. Owing to the thin, hard material they are always found badly broken up. Fragments of about thirty different vessels were found at Scarborough. The clay varies much in colour; (a) soft greyish white, the surface fumed a dark grey, (b) hard, greyish white to buff, not fumed, (c) very hard, light grey, surface polished. The type-figure, exceptionally, is of very thin, hard, grey clay, unsmoothed on surface and red at the core. Only one vessel could be restored, but the very numerous remains of others show clearly the regular scheme of decoration, which is the same as that of Type 2.

The rim (Fig. 2, nos. 1-4) is simply outcurved, and, with the neck, is smoothed, sometimes polished.

Immediately below the neck a band formed by the running loops of a scored line, or often a double wavy line, girdles the shoulder. This band is generally divided by a girth groove and interrupted by the two handles which are always deeply countersunk into the side of the vessel. An isolated example (Pl. i, 1) has hooked lines on the shoulder. The next band below is polished and left blank, then comes a broad,

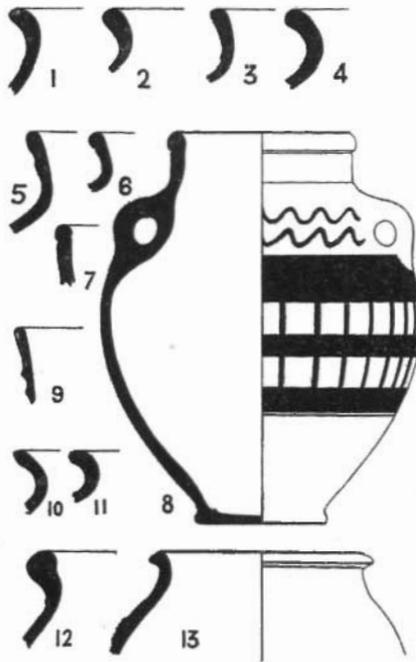


FIG. 2. TYPES 1-4. (1)

unsmoothed band scored with vertical lines, often with several scored girth bands intersecting them. The last few inches to the base are polished. The base is always flat, sometimes simple, sometimes offset (like Fig. 2, 8). The average diameter of the rim is about 6 in. Type 1 is always taller than Type 2.

This type occurs at all the Signal-Stations, the Wall-Forts, Binchester, Malton, etc.

*Type 2. Short two-handled urn or olla with upright, grooved rim. (Pl. i, 4, and Fig. 2, 8.)*

This type is closely related to the foregoing, but the rim is regularly straight, upright, or slightly outbent, with a groove outside the lip. These vessels are consistently thinner walled than those of Type 1, and of smaller build. The decoration is identical. The clay is hard brown-grey, or hard white with brown-grey surface. The base is always flat, sometimes offset. These two types are peculiar to the period. Pending the recovery of an adequate amount of well preserved pottery from the cemeteries of the military area nothing can be said about their immediate antecedents or the derivation of the style. The purpose of Type 1 was probably the same as that of the 'Honey Pots' of the first and second centuries, though the mouth is very narrow for such a purpose, and it is safe to say that they never bore lids or covers.

There are about 40 rims of this type at Scarborough, the diameter varies from 4 to 5 in. A complete example is figured in May's *Catalogue of the Roman Pottery in York Museum*, Pl. xx, no. 5. The rims occur at Huntcliff (Fig. 40, 13), Rudchester (Pl. xx, 91), Goldsborough (Fig. 2, nos. 5, 6 and 8) and Filey.

A common type at Castle Howard. The decoration of the lower part is obviously intended to represent the staves and hoops of a barrel. This idea was common among the Celts, *cf.* the many Belgic butt-shaped beakers of the earlier first century.

*Type 3. Large urn or olla with heavy rim and notched cordon. (Pl. i, 3.)*

A rare type; only two examples occurred, one of which could be restored and serves as type figure. It is of very soft, mealy, blue-grey clay with a brownish, soft, gritty surface, and has a wavy band of combed pattern round the shoulder. The second rim was almost identical, but in hard grey clay. Diam. 7 in. Perhaps Fig. 2, 12 may be included under this type as it has definite similarities. Clay grey, black surface. Diam.  $6\frac{1}{4}$  in.

The meagreness of our northern museums' pottery leaves the history of the type blank.

*Type 4. Jar or olla. (Fig. 2, 13.)*

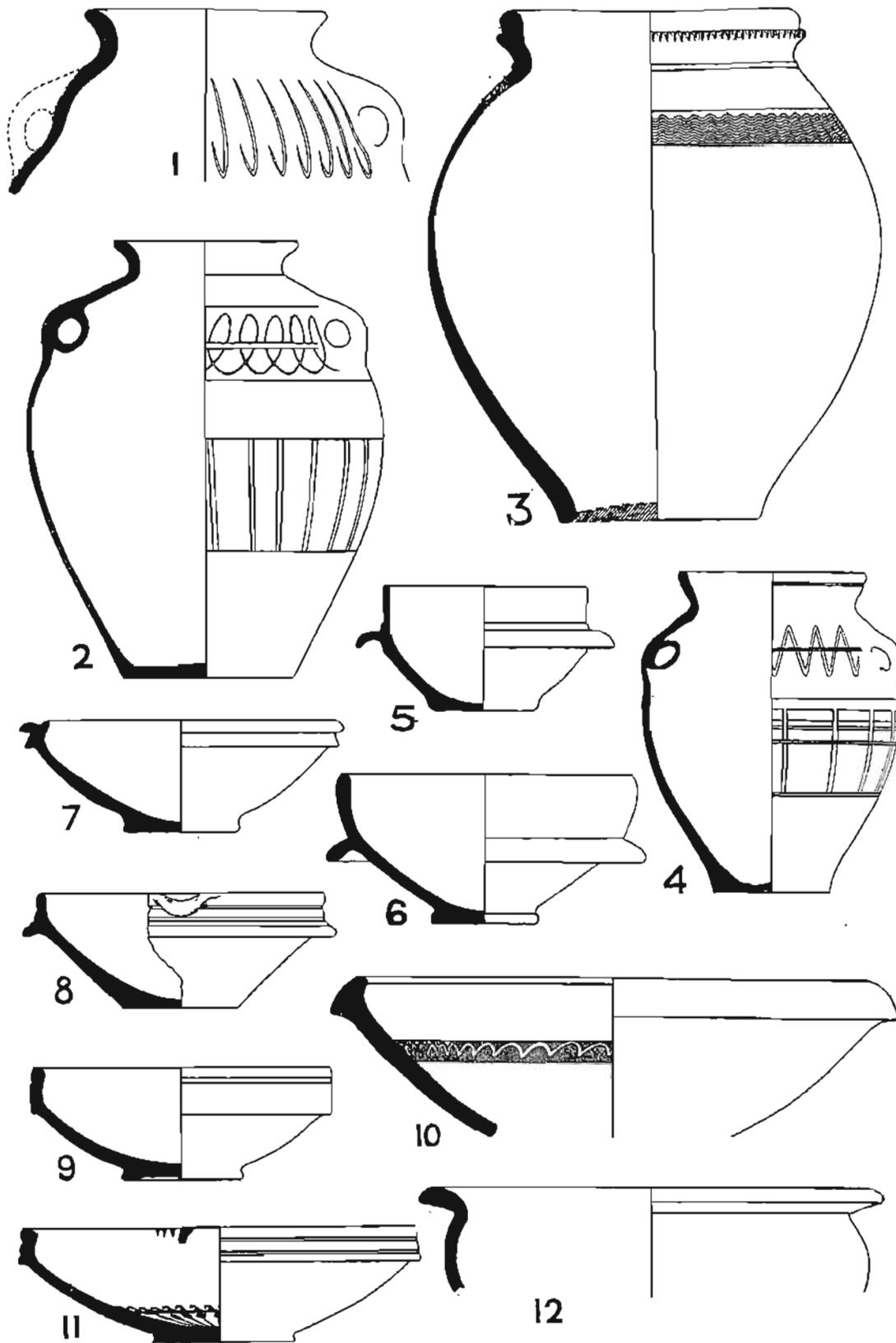
This is a jar or *olla* from Scarborough. Only one rim fragment was found. It is well made, of fine, hard grey clay with polished surface, burnt almost whitish buff. There is a faint and vague scored pattern upon it too dubious for reproduction. The vessel had certainly one handle, possibly two. Possibly Castle Howard ware (?) although the type has not been found there.

*Type 5. Beaker? (Fig. 5, 9.)*

A single fragment with the peculiar outline shown in Fig. 5, no. 9. The clay is hard grey with a red core. It does not stand alone, for I have observed it recently at both Castle Howard and Malton, where it occurs several times and at both places in association with late fourth-century wares. There is sometimes, as here, a slight groove inside the lip.

*Type 6. Hemispherical bowl with overhanging ledge around exterior. (Pl. i, 5 and 6, and Fig. 3.)*

There were at least fifty different examples of this type found at Scarborough. It is a direct imitation of the well-known Samian form 38, and was extraordinarily popular in the fourth century, forming one of the chief products of the New Forest potteries, but without doubt produced in quantity at most potteries active at that time. As one would therefore expect, the clay is of a most varied character and the form also is varied. Pl. i, 6, and Fig. 3, 2, 3 and 8 are outlines of vessels which are generally of much larger size than the remainder. Diam. 7-8 in. No. 1 grey, diam. 7 in. No. 2 is of soft dark grey clay with red surface and of heavy build. No. 3 is of fine, hard white clay and polished. No. 8 is of soft whitish clay, fumed grey and smoothed. The remainder are smaller



(Scale  $\frac{1}{3}$ )



and the rim is more upright, while the general outline is much more stiff. Diam. 5-6½ in. No. 4 is of fairly hard red clay with crimson slip and has a white chain pattern painted upon the ledge. Probably New Forest ware. Another fragment, no. 7, in brown clay has an impressed pattern upon the ledge and is also possibly of New Forest origin. No. 5, diam. 5 in., is of light drab clay. No. 6, diam. 4½ in., is of fine hard, dull red clay.

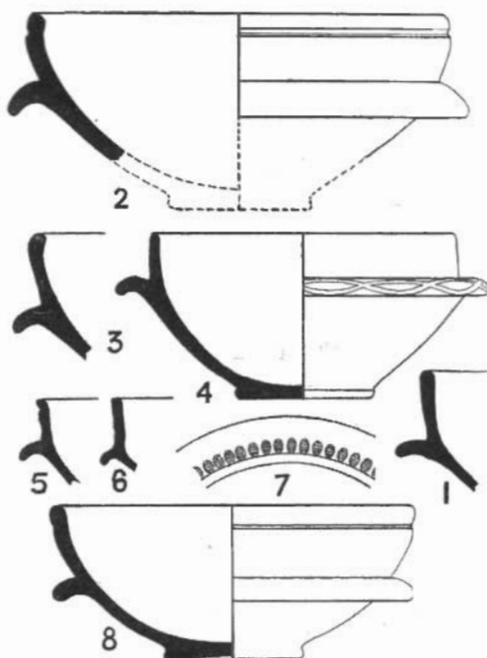


FIG. 3. TYPE 6. (½)

Pl. i, 5, diam. 6½ in., is of fine hard drab clay. It shows the angular, clumsy outline of these smaller bowls in a marked manner. The bases occur both plain and flat, and with footring. A large proportion of these bowls were made at Castle Howard.

A remarkable fragment was found in black cooking-pot ware, the surface has thick black burnishing; it appears to be hand made. Diam. *c.* 7½ in.

*Type 7. Straight-sided bowl with ledged rim.* (Fig. 4, 1 and 3.)

With the exception of the cooking-pot this was probably the commonest type at Scarborough. Of over forty different examples some half dozen have a single or double wavy line scored on the interior wall. The walls are nearly always quite straight and the bottom quite flat. As yet no one has been able to prove that there is any chronological value in the slight

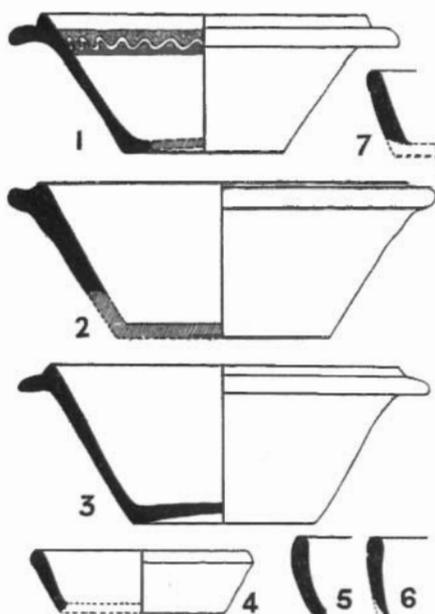


FIG. 4. TYPES 7, 17, 18 AND 28 (4)

differences in the rim outline—flange wide or narrow, thick or thin, horizontal or slightly drooping, etc. I believe, however, that in the North, at least, when these vessels occur in the hard, finely-gritted cooking-pot ware the beading of the rim is often only about half the thickness of the wall of the vessel and that such examples are to be placed in the late second and third centuries. They do not occur at Scarborough. (Examples : Rudchester, Pl. xx, nos. 52, 54 and 55.)

The type is peculiar to Britain. Its derivation is obscure. Although its earliest dated appearance is at Gellygaer (Traj.-Hadr.) it may well have existed earlier on civil sites in the South. It may have developed from Hofheim, Type 94A, which is still fairly common in Gellygaer. (Ward, Pl. x, 8.)

Towards the end of the second century this type completely superseded the carinated bowl in use with

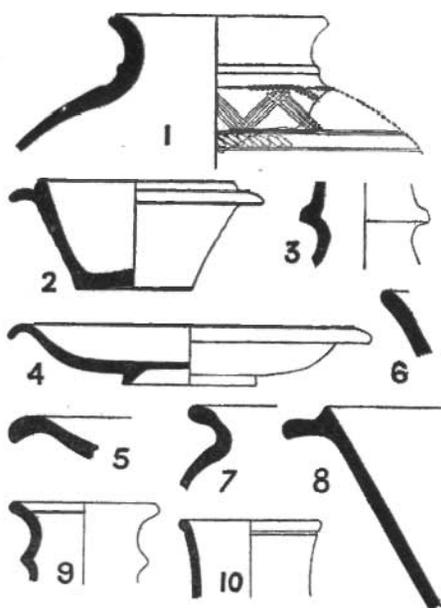


FIG. 5. VARIOUS TYPES. ( $\frac{1}{4}$ )

the troops and also in civil settlements. Its production rose to enormous quantities in the fourth century, and examples of very large size occur. For dating purposes it is not of very much service. The large examples seem to be late, and up to the time of the Scarborough excavation the interior wavy line had only been observed once. (Corbridge, *Arch. Ael.*, 3rd Ser., viii (1912), p. 176.) It may prove to be a definitely fourth-century characteristic. It belongs to the end of Period IV at Birdoswald, and appears at Chapel House Milecastle, No. 9. Its frequent occur-

rence among the vast numbers of this type at Castle Howard may confirm this.

Mr. Hornsby, of Saltburn, found a large rim of this type with the wavy line inside, at Highcliff near Guisbrough, in the earth of a tumulus covering a handled beaker which is indubitably Bronze Age!

In Fig. 4, no. 1, is fine grey clay, smoothed except for the band left for the wavy lines on the interior. For no. 2 see Type 28. No. 3 is another grey example, very hard with an almost metallic surface. Fig. 5, no. 2 is from Goldsborough and is a small example. (Birley, *Arch. Ael.*, 4th Ser., vii (1930), pp. 163, 164.) Fig. 5, no. 8 is large, of metallic grey ware.

#### BUFF WARE (MOSTLY) WITH DECORATION IN RED-BROWN PAINT

*Type 8. Wide bowl with upright rim grooved on outside.*  
(Pl. i, 11 and Fig. 6, 1-4.)

This is a very characteristic type possibly produced at Castle Howard and is usually present, though never in large numbers, on late fourth-century sites. The base is flat and beaded, as usual in this fabric, and both inside and outside is carefully smoothed. The decoration, when present, is on the interior. There is some variation in the rim outlines. Five are given in the Huntcliff Report (*J.R.S.*, ii (1912), Fig. 40, nos. 1-5). Another from Rudchester in *Arch. Ael.*, 4th Series, i, Pl. xx, 86. One was found at Birdoswald in level IV (370-383), *C. & W.T.*, n.s., xxx, Fig. 16, 97. The five found at Scarborough are illustrated. Fig. 6, no. 1, is a rather small specimen which has been restored. The clay is yellowish. No. 2 is also soft yellow in fabric. Nos. 3 and 4 are of the harder, whiter variety. The decoration of the interior of no. 1 is displayed at (a) below, that of the type figure at (b); the latter has also groups of strokes around the rim exactly as in the Huntcliff example (*op. cit.*, Fig. 40, no. 1). Fig. (d) is from a much broken base at Scarborough. A fragment at Malton has a very spirited representation of a stag

upon it. The form clearly developed from the 'hammer-head' mortar. There are two sizes; two rims are 6 and 6½ in. diam., four are about 9 in. diam. These have not turned up in large numbers at Castle Howard.

*Type 9. Small mortarium, 'hammer-head' type.*  
(Pl. i, 8.)

This is the nearest approach to the 'hammer-head' type found in the Signal-Stations. The rim slants

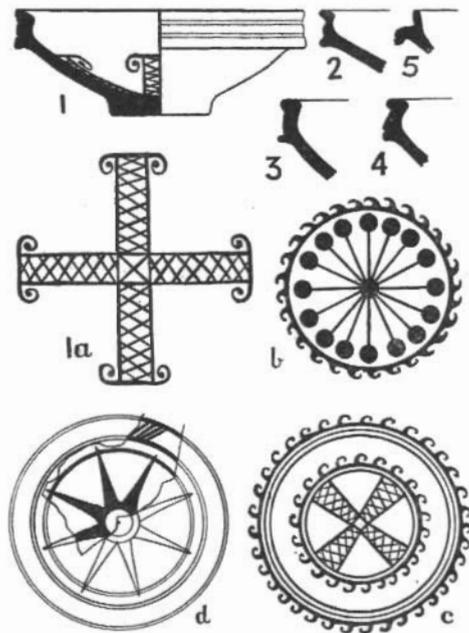


FIG. 6. TYPES 8 AND 12. (4)

obliquely outwards and downwards and bears several grooves. The carefully modelled spout of the earlier *mortaria* has given place to a simple depression formed by the pressure of the potter's thumb. Only one was found at Scarborough, it is of very coarse buff clay, with very coarse black grit and traces of white slip coating. The true 'hammer-head' is associated with the third-century cooking-pot. It is the later small and unconventional mortars (our Types 10-12) which are associated with cooking-pots of Huntcliff ware.

Type 10. *Small mortarium with upright rim.* (Pl. i, 9, and Fig. 7.)

The last stage of the 'hammer-head' type. Very rarely the rim is sloped inwards at an angle of nearly 45 degrees, otherwise the vessels are remarkably true to type. The base of the type figure is flat, beaded, and has a circle inscribed on the underside, but most examples have a plain, flat base. For the sloping rim, which occurs at Castle Howard, compare Ambleside, Fig. 22, no. 53 (*C. & W. T.*, n.s., xv). It is not impossible, however, that the type developed as a copy from the Samian *mortarium* with lion-head spout. The paint is often easily washed off, so that plain

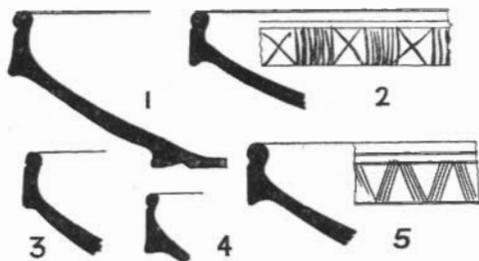


FIG. 7. TYPE 10. (½)

examples may well have been decorated. The decoration is on the upright outer face of the rim and consists of groups of three or four narrow strokes arranged vertically or obliquely (Rudchester, no. 85), or the hook pattern (used in Fig. 6, nos. b and c). Fig. 7, 2 is unusual.

Four or five examples at Scarborough and a few on all late sites in the northern military area. There is a piece of form 38 with the hook pattern in the Black Gate Museum at Newcastle-on-Tyne from Tower Tye Milecastle, No. 29.

In Fig. 7, no. 1 is from Long Whins with decoration as no. 5. No. 2 is from Binchester. No. 3, Goldsborough. No. 4, Long Whins, diam. 8 in. No. 5, Binchester.

*Type II. Small mortarium with ledged rim. (Pl. i, 7 and Fig. 8, 1-4.)*

This type is a product of the same potteries as the preceding. The rim is curiously moulded in a manner best shown by the illustrations Fig. 8, 1-4. The very distinctive outline occurs fairly regularly in fourth-century deposits and all appear to be of the same fabric. Two are figured from Birdoswald (*C. & W.T.*, N.S., xxx, Fig. 13, 14-16), one dated 370-383. The clay is very hard white or grey-white, with smoothed surface

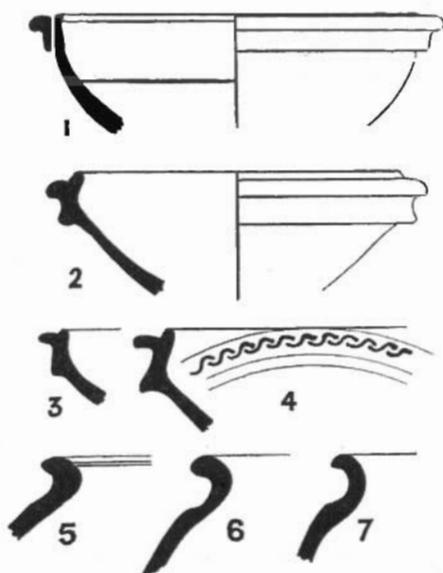


FIG. 8. TYPE II, ETC. (4)

often burnt a deep black. In the break the material is often slaty in texture, flaking off at the fracture and often showing a blackish core. The grit is fine, black, and copious as in the preceding type. The base is flat and beaded, as usual in this fabric. I can trace no antecedent for it, and it does not appear to be directly connected with the complicated rim outlines of the New Forest *mortaria* (see Ashley Rails, Pl. xa, 7-19). Nos. 1 and 2 are from Goldsborough, no. 3, Scarborough: no. 4 is one of several painted examples

from Binchester and almost certainly came from Castle Howard, where a number of similar examples occur. (Corder, Pl. v, 137-141.)

#### VARIOUS WARES

*Type 12. Small mortarium with ledged rim.* (Fig. 6, 5.)

A single rim fragment at Scarborough, shown Fig. 6, no. 5, is in bright red clay with remains of a white slip coating. The grit is small, of a beautiful coralline pink. The outer edge of the ledge bears a clearly-defined groove. This type occurs sporadically everywhere. The present example now assists to date it.

*Type 13.* (Fig. 5, 3.)

Two fragments of fine white ware with fine fumed grey surface, may have belonged to jugs of the type which have a horizontal ledge above the handle (cf. *Niederbieber*, Taf. ii, 43, and Abb. 27, 10a), but they are very small and the identification is not certain. Fig. 5, 3, shows the larger fragment.

*Type 14. Wide shallow dish with flatly outcurved rim.*

One rim of this type was found at Scarborough in a thick creamy-white ware. The type-figure (Fig. 5, 4) is reproduced from May, Hambleden, Fig. 12, 82, in *Archaeologia*, lxxi. The Scarborough rim (Fig. 5, 5), is soft creamy-white ware. Diam.  $10\frac{1}{4}$  in.

*Type 15. Wide bowl with T-shaped rim.* (Pl. i, 10.)

This form is not at all plentiful. The type figure is very large, and there are two or three similar rims of smaller diameter at Scarborough. These specimens are all in a fine dark grey clay similar to that of many specimens of Type 7. There is at least one example of this outline at Binchester, in the Castle Howard fabric, and with the design (Fig. 6, c) on the interior in red-brown paint. The base is flat and beaded, but

it does not follow that the bases of the Scarborough specimens were so. The derivation of the type is unknown to me. It seems to have been produced at Castle Howard. (Corder, Pl. iii, 58-73.)

The finer, white examples, with painted decoration, are quite small. The large grey examples all have the scored wavy line or lines on the interior.

*Type 16. Bowl. (Pl. i, 12.)*

Several fragments of a single vessel at Scarborough with a flatly outcurved rim. The diameter is comparatively large, the clay buff, with a darker core. The original form may have been that of a hemispherical or of a conical bowl. I am not aware of any parallel.

*Type 17. Grey platter with straight side. (Pl. ii, 5 and Fig. 4, 4.)*

These are far from numerous. Fig. 5, 6, shows a single fragment of one in coarse grey ware, diam.  $6\frac{3}{4}$  in. Fig. 4, 7, is of a finer grey clay, smoothed and with a groove below the rim on the outside. Diam.  $6\frac{1}{4}$  in. This seems a steady type, always rather thick as here and quite distinct from the other grooved platter, which is much earlier. (Illustrated, Poltross Burn, Pl. iii, 30.) It occurs at Malton and Castle Howard. Fig. 4, 4 (Scarborough), is a small example in fine grey clay (*cf.* Richborough, ii, Pl. xxxii, 167 and 168).

*Type 18. Grey platter with curved side. (Fig. 4, 5 and 6).*

Two rims, one with a groove, are shown in Fig. 4, nos. 5 and 6. Both are from Goldsborough. Very common on earlier sites. This type appears to be rare in the late fourth century.

*Type 19. Jar with constricted body. (Pl. ii, 9.)*

This is to be regarded as a freak. Such jars are not unusual in the first century, and generally appear to have been produced under Belgic influence (*cf.* Behn, 310; Holder, *Formen*, Taf. viii, 4; Koenen, x,

19, and xii, 27). In all these the superior technique is obvious, all are first or second century. There are two striking examples from Margidunum (*J.R.S.*, 1923, Pl. xi, 16 and 25). The present example is in a thick but good buff to grey clay.

*Type 20. Jar. (Fig. 5, 1.)*

This is a single rim fragment from Scarborough. The clay is hard grey with a drab gritty surface, there is brown grit in the paste. It is a survival of a type common in the earlier period, with the difference that the cordon is displaced upwards from the base of the neck on to the neck itself. The form of the body cannot be safely restored from similar earlier examples.

The decoration of scored lines on the shoulder band is a normal feature on the early examples where it is nearly always in lattice pattern, but sometimes merely oblique lines. The grouping here shown is a later style, compare the painted patterns on the rims of *mortaria* of Type 10, and of the 'hammer-head' *mortaria*. The lower band of long, oval depressions set closely and obliquely between two girth grooves is quite a normal feature at any period, but never really common.

The most puzzling feature of the decoration is the series of notches which curves downwards and is resumed after an interval by another series in a straight line. I am at a loss to explain this unless it be remains of the eyebrows of a face. In any case it is remarkable.

For early examples see Richborough, i, nos. 1-2 and 4-5; Silchester, lxxvi, 9, 10; and lxxvii, 1; Wroxeter, iii, No. 70; Hofheim, Type 123; Koenen, Taf. x, 3.

*Type 21. Jar. (Fig. 9, 1-3.)*

Three grey rims from Scarborough are illustrated. No. 1 is of fine, light-drab clay, well smoothed and thin. There is a light groove on the shoulder and another inside the rim. Diam.  $4\frac{3}{4}$  in. No. 2 is of the same clay. Diam.  $3\frac{7}{8}$  in. No. 3 is a hard drab-grey fragment. Diam. *c.*  $3\frac{3}{4}$  in.

*Type 22. Large jar with two countersunk handles.*

The figure (Pl. ii, 1) is drawn from the largest fragment found. About four similar rims probably belong to this type and there were also a number of handles, one decorated by notching the edges (may not belong to this type, as it is flattened). The general shape seems to be globular running down to a plain foot. A large side-fragment shows three wavy lines bordered by grooves. Whether all had three such bands it is not possible to say.

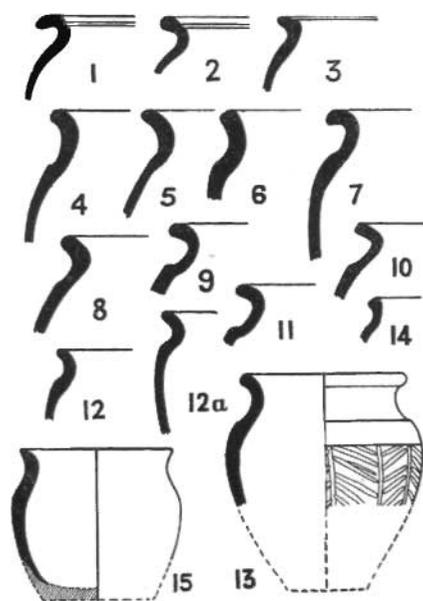


FIG. 9. TYPES 21 AND 24, ETC. (1)

The rim is distinctive, being roundly curved outwards and projecting boldly from the neck beneath. Just inside the lip there is always a faint suggestion of a groove as in Type 26, but this generally amounts to a lightly scribed line.

The clay is coarse, very hard and nearly black, often containing here and there a large pebble or a fleck of white grit. There is here, perhaps, some relation, whether chronological or artistic, to the cooking-

pot of Type 26. The two types seem to be contemporaneous at Scarborough.

*Type 23. Large jar with two countersunk handles and upright rim (Pl. ii, 2.)*

One of these vessels, of which some nine could be distinguished, has been restored. (Pl. ii, 2.) Only the height is doubtful and that could not have varied more than a few millimetres. The clay is different from that of Type 22, being coarse, and more sandy and drab in colour, though it often shades off to black or reddish. The decoration is in scored or 'burnished' lines which leave a poor kind of polish reminiscent of the second and third-century cooking-pot. The spiral reappears in the barbarous and careless decoration.

The rims lack character, and safe parallels are lacking in the present state of our knowledge.

*Type 24. Jars of coarse grey to black clay. (Pl. ii, 7, and Fig. 9, 4-14.)*

Here are included a large number of very fragmentary and much worn rims of jars of various shapes and sizes. The remains were not sufficient to admit of their description as different types. For the most part the clay is a sandy grey to black with a blackened surface. It may very well be the same as that of the Huntcliff ware. If so, we must conclude that these pots, not being intended for cooking, were made without the calcite grit. The worn condition and small size of the fragments suggest that they belong to the earlier part of the occupation.

The following is a description of the rims illustrated:—

- (a) *Large jars.* (Fig. 9.) 4, grey-black, latticed, diam. 5 in. 5, grey, grey surface, diam. 5 in. 6, grey (burnt red), diam. unascertainable. 7, grey, black surface, latticed, found in pit B, diam. 5 in. 8, coarse grey, smoothed surface, latticed, diam.  $4\frac{3}{4}$  in. (this vessel had handles). 9, black, diam.  $4\frac{3}{4}$  in.

- (b) *Smaller jars*. 10, grey, diam.  $4\frac{1}{2}$  in. 11, black, diam.  $4\frac{3}{4}$  in. 12, black, gritted ware, diam.  $3\frac{3}{4}$  in., another (12a) is 5 in. 13, black, diam.  $3\frac{1}{2}$  in. The scored pattern on no. 13 is unusual, it occurred on some other small black sherds.
- (c) *Beaker*. 14, grey, grey surface, diam.  $2\frac{1}{4}$  in.

*Type 25. Neckless cooking-pot.* (Pl. ii, 4, and Fig. 10, 1-5.)

An extremely common type on the Rhine and Danube in the later La Tène period (*cf.* e.g. Pfanz, Taf. vii, 1-7, but especially Faimingen, p. 67; Taf. xi,

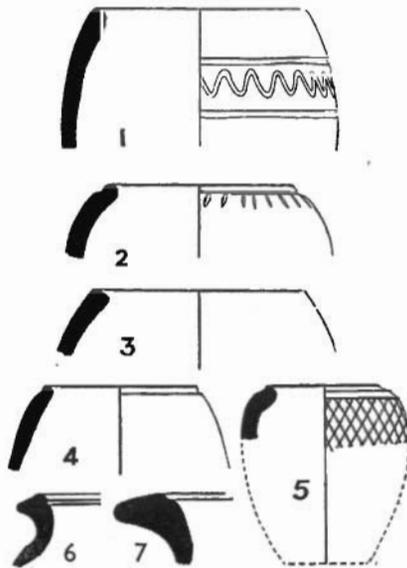


FIG. 10. TYPE 25, ETC. ( $\frac{1}{4}$ )

27; and xii, 31 and 41), at which period it was hand made. Later, in the wheel-made fabric at least, it was scarcely less common in Britain (*cf.* Pitt Rivers, *Cranbourne Chase*, i, 33-4. Many other references could be given). On Hadrian's Wall it is not common, and always with beaded rim. In the fourth century it still appears sparsely, six examples at Scarborough, three at Goldsborough and one at Carr Naze, but the rim is almost plain.

Decoration, which on the Continent and early in the first century in Britain took the form of combing and rilling, almost disappears in Britain until we find it again at Scarborough—now under other influence,<sup>1</sup> a series of notches (Fig. 10, 2, from Carr Naze), a wavy line between parallel lines and lattice pattern (nos. 1 and 5, Scarborough).

The beaded lip found on the Wall (compare Poltross Burn, Pl. iii, 23, and High House Turret, Pl. xvi, 45) is almost forgotten, the plain lip of the La Tène type is again becoming popular. The following is a description of the vessels in Fig. 10 :—

- No. 1. Hard grey, scored decoration.
- No. 2. Coarse hard grey, polished surface. Carr Naze.
- No. 3. Goldsborough. Coarse grey cooking-pot ware, burnished outside, the large grit in the clay begins to approach the calcite gritted ware.
- No. 4. Goldsborough. Very coarse grey clay, rudely burnished black on outside.
- No. 5. Grey, black surface. Contains a very little calcite grit. Another was similar.

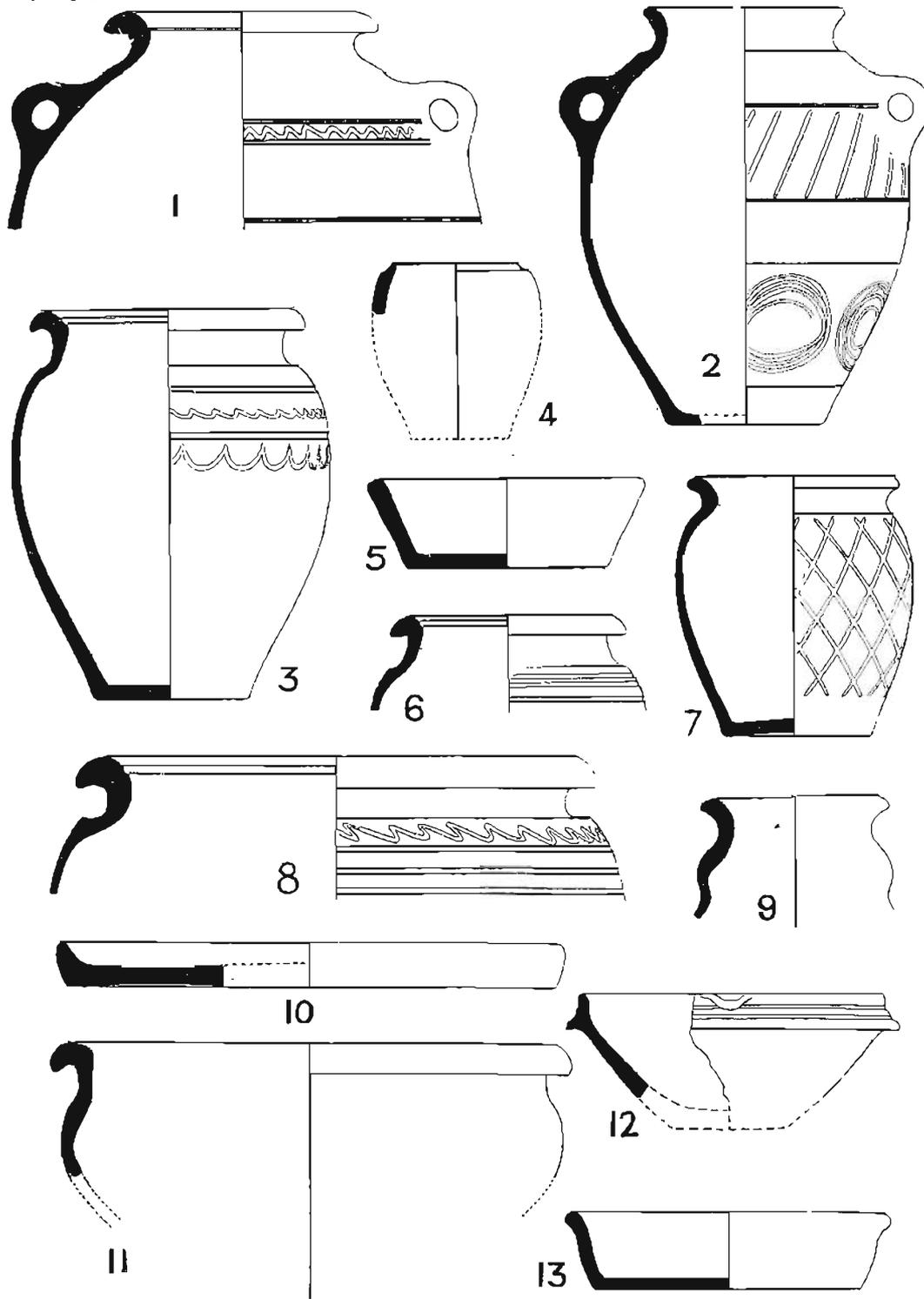
#### HUNTCLIFF WARE

*Type 26. The Huntcliff cooking-pot.* (Pl. ii, 3, 6 and 8, and Fig. 11, 1-7.)

This type, which first received recognition at the hands of Messrs. Gibson & Simpson in their report on the Milecastle at the Poltross Burn (Pl. v, 6),<sup>2</sup> is the most typical vessel of the fourth-century occupation. Apart from the black clay, copiously charged with white calcite grit, the form of the rim is quite unmistakable. The shoulder turns in sharply, the neck rises abruptly and terminates in a thickly-lobed and outbent rim with a clearly defined groove on the

<sup>1</sup> But cf. Richborough, i, Pl. xxi, nos. 17, 18 and 19, which are Claudian.

<sup>2</sup> C. & W. T., n.s., xi, p. 453.



(Scale  $\frac{1}{4}$ )



inside of the lip. There are, of course, exceptions, such as those rims designed to accommodate a cover (Fig. 5, 7) and the rims which curve over comparatively smoothly and have no groove on the inside. These are uncommon and should be earlier in date than the majority of the type. In addition to the vessels illustrated there is really no need to do more than refer the reader to those already published (Poltross Burn, Pl. v, 6-17; Huntcliff, Fig. 40, 14-29, and Rudchester, Pl. xx, 117, *et seqq.*), for the whole mass is much the same. The proportion of these rims is

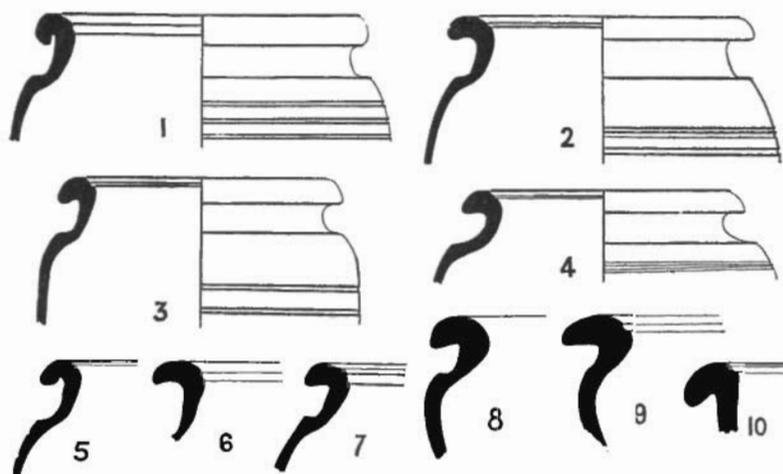


FIG. 11. TYPES 26 AND 27. ( $\frac{1}{4}$ )

remarkably high (see table, p. 250). At Scarborough nearly 400 vessels of this type were identified.

There is little to show how or when this form developed. It appears that *circa* 370 a new pottery sprang into being producing a cooking-pot of good, heavy substance, and in a fabric essentially native, that is, of clay well intermixed with large calcite grit, as we actually see in the Early Iron Age pottery from the Scarborough site itself.<sup>1</sup> The pottery recovered by Dr. J. L. Kirk from the lacustrine site on the Costa Beck, near Pickering, is even more startlingly similar,

<sup>1</sup> Rowntree, *History of Scarborough*, pp. 20-33.

for except that it is hand made and that the rim outlines follow the La Tène form, some of it would be almost indistinguishable from the Roman fourth-century ware. The rapid access to popularity secured by this new product only shows how thin was the veneer of Roman culture in the military area.

*Type 27. Tall, wide-mouth bowl.* (Pl. ii, 11; Fig. 11, 8-10, and Fig. 12.)

A type which I first observed in the Goldsborough example (Pl. ii, 11). Previously its probable progenitor had been found in a smaller, lighter example of good

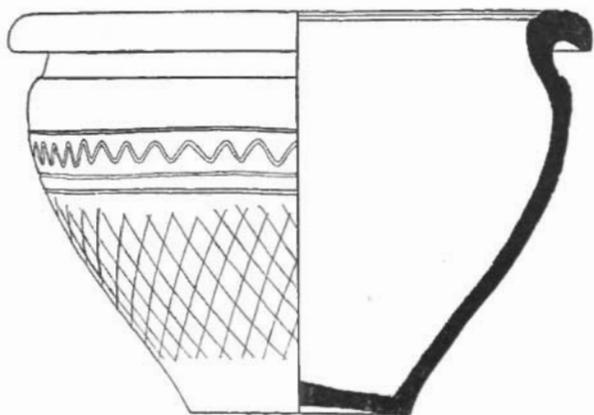


FIG. 12. TYPE 27 (FROM CASTLE HOWARD). (1)

grey clay, at Housesteads-Borcovicium,<sup>1</sup> and I have observed a number of larger, heavier examples in a thicker grey ware among the Binchester pottery. They are probably to be attributed to the early fourth century. The chain is now completed by the discovery of an intermediate type at Castle Howard,<sup>2</sup> in the same ware as our Type 22. The type (Fig. 12) does not occur in this ware in the Signal-Stations, but in Huntcliff ware. There are six rims at Scarborough (Fig. 11, 8-10), one (Pl. ii, 11), a more clumsy outline, at Goldsborough, and possibly two at Carr Naze. The makers sometimes added the characteristic

<sup>1</sup> *Arch. Ael.* 2nd series, xxv, Fig. 55, No. 8.

<sup>2</sup> Corder, *Crambeck*, Pl. vi, no. 166.

groove to the interior of the rim (Fig. 11, 9 and 10). The Castle Howard vessel (Fig. 12) also has a bold, wavy line between the two scored lines on the shoulder quite in the style of the decoration of the Huntcliff cooking-pots. Some of the Scarborough examples may have had some similar decoration.

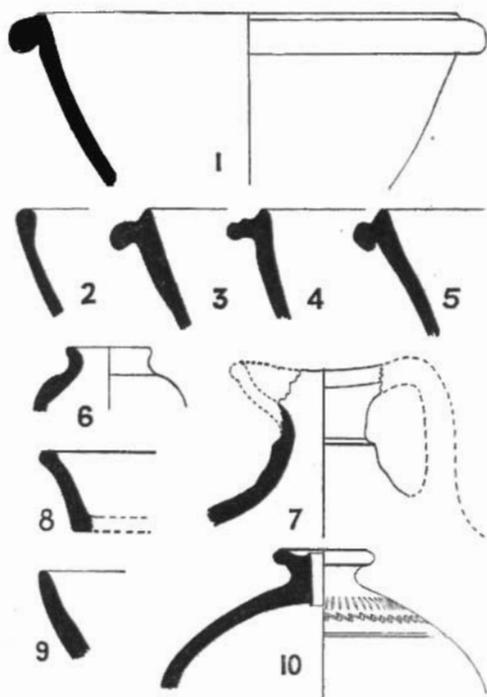


FIG. 13. TYPES 28, 29, 31, 33, 34 AND 35. (1)

*Type 28. Straight-sided ledged bowl.* (Fig. 4, 2, and Fig. 13, 1 and 3-5.)

This is a clumsier version of Type 7 of which it is a copy, and I think later in date than most of the Huntcliff ware forms, for it has so far not appeared on the Wall. The potter has not yet shaken himself down to that mechanical stage when every vessel is thrown to a uniform pattern. These vessels are usually burnished inside and out, but the finish is never very good.

*Type 29. Bowl with thickened rim.* (Fig. 13, 2.)

Only two specimens have been found, both at Scarborough. The clay is rather brownish and the white grit very small and copious. See remarks on Type 30. The rim is slightly incurved and thickened. The base is unfortunately missing. Not yet reported elsewhere in this ware. Compare Koenen, Taf. xv, 8 (Mid.-Empire).

*Type 30. 'Hammer-head' mortarium.* (Pl. ii, 12.)

This type is the same in form as Type 9, but here makes its first appearance in our records in the Huntcliff fabric. Only one example was found, at Scarborough.

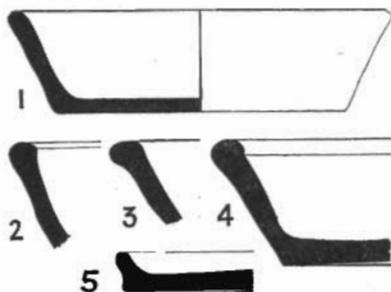


FIG. 14. TYPES 31 AND 32. (1)

The clay is brownish with very fine white grit, probably of the same fabric as Type 29. Several fragments are also in this clay. It seems clear that there was more than one pottery producing the Huntcliff ware. The form has not been found in this fabric on the Roman Wall. See Type 31.

*Type 31. Straight-sided platter.* (Pl. ii, 13; Fig. 14, 1-4, and Fig. 13, 8 and 9.)

The Huntcliff ware version of Type 17. Fig. 14 shows (1) a typical example of normal size and (2-4) three rim sections of unusually large size from Long Whins. (No. 2, diam. 11 in.; no. 3, diam. 12-13 in.; no. 4, diam. c. 14 in.) Fig. 13, no. 8, diam.  $6\frac{1}{2}$  in., and

no. 9, diam. dubious, from Scarborough. Fig. 14, no. 4, has a rounded moulding inside the lip and is one of the few vessels paralleled among the pottery in the fourth-century fort of Alzei in Germany (Unverzagt, *op. cit.* Taf. 11, 29.)

The walls of the vessels of this type are never so carefully finished as in the grey examples (compare Types 17 and 18), so that a curve outwards or inwards is not unusual while the outline is usually irregular. No useful object can be served by listing these variations as separate types.

*Type 32. Wide platter with small vertical rim.* (Pl. ii, 10.)

Two examples only have been noted, both from Scarborough. One is shown on Pl. ii, 10, the other rim is shown in section in Fig. 14, 5. The surfaces are burnished and it would be possible to use them either as covers or dishes.

I have noticed only one parallel, a similar platter at Richborough (First Report, Pl. xxvii, 83) which follows the Belgic tradition and is almost certainly first century.

*Type 33. Small jar or beaker.* (Fig. 13, 6.)

A single rim of this type, in Huntcliff ware, was found at Scarborough.

*Type 34. Jug.* (Fig. 13, 7.)

A single fragment of a jug neck (Fig. 13, 7) clumsily made of Huntcliff ware without the black colouring matter generally used in this fabric. The result is a dark grey.

This was the only certain jug neck found at Scarborough, and from the other Signal-Stations no jugs are forthcoming at all. The trefoil mouth seems to have been most popular in the late period,—nearly all jugs at Alzei had 'pinched' spouts and all the definitely handled jugs at Castle Howard follow the same fashion. The clumsiness of the Huntcliff ware potters in copying other wares is again evident.

*Type 35.* (Fig. 13, 10.)

A fragment of a very remarkable form found at Scarborough. The outline given in Fig. 13, 10, may possibly be inverted, for the purpose of the vessel is extremely dubious. There is a clean hole through the knob at the top, made while the clay was soft, before firing. The exterior is decorated by incisions and wavy line as shown. The vessel may have been a cover. The lower edge is broken away, but the whole is paralleled by a similar lid at Binchester where the knob is not perforated.

*Type 36. Large dolia or store jars.* (Fig. 15.)

The material is the usual Huntcliff ware and the outlines of the rims, probably also of the pots, very dis-

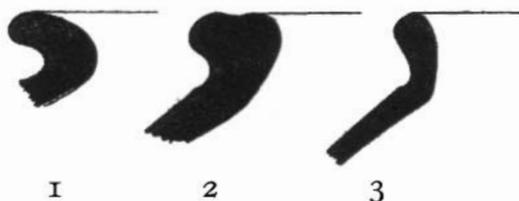


FIG. 15. TYPE 36. (4)

similar. These very large jars are very rarely found whole, and just as rarely is enough found to warrant a restoration. The best examples may be seen in the Colchester Museum, where the first-century specimens generally have a row of notches round the neck. At Scarborough the two rims found (nos. 2 and 3) were accompanied by large portions of their sides, but no restoration was possible. No. 1 is from Carr Naze, diam. *c.* 12 in. No. 2, Scarborough, is a very heavy rim of unusual outline, diam.  $11\frac{1}{4}$  in. No. 3, Scarborough, is a clumsily formed rim of a clumsy vessel. Although the diam. was only  $7\frac{1}{2}$  in. the body of the vessel was very large.

These three rims are the only such yet recorded in this ware.

## NOTE ON FIG. 9, 15.

Fig. 9, 15, is a small hand-made beaker restored (by the Ashmolean Museum) from fragments. The ware is black, with a smooth surface, and contains a very fine white grit. It has been pronounced Saxon, which it well may be.

## SPECIAL REMARKS

The numerous vessels with countersunk handles (Types 1, 2, 22, 23) which occur in the period 370-400 cannot fail to attract attention. Such handles are undoubtedly characteristic of the period, but I can see no ground for supposing that they never occurred at other times, or that they are always later in date than handles which are not countersunk. The feature is rather their number than their shape. On no account should these handled vessels be confused with the earlier 'honey-pots,' from which they differ radically.

Compare *Hengistbury Head Report*, Pl. xxiv, 22 and 27, and remarks thereon. See also *Cranbourne Chase*, i, 32, nos. 8 and 10.

The countersunk handles are said to be of British rather than Roman origin (*Proc. Soc. Ant. Lond.*, 2nd Series, xxiii, 129, and Fig. 6; also *British Museum Early Iron Age Guide*, Fig. 182).

There are a few odd rim-fragments which it has been considered desirable to include, though they could not be ordered under types.

Fig. 2, 9. Brown with blackish slip colouring. Diam.  $3\frac{1}{2}$  in.

Fig. 2, 7. A strange rim which seems to be turning both outwards and inwards where it is broken. Possibly belongs to Type 2. Nos. 10 and 11 are grey rims probably of Type 1.

Fig. 5, 10. Rim fragment in fine grey clay, similar to that of no. 3 in the same figure.

Fig. 8, 5-7. Rims of large grey jars from Scarborough.

## 250 POTTERY FROM THE ROMAN SIGNAL-STATIONS

Fig. 10, 6. Long Whins. Coarse grey with quartz grit. Diam. 6 in.

Fig. 10, 7. Long Whins. Huntcliff ware, diam. dubious, but large.

Type.	Scarborough.	Huntcliff.	Goldsborough.	Filey, Carr Naze.	Long Whins.
1	30	1	1	2	2
2	38	1	4	6	2
3	3	—	—	—	—
4	1	—	—	—	—
5	1	—	—	—	—
6	50	5	2	3	5
7	45	—	5	3	8
8	6	5	1	—	—
9	1	—	—	—	—
10	5	—	1	2	2
11	3	—	4	—	—
12	1	—	—	—	—
13	1	—	—	—	—
14	1	—	—	—	—
15	3	—	—	—	—
16	1	—	—	—	—
17	4	—	1	3	1
18	—	2	—	—	—
19	1	—	—	—	—
20	3	—	—	—	—
21	1	—	—	—	—
22	4	—	—	1	—
23	9	1	6	1	1
24	60	—	3	3	13
25	6 (?)	—	3	1	—
26	350	26	60	18	23
27	6	—	2	—	—
28	3	—	—	—	—
29	2	—	—	—	—
30	1	—	—	—	—
31	7	—	1	—	4
32	3	—	—	—	—
33	1	—	—	—	—
34	1	—	—	—	—
35	1	—	—	—	—
36	2	—	—	1	—



ROMAN SIGNAL-STATION POTTERY FROM SCARBOROUGHII  
Restored by H. W. Poulter. (Scarborough Museum)



## APPENDIX

## THE COIN-EVIDENCE FROM THE SIGNAL-STATIONS

By H. H. E. CRASTER

The dating of the Yorkshire signal-stations, and, incidentally, of the pottery from them, is dependent upon the evidence of the coins. This report may therefore be added appropriately to Mr. Hull's paper.

Scarborough has produced a more plentiful supply of coins than any of the other Roman signal-stations on the Yorkshire coast. Over and above a hoard of 57 4th brass, 92 coins were found in the course of the excavations. The station at Carr Naze near Filey produced two hoards of 103 and 22 coins respectively, but only three other coins.<sup>1</sup> Huntcliff yielded 25 coins<sup>2</sup> and Goldsborough 18. Some evidence of fourth-century settlement at Whitby is derivable from the coins found on the monastic site. Besides two coins of Constantine I found with a hoard of 22 Anglo-Saxon stycas, eight Roman coins were found in the earliest stratum.<sup>3</sup>

## SUMMARY OF HOARDS

	Filey A	Filey B	Scarborough
House of Constantine:	3	1	2
Constantius II: FEL TEMP REPARATIO	2	1	—
Valentinian I:			
GLORIA ROMANORUM .. ..	8	2	—
SECVRITAS REIPVBLICAE ..	7	1	—
Valens:			
GLORIA ROMANORVM .. ..	4	—	—
SECVRITAS REIPVBLICAE ..	10	2	1
Gratian:			
GLORIA NOVI SAECVLI .. ..	3	2	—
GLORIA ROMANORVM .. ..	2	1	—
SECVRITAS REIPVBLICAE ..	4	1	—
VOT XX MVLT XXX .. ..	—	—	1
Valentinian II:			
VICTORIA AVGGG.. .. ..	3	1	—
SALVS REIPVBLICAE .. ..	7	1	—
Theodosius:			
VICTORIA AVGGG.. .. ..	4	—	—
SALVS REIPVBLICAE .. ..	8	2	1

<sup>1</sup> These were: family of Constantine, *rev.* GLORIA EXERCITVS, two soldiers with a single standard between them, mint-mark S L G; Valens, *rev.* SECVRITAS REIPVBLICAE, mint-mark \* |  
M A Q S; Gratian, *rev.* GLORIA ROMANORVM. Probably Lyons mint.

<sup>2</sup> Listed in *Journal of Roman Studies*, II (1912), pp. 224-5.

<sup>3</sup> Namely Tetricus I, 1; Constantine I, 1; Valentinian I, 2; Valens, 2; Gratian, 1; illegible, 1. Information given by Sir Charles Peers, Chief Inspector of Ancient Monuments.

	Filey A	Filey B	Scarborough
Arcadius :			
VICTORIA AVGGG .. ..	5	—	13
SALVS REIPVBLICAE .. ..	4	—	1
Honorius :			
VICTORIA AVGGG .. ..	2	—	2
SALVS REIPVBLICAE .. ..	2	—	2
House of Theodosius :			
VICTORIA AVGGG.. ..	3	2	16
SALVS REIPVBLICAE .. ..	11	3	10
Barbarious and illegible .. ..	11	2	8

These three hoards are most conveniently dealt with apart from the general series. Hoards give valuable testimony as to the date to which occupation lasted, but give little help in estimating length of occupation. Undiscoverable accidents determine their composition, and no historical conclusion can be drawn from the fact that, whereas the two Filey hoards are about equally composed of coins of the houses of Constantine and Valentinian and coins of the house of Theodosius (actually 43 to 49 and 11 to 9), the Scarborough hoard is almost wholly Theodosian (45 out of 49). It is more important to note that the Scarborough and the larger Filey hoard each contain four coins of Honorius. Seven of these specimens have undeciphered mint-marks, but one of those from Filey is definitely a product of the Arles mint. Honorius was declared Augustus by his father Theodosius in January 393, at a time when the Western provinces were still in the hands of Eugenius. Inasmuch as Eugenius was not recognised by Theodosius, it is extremely unlikely that he issued coins of the Theodosian family from the mints under his control, or that coins with the head of Honorius were issued from Arles until after the overthrow of Eugenius in September, 394.

## SUMMARY OF GENERAL COIN-FINDS

	Scarborough	Huntcliff	Goldsborough
Hadrian .. ..	—	—	1
Tetricus .. ..	1	—	—
Crispus .. ..	1	—	—
Helena .. ..	—	—	1
Constantinian—			
GLORIA EXERCITVS .. ..	—	1	—
Constans .. ..	3	—	—
Constantius II .. ..	4	1	—
Magnentius .. ..	5	—	—
Decentius .. ..	2	—	—
Valentinian I .. ..	17	6	1
Valens .. ..	14	6	7
Gratian .. ..	9	8	3
House of Valentinian .. ..	15	—	—
Valentinian II .. ..	1	1	—
Theodosius .. ..	2	1	2
Arcadius .. ..	1	1	1
Eugenius (silver) .. ..	1	—	1
Honorius (silver) .. ..	—	—	1
House of Theodosius .. ..	16	—	—

The general series of coins from the signal-stations tell the same tale as the hoards. Scarborough and Goldsborough have both yielded silver coins of Eugenius (392-4). There is consequently direct evidence that these sites continued to be occupied until after 392, and Filey (Carr Naze) probably until after 394. The coin testimony of Huntcliff, the first of the stations to be scientifically explored, is less positive, and at the time that it was excavated it was thought unsafe to extend the occupation much beyond 390. The fuller evidence shows that one at least of the signal-stations was occupied down to, and probably after, 394; and it is natural to suppose that all were destroyed or evacuated at one date.

The coin-finds of Scarborough, Huntcliff and Goldsborough are sufficiently similar to warrant a guess as to the date when the signal-stations were erected. Apart from a worn dupondius of Hadrian found at Goldsborough and a coin of Tetricus from Scarborough, all the coins found on these sites are of the fourth century. In each case more than half of the coins found were of Valentinian I, Valens or Gratian (364-383). This circumstance, and the discovery on the Roman surface-level at Scarborough of a group of eleven coins of Constantius II, Constans, Magnentius and Decentius (c. 345-353), accord with the establishment of a chain of signal-stations early in the reign of Valentinian I, and make it probable that they formed part of the restoration of the frontiers carried out by Count Theodosius in 369. The period during which the signal-stations were occupied may therefore be fixed with comparative accuracy as 369-c. 395.