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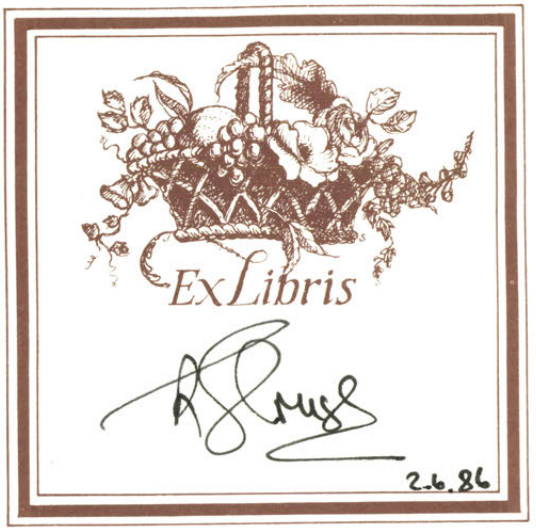

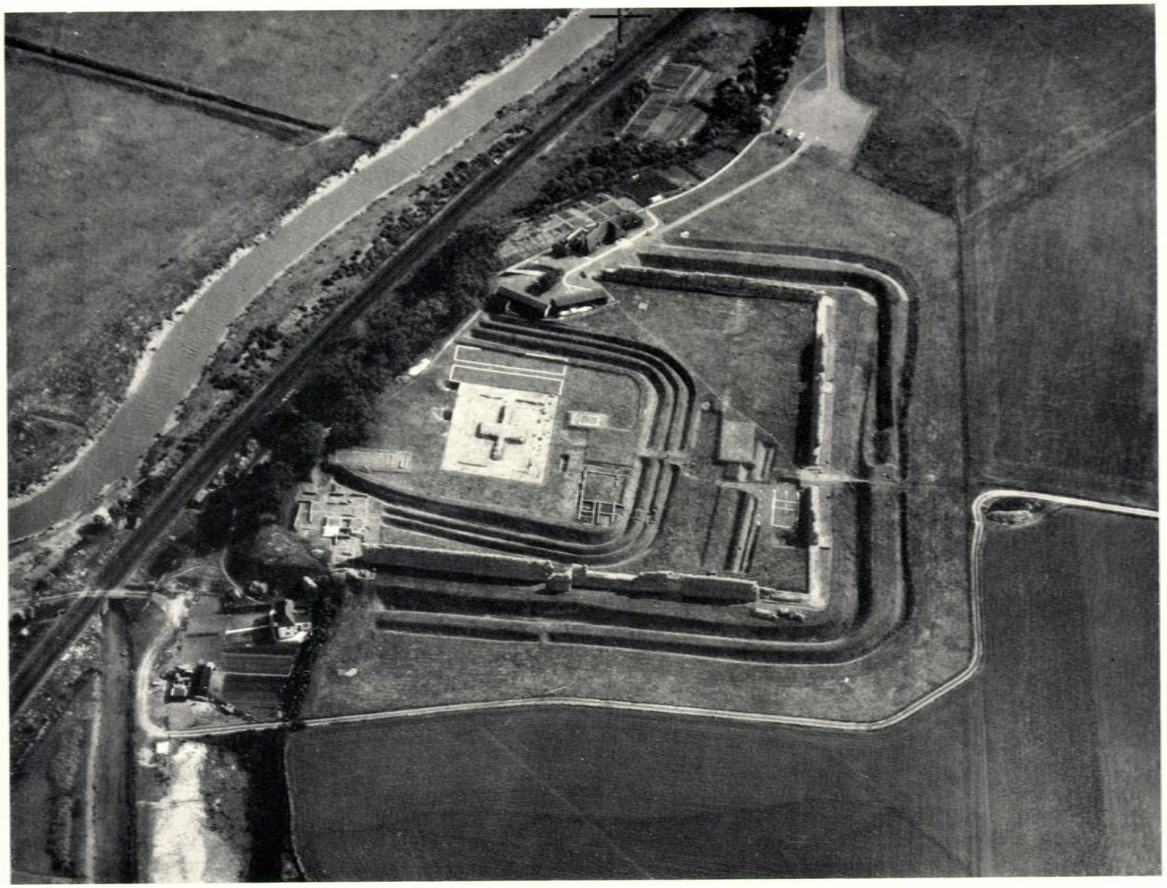

General view of Richborough from the air

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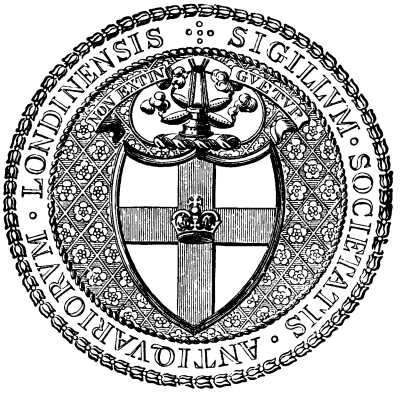
Reports of the Research Committee
of the
Society of Antiquaries of London

No. XXIII

Fifth Report on the Excavations of the Roman Fort at Richborough, Kent

Edited by B. W. Cunliffe, M.A., PH.D., F.S.A.



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1968

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PREFACE

It is now forty-five years since the Society of Antiquaries began excavations at Richborough in 1922, and almost a generation has passed since digging ceased in 1938. The earlier reports on this work, Richborough I–III, appeared with praiseworthy promptness in 1926, 1928, and 1932; but thereafter a serious accident to Mr. J. P. Bushe-Fox, the director of the excavations, and the outbreak of World War II intervened to delay progress. The fourth and penultimate volume, covering the work of 1928–31, appeared in 1949: but though material for the present report, covering the years 1931–8, was in active preparation then and in the succeeding years, Mr. Bushe-Fox had already been compelled by ill health to withdraw from participation, and he died in 1954. Responsibility for the fifth and final volume thus lay with Mr. B. W. Pearce. Much of the present publication is from his careful pen; but he was already himself in failing health, and in 1953 he wrote asking for an editor to be appointed in his place. When he died in 1959 the work was still unfinished.

The Society of Antiquaries never abandoned its concern to see the publication completed, but the passage of the years had now removed the majority of those with first-hand knowledge of, and responsibility for, the excavations. Both Lady Fox and Mr. R. F. Jessup had found themselves unable to shoulder the huge task, and the problem of finding an editor with the necessary knowledge, ability, and time was not solved until 1963, when Mr. (now Professor) B. W. Cunliffe was persuaded to undertake the work. The speed with which he has completed his commission is matched by the penetration which has guided his interpretation. Moreover, his enthusiasm has ensured the timely collaboration of a large number of contributors of specialist sections to this volume. The Society, and archaeologists in general, are greatly in his debt.

Thus the Richborough project is brought to conclusion. When originally begun it was the first large-scale research excavation to be undertaken in the south of England since the uncovering of Silchester. In the inter-war period its prestige was high. Richborough pot-forms and objects were quoted as parallels by almost everyone in the country who troubled to publish such things at all. This was because it provided the only big series of pots and objects from stratified deposits to be published between the wars. Yet already in the thirties Sir Mortimer Wheeler was perfecting his methods for the control and recording of excavations, methods which have done so much to raise the standards of subsequent work. Judged by these criteria the Richborough excavations were old-fashioned. The photographs, indeed, make clear that in details of technique the standards of the excavators could be

astonishingly high. Even today anyone might be proud of plate VI*a* and *b*. But in other ways the direction was not in advance of the standards of the time. The actual digging was done by workmen directed by the staff, a method which requires very close supervision. It is impossible today to recover important details, of which records do not seem to have been kept. In particular, insufficient sections were drawn, and those made were often of a deplorable standard. Fig. 3 shows a ditch whose profile suggests recutting in Roman times; the significance of the profile appears to have been missed.

To write thus, of course, is only to say that this is a report on an excavation of the thirties; one should not look for refinements due to later progress. Nevertheless, a certain embarrassment remains for those whose duty it is to publish the results after so long a delay. All this has made the task of Professor Cunliffe very difficult: the utmost editorial skill cannot disguise as up to date an excavation completed almost thirty years ago. That he has achieved so much is a tribute to his own experienced insight as an excavator and to the high standard of his draughtsmanship. It is an achievement due, it goes without saying, to the existence of the necessary original records, which he has redrawn and combined in a way which must command our admiration.

A glance at the list of contents will show the large number of scholars—all but four of them Fellows of the Society—who have combined to give their help to this rescue operation and to whom the Society's thanks are due. The description of the main excavations is from the pen of the late Mr. B. W. Pearce, only very slightly edited: his cautious scholarship and long experience of the site endow his writing with obvious authority. Dr. J. D. Ogilvie has contributed a note on his excavation in 1957 of the Roman Watling Street at the point where it crosses the marsh; this throws important light on the question whether Richborough was an island in Roman times. The late Sir Ian Richmond had begun a study of the Great Monument which he destined for these pages: the penetrating brilliance of the small section which he had already committed to writing is a further pointer to the magnitude of our loss in his untimely death. His study breaks off at a critical point when much had been analysed yet few conclusions formulated, and is too far short of completion for publication as it stands. Dr. Donald Strong has kindly, and at short notice, made his own study of the monument, using Richmond's papers and reaching conclusions similar to those which Richmond is known to have arrived at; his report, however, is essentially his own and has been made after numerous personal visits to study the remains. Mr. Pearce had already begun a study of the small objects, and some of them had been drawn. It was decided to procure illustrations of a rather larger selection of objects in the site-museum than he had envisaged, in view of the importance of the collection. The drawings

are from the skilled hand of our Fellow Mr. L. Monroe, and the description and discussion from the pen of Miss M. G. Wilson. Other shorter sections have been contributed by Miss V. I. Evison and Mr. G. C. Dunning, while an important study of the brooches is made by Mr. M. R. Hull who has unrivalled knowledge of this field.

The Richborough series of Romano-British pottery types has been so prominent a feature of previous volumes that it has been felt right to leave Mr. Pearce's chapter practically unaltered; the opportunity has been taken, however, to publish or republish the entire (though exiguous) collection of Iron Age pottery from Richborough so that its extent and significance can be properly appreciated. Professor Cunliffe, who has made a general study of the Iron Age pottery of southern Britain, has contributed this section, together with one describing the potters' stamps on vessels other than samian ware. The decorated samian had already been described by Dr. Grace Simpson some years ago; she has revised her manuscript before it went to press. Meanwhile Mr. B. R. Hartley's work on a new Index of samian potters' stamps has progressed sufficiently far for him to be able to contribute a detailed analysis of the large collection of Richborough stamps and to reach significant historical conclusions. Mrs. Hartley in recent years has been engaged upon a corpus of motaria stamps which has thrown important new light on the history and organization of the Romano-British pottery trade; she here shows the significance of those found at Richborough. Mr. R. P. Wright contributes a note on graffiti. Richborough has been remarkable in the numbers of coins found. Mr. D. F. Allen summarizes the whole yield of pre-Roman coins, and Mr. Richard Reece lists the Roman coins found in 1932–8 and then contributes an important study of the total Richborough list. The detailed part of the Report concludes with a section on the post-Roman coins from the pen of Mr. S. E. Rigold.

The Second Part of the volume attempts to summarize what is known of Richborough as a result of excavations lasting sixteen years. Mrs. Sonia Hawkes writes on the physical geography of the site and Mr. Rigold on Richborough today. The main bulk of this part, however, is the work of Professor Cunliffe whose summary of the growth of Richborough will undoubtedly be widely regarded as a major contribution to the study of Roman Britain. He concludes with a section on the *Classis Britannica* which puts Richborough in its context as a port and naval base through the centuries of the Occupation.

S. S. FRERE

January 1967

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LIST OF ABBREVIATIONS

Aislingen	G. Ulbert, *Die römischen Donaukastelle Aislingen und Burghöfe* (Römisch-germanische Kommission, *Limesforschungen* i (1959)).
Antiq. Journ.	*The Antiquaries Journal*, Society of Antiquaries of London.
Arch.	*Archaeologia*, Society of Antiquaries of London.
Arch. Ael[4].	*Archaeologia Aeliana* (fourth series), Society of Antiquaries of Newcastle-upon-Tyne.
Arch. Camb.	*Archaeologia Cambrensis.*
Arch. Cant.	*Archaeologia Cantiana.*
Arch. Journ.	*The Archaeological Journal*, Royal Archaeological Institute.
A.S.A.	*Anzeiger für schweizerische Altertumskunde.*
Atkinson, *Wroxeter*	D. Atkinson, *Report on the excavations at Wroxeter (the Roman City of Viroconium) 1923–1927* (Birmingham Arch. Soc. 1942).
Bagendon	E. M. Clifford, *Bagendon, A Belgic Oppidum* (1961).
B.J.	*Bonner Jahrbücher.*
B.M.	The British Museum.
Brecon	R. E. M. Wheeler, *The Roman Fort near Brecon* (1926).
Caerleon 1927–9	V. E. Nash-Williams, *Arch. Camb.* lxxxvii (1932), 48 ff.
Caerleon 1939	A. Fox, *Arch. Camb.* xcv (1940), 101 ff.
Caerleon Amphitheatre	R. E. M. and T. V. Wheeler, *Arch.* lxxviii (1928), 111–218.
Camerton	W. J. Wedlake, *Excavations at Camerton, Somerset* (1958).
Camulodunum or *Cam.*	C. F. C. Hawkes and M. R. Hull, *Camulodunum* (1947).
C. and W. Trans.	*Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society.*
C.I.L.	*Corpus Inscriptionum Latinarum.*
Clausentum	M. A. Cotton and P. W. Gathercole, *Excavations at Clausentum, Southampton, 1951–1954* (1958).
C.N.W. Soc.	*Journal of the Chester and North Wales Architectural, Archaeological and Historic Society.*
Colchester Kilns	M. R. Hull, *The Roman Potters' Kilns of Colchester* (1963).
Coll. Antiq.	C. Roach Smith, *Collectanea Antiqua* (1843 and later).
Collingwood	R. G. Collingwood, *The Archaeology of Roman Britain* (1930).
Corbridge 1910	R. H. Forster and W. H. Knowles, 'Corstopitum: Report on the excavations in 1910,' *Arch. Ael.*[3] vii, 1–125.
Corder and Kirk	P. Corder and J. L. Kirk, *A Roman Villa at Langton, near Malton, E. Yorkshire* (1932).
Cranborne Chase	A. Pitt-Rivers, *Excavations in Cranborne Chase*, i–iv (1887, 1888, 1892, 1898).
Curle	See *Newstead.*
Déchelette	J. Déchelette, *Les Vases céramiques ornés de la Gaule romaine* (1904).

E.E.	*Ephemeris Epigraphica.*
Exner	K. Exner, Die provinzialrömischen Emailfibeln der Rheinlande, in *Bericht der Römisch-germanischen Kommission*, xxviii (1938).
Hengistbury	J. P. Bushe-Fox, *Report on the Excavations at Hengistbury Head* (1915).
Hermet	F. Hermet, *La Graufesenque* (1934).
Hod Hill	J. W. Brailsford, *Hod Hill i, Antiquities from the Durden Collection* (1962).
Hofheim	E. Ritterling, *Das frührömische Lager bei Hofheim im Taunus* (1913).
Holt	W. F. Grimes, *Y Cymmrodor*, xli.
Holwerda	J. H. Holwerda, *Arentsburg, een Romeinsch militair vlootstation* (1923).
Intercisa i, ii	*Archaeologia Hungarica* (series nova) xxxiii (1954); xxxvi (1957).
J.B.A.A.[3]	*Journal of the British Archaeological Association* (third series).
Jewry Wall	K. M. Kenyon, *Excavations at the Jewry Wall Site, Leicester* (1948).
J.R.S.	*The Journal of Roman Studies.*
Knorr 1919	R. Knorr, *Töpfer und Fabriken verzierter Terra-Sigillata des ersten Jahrhunderts* (1919).
Knorr 1952	R. Knorr, *Terra-Sigillata-Gefässe des ersten Jahrhunderts mit Töpfernamen* (1952).
Kovrig	I. Kovrig, Die Haupttypen der kaiserzeitlichen Fibeln in Pannonien. *Diss. Pann.*, ser. 2, no. 4.
Lindenschmidt 1889	L. Lindenschmidt, *Das römisch-germanische central-Museum* (1889).
Ludovici	W. Ludovici, *Stempelbilder röm. Töpfer . . . in Rheinzabern* (1901–5).
Lydney	R. E. M. Wheeler and T. V. Wheeler, *Report on the Excavation of the Prehistoric, Roman and Post-Roman Site in Lydney Park, Gloucestershire* (1932).
Mack	R. P. Mack, *The Coinage of Ancient Britain* (2nd edition 1964).
Maiden Castle	R. E. M. Wheeler, *Maiden Castle, Dorset* (1943).
Marteaux and le Roux	C. Marteaux et M. le Roux, *Boutae* (1913).
May	T. May, *The Roman Pottery found at Silchester* (1916).
Med. Arch.	*Medieval Archaeology*, Journal of the Society for Medieval Archaeology.
Miller	S. N. Miller, *The Roman Fort at Balmuildy* (1922).
M.Z.	*Mainzer Zeitschrift.*
Newstead	J. Curle, *A Roman Frontier Post and its People* (1911).
Niederbieber	F. Oelmann, *Die Keramik des Kastells Niederbieber i* (1914).
Novaesium	Separately bound volume of plates to go with *B.J.* 111–12 (1904).
O.	F. Oswald, *An Index of Figure Types on Terra-Sigillata* (1937).

O.R.L.	*Der obergermanisch-raetische Limes des Römerreichs.*
Oswald	F. Oswald, *Index of Potters' Stamps on Terra-Sigillata* (1931).
PDNHAS.	*Proceedings of the Dorset Natural History and Archaeological Society.*
P.P.S.	*Proceedings of the Prehistoric Society.*
P.S.A.L. or Proc. Soc. Ant. Lond.	*Proceedings of the Society of Antiquaries of London.*
P.S.A.Scot.	*Proceedings of the Society of Antiquaries of Scotland.*
R.C.H.M.	Royal Commission on Historical Monuments.
R.I.B.	R. G. Collingwood and R. P. Wright, *The Roman Inscriptions of Britain* (1965).
R.I.C.	H. Mattingly and E. A. Sydenham, *The Roman Imperial Coinage* (1923 and later).
Richborough I–IV	J. P. Bushe-Fox, First to Fourth *Reports on the Excavation of the Roman Fort at Richborough, Kent* (1926, 1928, 1932, 1949).
Ritt.	See *Hofheim.*
Rogers and Lang	G. B. Rogers and L. R. Laing, *Gallo-Roman Pottery from Southampton* (1966).
Rom. Colchester	M. R. Hull, *Roman Colchester* (1958).
Rom. Silchester	G. C. Boon, *Roman Silchester* (1957).
Rottenburg	R. Knorr, *Die verzierten Terra-Sigillata-Gefässe von Rottenburg-Sumelocenna* (1910).
Saalburg	L. Jacobi, *Das Römerkastell Saalburg* (1897).
Segontium	R. E. M. Wheeler, *Segontium and the Roman Occupation of Wales* (1924).
Silchester	See May.
Stanfield and Simpson	J. A. Stanfield and G. Simpson, *Central Gaulish Potters* (1958).
Swarling	J. P. Bushe-Fox, *Report on the Excavation of the Late Celtic Urnfield at Swarling, Kent* (1925).
Trans. Birm. Arch. Soc.	*Transactions of the Birmingham Archaeological Society.*
V.C.H.	*Victoria County History.*
Verulamium	R. E. M. Wheeler and T. V. Wheeler, *Verulamium, A Belgic and Two Roman Cities* (1936).
Walbrook	Guildhall Museum (London) Publication, *Small Finds from Walbrook 1954–5.*
Walters	H. B. Walters, *Catalogue of the Roman Pottery in the British Museum* (1908).
Wroxeter I–III	J. P. Bushe-Fox, *Excavations on the Site of the Roman Town at Wroxeter, Shropshire, in 1912, 1913, 1914* (First to third reports, 1913, 1914, 1916).

Excavations at Richborough, Kent

(*Fifth Report*)

PART ONE

INTRODUCTION

By B. W. Pearce, F.S.A.

The Fifth Report on the excavations at Richborough differs from its predecessors in many ways. In *Richborough I* to *IV* the various articles which made up their script were either written or censored by Mr. J. P. Bushe-Fox, C.B.E., M.A., F.S.A., at one time Chief Inspector of Ancient Monuments, under whose direction all the annual excavations from 1922 to 1938 were carried out. Some years ago he nearly lost his life in a trench accident at Colchester and as a secondary result of this his general health suffered so severely that he could no longer undertake any work of this kind, and he delegated the duty to me. Nevertheless the same confidence can be placed in the excavation results detailed in these pages as in those of earlier reports, as it was our custom, immediately at the end of each excavation period for Mr. Bushe-Fox and myself to meet at Richborough or elsewhere, and with all the inventory books and other necessities before us, to write a full account of that season's work. Accounts of the period 1931–8 inclusive, condensed from these, follow below. It is much to be regretted that he was unable to complete with his own hand so interesting a series of reports as those of the Richborough excavations.

Each of the previous reports has had one or more discoveries of first-class importance to record. In 1931 the houses discovered to the north of the platform, and in 1932 to the west of area X, were interesting in themselves but cannot be compared in importance to the fort ditches or the granaries found in previous years. In fact the excavations 1933–8 were chiefly small excavations for the purpose of clearing up the site rather than having been undertaken with the expectation of finding something new of exceptional merit. This is likely to be the last report of the Richborough series as I doubt if it will ever be worth while to excavate the untouched portion of the site within the walls. The diagonal trench dug from the south-west corner of the fort towards the south-west corner of the earth fort revealed a considerable depth of soil with no special promise of any further discovery except scattered urn burials. Further to the east near the huts a wall exists at some depth below the surface, but it does not suggest anything of real importance.

In 1931 the chief work was the examination of the area to the north

of the great foundation (fig. 5), where traces of a series of wooden houses had been noted, and the removal of about 2 ft. of surface soil from the south-west part of the site where the Chalk House was found.

In 1932 the area around the Chalk House to the south of the main east–west road was cleared. It included the whole area from the west wall of the stone fort to the south-west corner of the earth fort (fig. 2), revealing traces of more wooden buildings and the western section of the houses whose eastern part had been examined in 1929 (area X, west). Several diagonal trenches were dug in the south-west corner of the fort which yielded some useful information, also another series at right angles to the west wall of the stone fort (fig. 1).

From 1933 to 1935 the annual operations were on a much smaller scale and were confined to the clearing out of the southern sections of the earth fort ditches, with one or two minor operations. In 1936 the north-western portion of the site was explored further and another section of the Claudian ditches opened, while the whole north-west corner was generally cleaned up and levelled.

In 1937 practically no fresh work was undertaken but wide areas, e.g. area X, were brought down to the level they had had in Roman times, preparatory to the marking out in concrete of the lines of the houses which once stood there. In 1938 the most easterly portion of the south wall remaining was cleared.

All these operations are described in this report. Since the war much has been done to clear up the site: some unsightly offices have been removed while the two big huts have been left only until it is possible to enlarge the museum sufficiently to hold the considerable collection of material which is still stored in them.

ACKNOWLEDGEMENTS

It is usual to express our gratitude by enumerating some of those who have assisted either in the excavations on the site or in the preparation of the report. It is with great regret that we have to include the names of several men whose death has prevented us from acknowledging to them personally the value we used to attach to their help.

First and foremost, we must express our grief at the loss of Mr. W. G. Klein, who interested himself in the excavation from the beginning. The enlistment and payment of the labourers was in his hands until 1932 when he was succeeded by Mr. B. W. Pearce. He still took a share in the excavation work and was responsible for the clearing of area XXIII. Many of the men who worked at Richborough in the hard times of 1929–31 and their wives and families had good reason to thank him for generous help under those difficult conditions. It will be remembered that the gift of a piece of land, which he bought for the purpose, made it possible for Richborough Castle to present the imposing sight from the south-west that it does now. Richborough

meant much to him and his loss is greatly regretted by all who are interested in it.

We have also to lament the death of Dr. T. Davies Pryce, who was responsible for the review of the decorated Samian ware for *Richborough II–IV*. All such ware found in the period 1931–8 was submitted to his inspection, and his notes were preserved and have been passed on to his successor.

The untimely death of Mr. G. C. F. Hayter has deprived us of the services of a brilliant young archaeologist. As a boy he was present at the site with his father in 1922 and the following years, and he was responsible for the listing of the potters' stamps after the death of the latter. He was also an expert numismatist (*Richborough III*, 192).

Mr. T. G. Barnett took a less prominent part in the work, but from 1928 till his death he assisted regularly every year both with the coins and in field-work.

Mr. Mill Stephenson was a familiar figure at Richborough every year from 1924 onwards. He usually came for a rest, but was always ready to take over a site when a vacancy occurred that was hard to fill. His kind heart and sympathetic attitude towards everyone with whom he came in contact made him a general favourite, and when he died all felt that they had lost a friend.

Others who have given their services include Miss Millicent Bagot, Sir Gerard and Lady Clauson, Mr. M. S. Guiseppi, Colonel Gray, Mr. E. Thurlow Leeds, Mr. O. F. Parker, Miss Delia Parker (Mrs. Barrington), Mr. L. H. Rawson, Mr. W. P. D. Stebbing, Mr. and Mrs. J. Holland Walker, Miss Pamela Wilcocks (Mrs. Bedbrook). Mrs. Walker's drawings of the small finds have for long been a feature of the Richborough inventory books.

To replace Dr. Pryce and Mr. Hayter we have been fortunate in securing the help of Mr. Brian Hartley and Dr. Grace Simpson, who have taken over all their sections except the amphora stamps which have been listed by Dr. M. S. Callender.

For some time past the drawing of small finds and pottery had been entrusted to Mr. C. O. Waterhouse of the British Museum, and he had completed many drawings for this report before the war broke out. Unfortunately he has been unable to complete the series and Mr. L. Munroe has taken his place with the small finds.

SUMMARY OF THE EXCAVATIONS, 1931–8

By Barry Cunliffe, F.S.A.

The work carried out between 1931 and 1938 includes two major area excavations, one south of the east–west road (areas XVII and XXIII), the other north of the great foundation (areas XVIII, XIX, and XXI). In addition to this, extensive clearing operations were

undertaken on the southern length of the earth fort ditches, and certain minor pieces of excavation were carried out on other parts of the site.

The Iron Age. Although Iron Age remains are not common, a palisade trench associated with pottery was discovered running across the area to the north of the great foundation (areas XVIII, XIX, and XXI). Further traces of occupation were found when the filling of the third-century ditches to the south of the great foundation was being removed.

The Claudian defensive ditches. The excavations of 1931–8 have added little to our knowledge of the Claudian defensive system. The ditches were sectioned by the south-west diagonal trench 1, and a length of both ditches, lying to the north of the main east–west road, was emptied, the results being entirely consistent with what has been recorded in previous years.

The military supply base. The major contribution of the excavations of 1931–8 derives from the uncovering of large areas of timber buildings belonging to the early supply base. It is now known that south of the main east–west road lay three blocks of granaries, each block divided from the next by a north–south road. In previous years the eastern block and the eastern part of the centre block were examined. The latest series of excavations exposed the western end of the central block of four buildings and part of two buildings constituting the western block. Of the ten buildings so far excavated each consists of six parallel foundation trenches, in which were embedded vertical piles to support the raised floor and the superstructure of the building. Dating evidence suggests that they were constructed in pre-Flavian, probably Claudian, times.

The two buildings of the western block were soon replaced by entirely different timber structures, consisting of a range of rooms, with smaller rooms behind, fronting on to the main east–west road. Two adjacent rooms flanked the north–south street. The nature of the building is not entirely clear, but the individual compartments resemble stores or shops. It is now thought that the northern granary of the central block was replaced at this time by a new, rather larger, store building represented by parallel north–south foundation trenches.

To the north and east of the great foundation (areas XVIII, XIX, and XXI) a complex of timber buildings was excavated. In the western part of the site, bounding the north–south street, a granary-like structure, building A, was discovered. Next to it lay two superimposed timber buildings (B and C), building C consisting of a series of rooms flanked by a corridor. These three buildings were of pre-Flavian date.

Further east lay a complex of at least three successive timber buildings of courtyard type. Subsequent disturbances in the area had

destroyed much of the buildings, but their south-west corners survived; the latest (building F) was larger than its predecessors and more regularly planned. There is some evidence to show that its timbers were deliberately removed at the time when work began on the great monument. The exact function of these three buildings remains unknown, but their form suggests that they were either the administrative

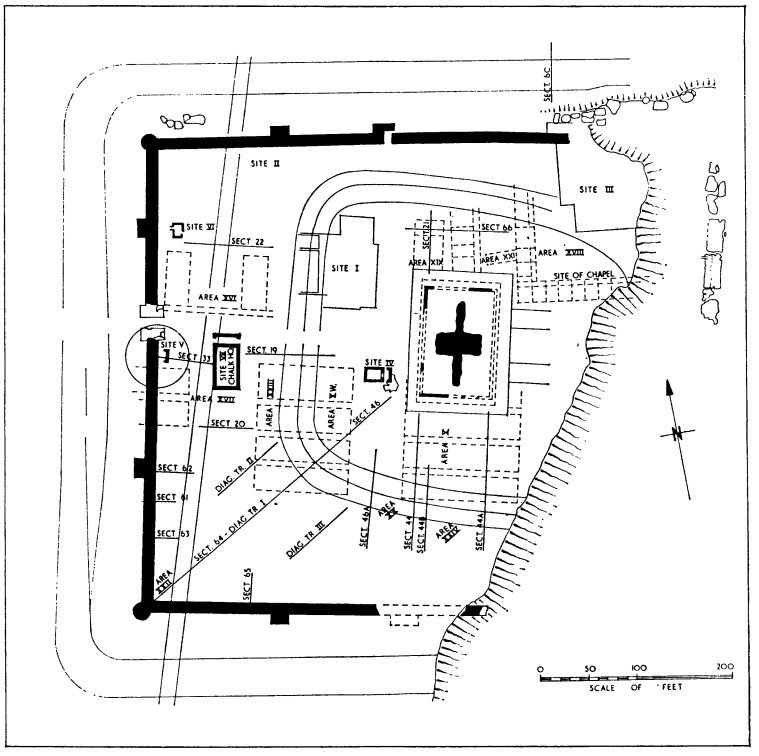


FIG. 1. General plan of the site

centre of the base or, more probably, successive re-buildings of the official *mansio* of the port.

The building of the monument. Above the buildings just described in areas XVIII, XIX, and XXI, remains of the working area used by the builders of the monument was revealed. It was served by a track paved with tufa blocks, later cut through by the flange of the foundation and sealed by oolite and greensand chippings.

The second and early-third centuries. Little evidence of second- and early third-century activity was found, but daub and pebble metalling occurred in the vicinity of section 22, north of area XVI, and a wall and road metalling, probably of this period, were cut through by the earth fort ditches to the south of the monument. In the south-west part of the stone fort area an *opus signinum* floor was found to the west of

the Chalk House (site V). South of this the area appears to have been used as a rubbish dump and burial ground.

The earth fort. From 1933–5 the entire filling of the earth fort ditches was removed from the entrance southwards and then eastwards to the cliff edge. The contents of the ditches showed that very little silting had occurred before the deliberate filling was thrown in to level up the site. The inner ditch, and in particular the western part of it, was filled with stiff clay derived from the rampart, traces of which were found *in situ* to the north of the monument. Coins and pottery from the ditches entirely support a late third-century date for the destruction of the fort.

The stone fort and the fourth century. Several trial trenches were dug to examine the construction of the west wall, south of the gate.

Inside the fort traces of the Carausian military occupation were sparse, but spreads of gravelling laid over the earth fort ditches represent attempts at levelling and consolidation. Ample evidence of intensive fourth-century occupation came from this area and from the extreme south-west corner of the stone fort.

DESCRIPTION OF THE EXCAVATIONS

By B. W. Pearce, F.S.A.

The description which follows is a slightly edited version of the manuscript left by Mr. Pearce. Apart from minor alterations and additions and some rearrangement, his text is largely unaltered.

Area XVII (figs. 2–4)

Area XVII extends for a distance of between 70 and 90 ft. south of the main east–west road, and lies between the west side of north–south road 3 and the wall of the stone fort. In previous years site V, the early third-century tomb (*Richborough III*, 25), and site VII, the fourth-century Chalk House (*Richborough IV*, 75–77), had been excavated, and a section, no. 33, had been cut south of, and roughly parallel to, the main east–west road (*Richborough III*, pl. lii). Most of the surface soil had been removed, but only on sites V and VII had the lower layers been explored.

The first timber buildings, G and H (fig. 3 and pl. vi). Foundation trenches belonging to two separate buildings, G and H, were found, the two structures being 8 ft. apart. The western portions of the trenches were cut away by the foundation of the west wall of the stone fort, but about 32 ft. of the eastern part of the buildings was left. The foundation trenches were 4 ft. apart and up to 1 ft. 6 in. wide. They contained post-holes, *c.* 10 in. in diameter spaced at intervals of 3 to

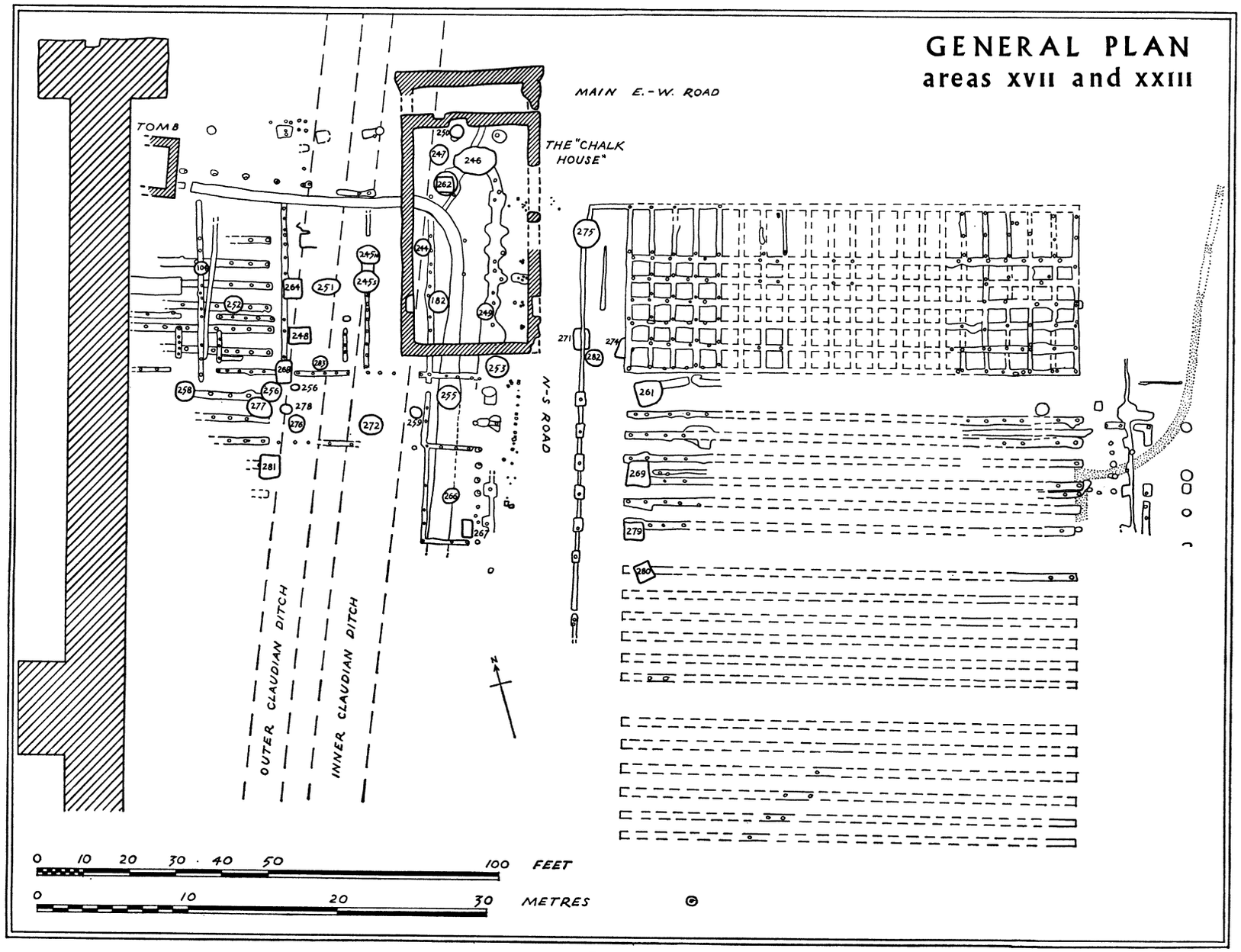

GENERAL PLAN
areas xvii and xxiii
MAIN E.-W. ROAD
TOMB
THE "CHALK HOUSE"
N-S ROAD
OUTER CLAUDIAN DITCH
INNER CLAUDIAN DITCH
0 10 20 30 40 50 100 FEET
0 10 20 30 METRES

FIG. 2

4 ft., which in every case had penetrated into natural sand. There can be no doubt that these buildings belonged to a group of granaries of the same type as those found in area X and area XXIII. The granaries on all three sites seem to have been of the same width, to have had the same number of foundation trenches, and to have been separated by the same intervals. It is, of course, probable that further granaries exist to the south of building H.

The area occupied by the two structures appears to have been delimited on the north and east by a continuous shallow ditch, which may have been of slightly later date. Between the ditch and the main east–west road lay a row of veranda posts. The existence of the ditch, and indeed of the freshly filled Claudian defensive ditches immediately to the east of the granaries, implies that their loading platforms lay at their western (unexcavated) ends, a fact which presupposes the existence of a further north–south road on this side.

The pottery recovered from the foundation trenches, which must have been lying about the site when the structures were built, is not sufficient in quantity for close dating. It consists of one of each of the samian forms 24/5 and 27, fragments of the combed ware, *Rich.* 135/6, and early jugs, *Rich.* 186/9, the base of a small early beaker, a fragment of a native-ware olla with a pronounced cordon and two fragments of cylindrical amphorae; all these being of pre-Flavian or even Claudian date. The paucity of fragments suggests that there was very little occupation of the site before the buildings were erected. From the post-holes were obtained one fragment of samian form 18, one each of *Rich.* 135/6 and 186/9 and a portion of a small buff beaker decorated with circles in cream paint. All these appear to be of pre-Flavian or early Vespasianic date. As the pottery could not have got into the post-holes until the posts had been drawn or decayed, it appears that the buildings were erected in pre-Flavian, possibly even Claudian, times and had ceased to exist by the early part of the reign of Vespasian or even before.

The Claudian ditches lay from 7 to 9 ft. to the east of these buildings, and it is evident that their presence was known to the builders, who carefully avoided them.

The second timber building (fig. 4 and pl. VI). Overlying the pre-Flavian granaries was found another series of foundation trenches containing numerous uprights. The structure appears to represent a series of open-fronted stalls or shops, 1–5 facing the east–west road and 6 and 7 opening to the north–south road. The western part of the building was completely removed by the stone fort wall. Compartments 1–5 are separated from the road by a veranda 14 ft. wide. Nos. 1–3 contain internal divisions which may delimit living or storage rooms, in each of which a series of posts, 4 ft. from the main dividing walls, may form the basis for either cupboards or a staircase leading to a loft above. Room 4, the corner room 5, and the two rooms 6 and 7, facing

the north–south street, are without internal divisions. Their eastern boundary wall is very confused, but the plan offered is the best reconstruction possible on the available evidence. The nature and extent of room 8, south of 2, 3 and 4, remain unknown.

The foundation trenches were from 1 ft. to 1 ft. 5 in. wide and from 4 in. to 12 in. deep. The post-holes were about 10 in. in diameter, their depth varying from 7 in. to 12 in. No trace of the trenches could be seen in the mixed soil above natural sand, but several empty vertical holes were found, left by the decay of the wood, to a height of 2 ft. or more in the mixed soil. It appears that the uprights served as the framework for weather-boarding or wattle and daub and that when, after abandonment, the rubbish accumulated around them the framework gradually decayed, only voids being left in the soil.

From the trenches of the building came samian forms 15/17, 27 and 82, a clay lamp of early type, a fragment of the bead-rim beaker, *Rich.* 173, seven examples of 135/6, three of 186/9, and one each of carinated bowl 217, and beakers 241, 260, and 286. Also found were a large jug neck (probably pre-Flavian), a large olla with a lug handle, a small beaker of early type and also two fragments each of cylindrical and bulbous amphorae. They could all be pre-Flavian and need hardly be later than the early years of Vespasian. There is, however, not enough material for close dating. From the post-holes came a piece of a flange of a samian form 82 and a small indeterminate piece with a good glaze. The coarse ware included a piece of one *Rich.* 186/9 and of the mortarium, *Rich.* 367/8, and a few indeterminate fragments of grey ware. This dating evidence is scanty but suggests that the second building was constructed not later than the early years of Vespasian, and might be of pre-Flavian date.

To the east of the block a very large number of post-holes was found, many being square and all small and shallow. They do not seem to have anything to do with this building and may have received ends of posts of a much later building, all other traces of which have vanished.

The only feature left to consider is a gully which runs through room 2. It was 1 ft. wide and 5 in. deep, containing a black deposit in which were a great number of mussel shells and a few fragments of pottery, including a grey Belgic plate of Hofheim type (*Abb.* 86, no. 2, p. 334), five of *Rich.* 135/6, two of 186/9, one of 117 and a few indeterminates. All were pre-Flavian. The trench cuts across the top of the foundation trenches of the granary and so must be later than its construction, possibly belonging to the contemporary occupation. If so, it can only have been a drain of some sort running under the raised floor of the building. If, however, it is later than the granary, it must still be earlier than the second timber building, the trenches of which cut it. In this case its use cannot be defined.

The second- and third-century occupation. To the west of site VII

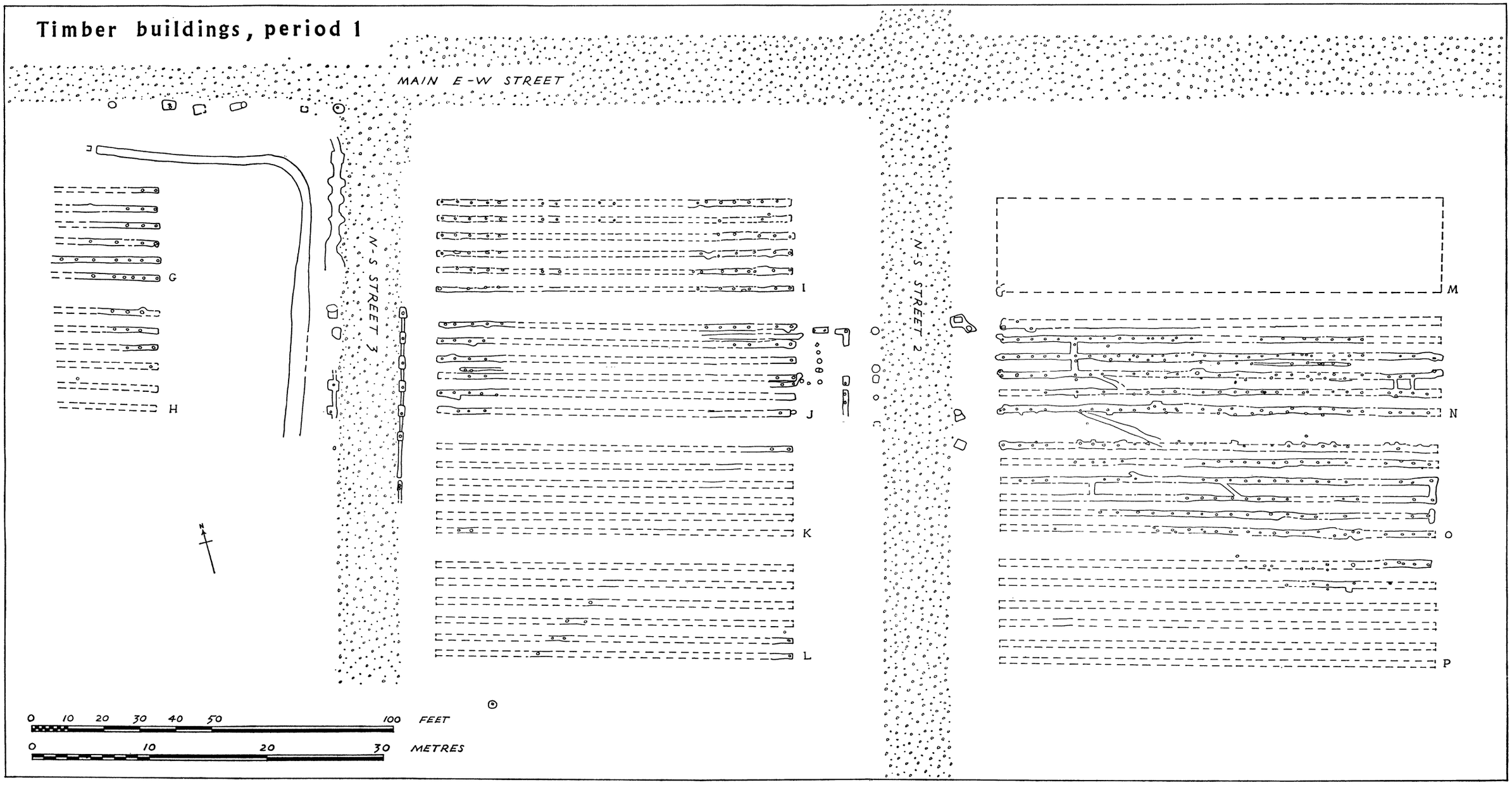

Timber buildings, period 1
MAIN E-W STREET
N-S STREET 3
N-S STREET 2
G
H
I
J
K
L
M
N
O
P
N
0 10 20 30 40 50 100 FEET
0 10 20 30 METRES

FIG. 3

(the Chalk House) were found slight traces of a timber structure, of second-century date, consisting of an *opus signinum* floor. This seems to have marked the southern limit of building at this date, the area beyond being used as a rubbish dump and burial ground. South of the Chalk House a layer of mortar, similar to that used in building the stone fort, was found. In all probability it represents the mixing area

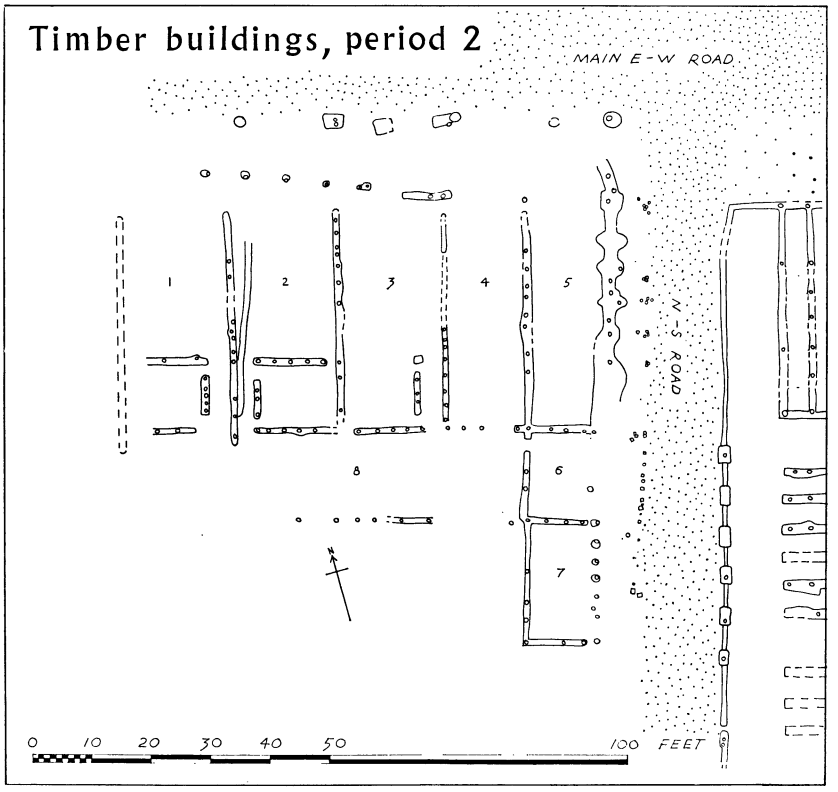


FIG. 4

contemporary with the construction of the fort. Stratified beneath this was an occupation layer, containing objects and pottery mainly of second-century date, but with a few belonging to the third century.

The north–south road between areas XVII, and XXIII. The road was found to be similar to the north–south road on the other side of the main east–west road. Seven sections were cut across it. In the first, which was north of the frontage line of the buildings, the road was 16 ft. 2 in. wide and *c.* 1 ft. 6 in. thick in the middle. The metalling was very confused, but there was a 3 to 4 in. layer at the bottom and a distinct 2 to 4 in. upper remetalling, containing burnt daub. Each of the other sections showed at least three remetallings, of which the lowest consisted of up to 5 to 6 in. of small black and blue pebbles similar to those of the main east–west road (*Richborough IV*, 56–57).

Above this was an irregular layer of 4 to 8 in. of building rubbish and large flints and, at the top, 5 to 6 in. of small black pebbles. In the lowest metalling were found a coin of Caligula and fibulae of Aucissa and Hod Hill types; in the top surface, a coin of Domitian. A road, therefore, seems to have been here from the time of the earliest wooden building and was remodelled in *c.* A.D. 85–90.

Areas XXIII and X West (figs. 2, 3 and 4)

Areas XXIII and X West lie to the south of the east–west road, between the north–south road to the west and the ditches of the earth fort to the east. The area, in fact, contains the western parts of the buildings previously examined in area X (*Richborough IV*, 34).

The first timber buildings (fig. 3). Areas XXIII and X West were covered by a series of four timber store-buildings lying between two north–south roads, 123 ft. apart. All four buildings had been cut through by the third-century earth fort ditches.

Building I (pl. VII *a*). Building I is now thought to consist of two superimposed timber buildings. The earlier, measuring 26 ft. by 93 ft., is represented by six parallel foundation trenches, 1 ft. 6 in. wide and 1 ft. 6 in.–1 ft. 8 in. deep, containing posts 9 to 10 in. in diameter. This building is identical in size and construction to buildings J, K, and L, and is clearly one of a block of four granaries. The later building, lying above, consists of twenty-one north–south foundation trenches, 1 ft. 3 in.–1 ft. 6 in. wide and 3–9 in. deep, the post-holes being 9 in. in diameter and 5–12 in. deep. The north–south trenches are joined by a single east–west trench, which runs along the street frontage on the north side. This trench measures 1 ft. wide and 3 ft. 6 in. deep. Certain features of the southern east–west trench of the earlier granary, particularly the close spacing of some of the posts, suggest that its line was reused in the later period as the southern wall of the new building, and is therefore a counterpart to the northernmost east–west trench. The function of the later building is uncertain, but might well be another store-building of granary type. The west side of the range of buildings was delineated by a row of posts 11 ft. from the west ends of the individual buildings. Its purpose seems to have been to support the roof of a continuous veranda.

Very little pottery was found in the filling of the trenches. The east–west trenches yielded two small fragments of samian form 18, two *Rich.* 135/6 and one jug neck, *Rich.* 186/9, all consistent with a Claudian date for the construction. The north–south trenches produced one samian form 29, pre-Flavian perhaps Claudian, one form 18 and one Hofheim 8. The coarse ware included a Hofheim 113, three or four fragments of combed ware *Rich.* 135/6, a carinated bowl *Rich.* 213, an early bell-shaped beaker, an early white jug neck, a cylindrical amphora, a bulbous amphora and also eighteen 2–3 in.

iron nails. These finds indicate a pre-Flavian construction date. The post-holes produced fragments of one samian form 37, A.D. 75–95, one Hofheim 8 and several indeterminate sherds. The later building was thus probably destroyed in the late first century.

Buildings J, K, and L. Parts of the three granary buildings, J, K, and L, were excavated in area X West, area XXIII and in the south-west diagonal trenches. Each measures 93 ft. by 26 ft. and consists of six parallel foundation trenches, in which were placed the uprights for supporting raised timber floors. They are identical in form to the granaries described above and those excavated in area X (*Richborough IV*, 26) and area XVII. To the east of building J was a loading platform (*Richborough IV*, 34). This feature was probably continuous along the east front of all four granaries.

The foundation trenches of building J produced three fragments of Iron Age pottery, one samian form 29, Claudian, a *Rich.* 137 in white clay, three fragments of a large Pompeian red dish and part of a cylindrical amphora. Only short lengths of the trenches of buildings K and L were cleared and they produced no material of importance. The evidence for the date is slight, but what little there is suggests that these buildings were erected in pre-Flavian, probably Claudian, times and that they formed part of an extensive building scheme which included the structures in areas X, XVII, and XIX.

Of the rubbish pits found in this area, pits 271 and 274, cut through by foundation trenches, were shallow depressions containing pre-Flavian or Claudian pottery, including a stamp of CRESTIO in the latter; pit 282 was of pre-Flavian or Flavian date and pits 261, 269, 270, 275, 279, and 280 all contained Flavian pottery.

Areas XVIII, XIX, and XXI (figs. 5–10 and pl. v)

When sections 14 and 21 were cut (*Richborough II*, pl. xlvi and *III*, pl. xlviii), large stretches of clean sand were found which had been laid to level up the site after the digging of the foundation pit for the monument and the completion of the latter. The sand sealed a black occupation layer. A diagonal trench from site III, to the north-east corner of the foundation confirmed the existence of remains of timber buildings, and therefore a large area north and east of the great foundation was cleared. The sand make-up and the overlying levels were removed, and the lower occupation level was examined. When this in turn was cleared down to natural sand, a complex series of trenches, many containing post-holes, were found cut into the sand. These were shown to belong to a series of wooden structures which occupied areas XVIII, XIX, and XXI. The occupation layer could be dated to A.D. 65–80.

Area XVIII (buildings D to F) was excavated by Sir Gerald Clauson. Area XVIII (building A) was partly excavated by Mr. B. W. Pearce,

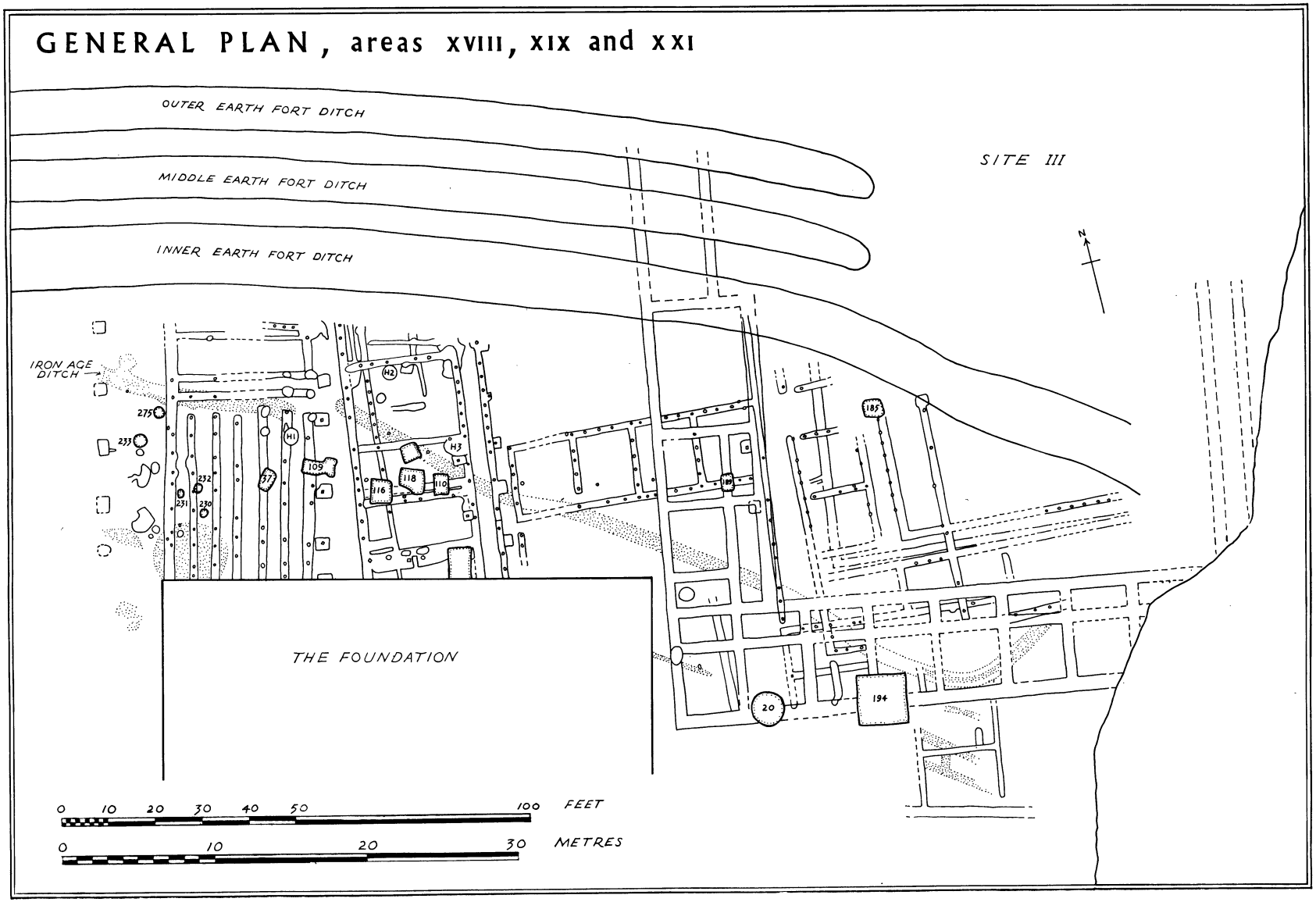

GENERAL PLAN, areas XVIII, XIX and XXI
OUTER EARTH FORT DITCH
MIDDLE EARTH FORT DITCH
INNER EARTH FORT DITCH
SITE III
N
IRON AGE DITCH
THE FOUNDATION
H1
H2
H3
275
233
232
231
230
109
77
118
116
110
189
185
20
194
0 10 20 30 40 50 100 FEET
0 10 20 30 METRES

FIG. 5

and partly by Lady Fox who was also responsible for the whole of area XXI (buildings B and C) and on whose report and that of Sir G. Clauson most of this review is based.

The exact relationship between the structures is not altogether clear, but it is possible to arrange them in an order which must be generally correct. The buildings A and B appear to be the earliest and date to pre-Flavian, probably Claudian, times. Building C lies above B and is therefore later, but may also be pre-Flavian. Two post-holes, belonging to D, cut through building C, and D is itself overlaid by E. Building E was in turn sealed by building F, which was destroyed *c.* A.D. 80–85 when the great foundation was constructed.

The Early Iron Age (pl. VIII *b*). Part of a long curved ditch of Early Iron Age date was found to cross areas XIX, XXI and XVIII. It ran roughly north-west to south-east across areas XIX and XXI, but towards the east of area XVIII at *c.* 57 ft. from the eastern edge of the great foundation it began to curve towards the north-east. At one point there was an entrance, the ends of the ditches diverging slightly. To the west of area XIX it passed under and beyond the north–south road, and had a curious circular northern projection in which a pottery cover (pl. LXIX no. 9) was found. Throughout its length a considerable quantity of Early Iron Age pottery with fingertip decoration was recovered and, in the eastern part, a barbed and tanged flint arrowhead (pl. LII, no. 60).

For the most part the ditch was V-shaped, *c.* 2 ft. wide and 2 ft. deep, and contained a filling of hard sandy loam, mottled brown in colour. The ditch was cut everywhere by the foundation trenches of the buildings in areas XIX, XXI and XVIII and must therefore be pre-Roman. Two small post-holes were noted in the section beneath area XXI, but they were indistinct and gave no dating evidence. The pottery makes it clear that the ditch is of Early Iron Age date. The ditch was apparently not constructed for drainage or defensive purposes, and was most likely cut to receive stakes for a palisade, while the interruption in area XIX would be the site of the entrance. There is no definite evidence that it continued further westward though it probably did so. The course of the ditch can be seen in fig. 5 and also in *Richborough IV*, fig. 2.

Building A (fig. 6). Building A comprises seven parallel north–south foundation trenches (nos. 10–16) extending for a distance of 35 ft. north of the great foundation, which destroyed the southern part of the building. The most westerly trench (no. 10) continues beyond the rest and was traced to the edge of the inner earth fort ditch. All of the trenches contained post-holes at fairly regular intervals, with diameters of 6 to 8 in. In trench 16 there was evidence of about 6 ft. of a sleeper beam, 1 ft. 9 in. by 1 ft. in section. Its north end was cut by pit 109.

The superstructure of the northern part of the building was based

on at least four east–west foundation trenches (nos. 17, 18, 19, and 49), joining trenches 10 and 20 at right-angles. Further north, all trace of structure was destroyed by the earth fort ditches. 13 ft. west of the building was a north–south row of post-holes and immediately to the east was a similar row. Structurally the building is very similar to the granaries excavated in area X; the difference lies only in its

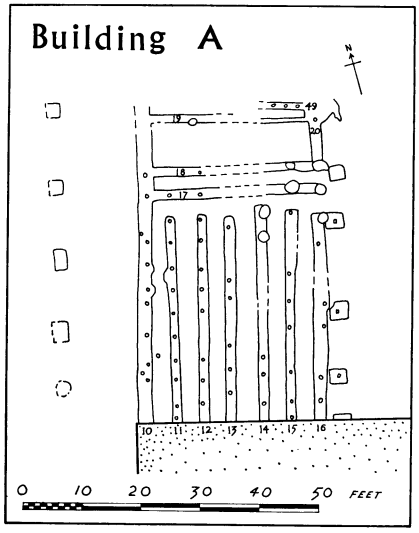


FIG. 6

northern part, the floor of which might have been intended to take a lighter load. A similar arrangement can be seen in the Claudian store-building at Fishbourne. Alternatively it might represent a loading platform.

Very little dating material was found in any of the foundation trenches. However, they produced a coin of Agrippa (A.D. 23–32), two fragments of samian ware forms 24/5 and 27, part of the rim of a Claudian mortarium, an early jug neck and a few fragments of ollae of Claudian type. These all suggest a pre-Flavian date for the building. Later, a road was laid down to the east of the site; in its metalling was found a coin of Vespasian, and just below it pottery which might be dated A.D. 65–80. It may be supposed that the building was put up in pre-Flavian times and destroyed by A.D. 80. Several pits were found dug through this level. Pit 109 had already been cleared (*Richborough IV*, 89) and was of fourth-century date. Of the rest, pits 230 and 234 were Vespasianic, 225 late first century, 228, 232, 236, and 237 third or fourth century, 231, 233, and 235 fourth century.

Building B (fig. 7). Very little remained of the structure, called here building B, which pre-dates building C, but the deep foundation trenches (27 and 45) and the shallow trenches (26A, 30, 36, and 37) must belong to the earlier layout. Nos. 30, 36, and 37 may define the

limits of a small room which enclosed hearth II and its ashpit. The hearth was built of a layer of small blue pebbles covered with a deposit of ashes, charred wood and clay 2–3 in. deep, which led to the ashpit—a round hole 2 ft. 9 in. in diameter, filled with rubbish and burnt matter. A small quantity of pre-Flavian pottery was found with the pit and hearth, including fragments of imitation Gallo-Belgic platters, combed ware, and a jug with thumb-pressed handle. For the other trenches, 26A, 45 etc., no satisfactory explanation has been found.

Building C (fig. 7). Building C sealed the remains of building B.

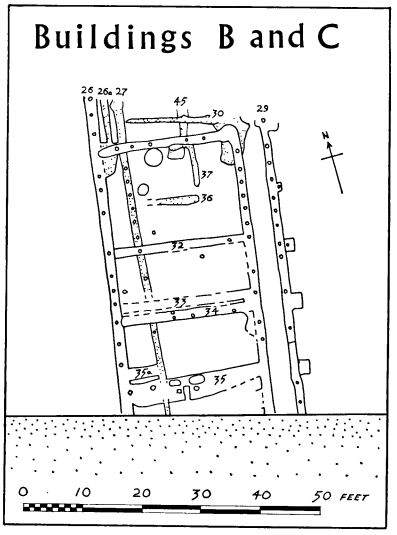


FIG. 7

It consisted of at least four rooms delimited by foundation trenches, in which were set timber uprights. To the east of the range was a corridor, 4 ft. wide, the outer wall of which appeared to have been strengthened at intervals by a series of buttress posts. It is significant that trench 35 is of double width with two rows of post-holes, while on the opposite side of the room there are two trenches (33 and 34) close together. A possible explanation is that one of these and half of no. 35 were dug but, owing to a change of plan, filled in again and replaced by the other and the rest of 35. Another possibility is that they represented a rebuilding. The transverse trenches (31, 32, 33–34) are shallow and mark the position of partitions. The building certainly extended further to the north and south. There are no traces of flooring.

A black occupation layer covered the sites of buildings B and C. In it were a samian form 18 with a stamp of Sentrus (Claudio-Vespasianic), early examples of forms 18 and 27, a Hofheim rough-cast cup, an early amphora handle, *Rich.* 25, a white cover, *Rich.* 15, and part of a grey olla, *Rich.* 6/8, another piece of this last being found in gully 31.

The deposit is pre-Flavian and might be Claudian. Finds from the trenches and post-holes consist of the handle of a Hofheim cup 23 A, two fragments of combed ollae, one thumb-pressed jug fragment, and the fragment of *Rich.* 6/8 mentioned above. It may be presumed that the building was erected in pre-Flavian times. A shallow layer of sand was found spread over the area to level it up, and above this an upper occupation layer which can be dated to the Neronian–Vespasianic

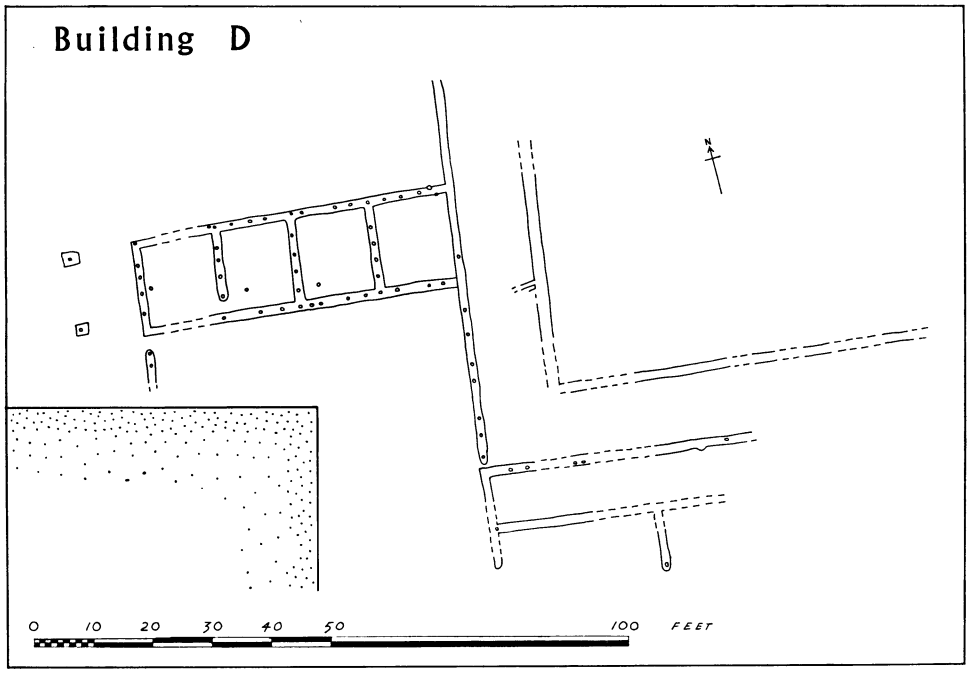


FIG. 8

period; so that it may be gathered that the building was destroyed by the end of the reign of Vespasian.

Building D (fig. 8). The part of building D excavated represents a courtyard surrounded to the west and south sides by a corridor 12 ft. wide. To the south of the southern corridor lay a series of rooms and corridors, largely destroyed by later building. West of the western corridor a range of four rooms was completely excavated. The walls were built of timber uprights set in long foundation trenches. Beyond, two post-holes, which cut through the remains of building C, were located. These may form part of a veranda bounding the western limit of the building.

Building E (fig. 9). Building E lies above building D and is itself sealed by the latest building, F. The part of the structure which remains is of similar plan to D and represents the south-west corner of a courtyard building which may have been bounded on the west by a colonnade of posts. South of the main southern range were found

two further rooms which could not be shown to be structurally of the same building, although stratigraphically they would seem to be. This part of the building was bounded to the south by a wide foundation trench running parallel to the main east–west road.

Building F (fig. 10). Building F, the latest and largest of all, comprised a large part of the west and south wings and traces of the east

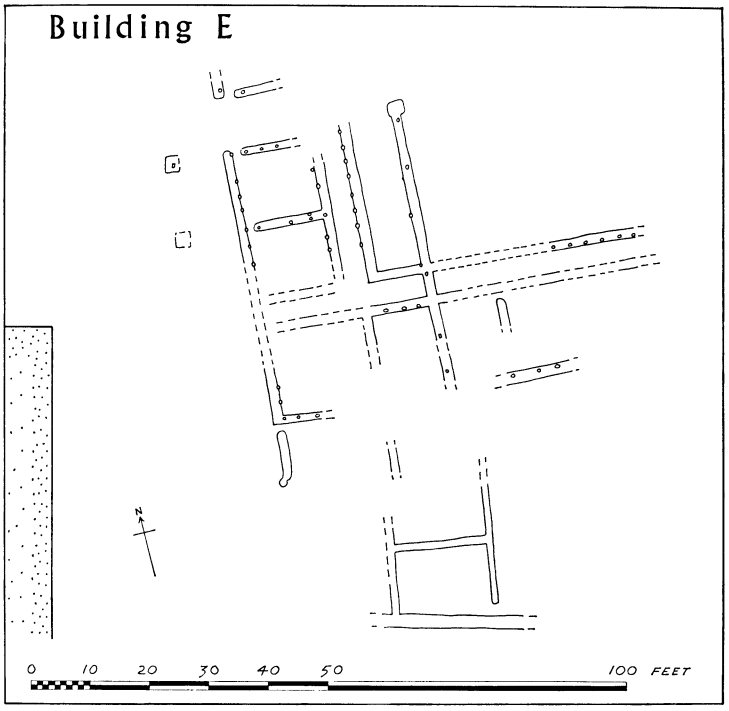


FIG. 9

wing of a courtyard building. A layer of up to 1 ft. of clay, beaten flat to take the floors, covers the site. The actual floors are represented by a thin layer of ochreous gravel lying on a layer of pebbles which extends further west. The same gravel is also laid as paths about 4 ft. wide on both sides of the west wing and to the south of the south wing, where it was 8 ft. wide leaving an interval of about 20 ft. between the path and the east–west road. In the beaten clay, trenches, about 3 ft. deep and penetrating through the clay and some 2 ft. into natural soil, were dug. At the bottom of these is a layer of gravel, perhaps to give support to sill-beams, but there is no trace of these except in one place only, between floors XI and XIV. Floor IX contains two separate patches of pebble flooring on its west side; on the east is a gravelly layer, 3–6 in. lower. This gravelly layer seems to have been used a good deal as a make-up for the clay, especially in the south-west corner.

A little pottery was found, chiefly on floors VII, VIII, and X. On floor X was a coin of Vespasian (A.D. 71), a samian form 27 with stamp LIC...., fragments of forms 29, 15/17, 18, 24/5 and 27, and part of a Gallo-Belgic plate; on floor XVI a fibula, Hof. 169, frag-

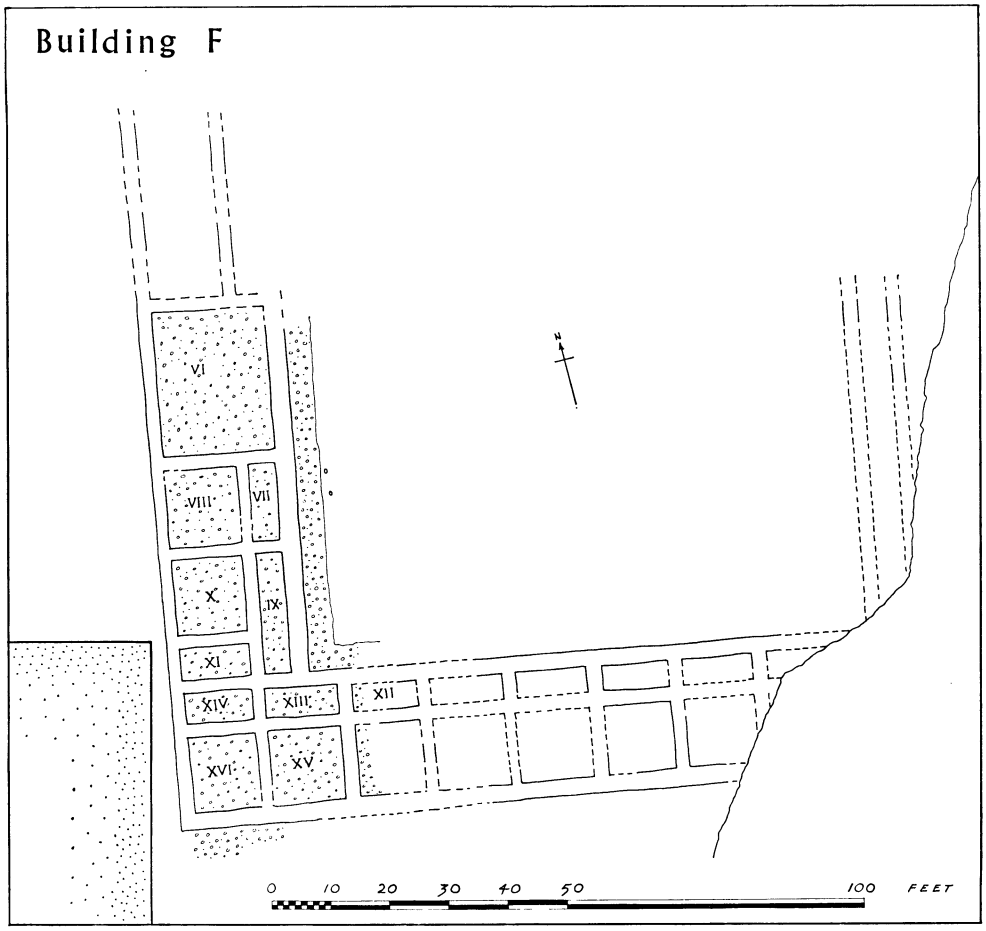


FIG. 10

ments of forms 29, 18, 27 and part of a pear-shaped amphora; on floor XIV a Hod Hill type fibula and fragments of forms 29 and 27; on floor VII fragments of forms 29, 15/17, 18 with stamp AQVTAV and Ritterling 1; on floor V forms 29, 67, 15/17, 18, 35/6, Ritt. 8 with stamp N (GRI); on floor IV a coin of Caligula and a Hod Hill fibula; on floor III a piece of a Belgic plate; on floor VI two coins of Vespasian; on floor I a coin of Nero and a fragment of a Gallo-Belgic plate.

The most conclusive dating evidence comes from pit 20, below floor XV. It appears to have been nearly full when building F was

erected; it was then completely filled and the clay layer spread over it. The pottery in the mouth of the pit is Neronian–Vespasianic in date (*Richborough II*, 19) and this must determine the date of the construction of the house. No fragments of the samian form 37 have been found anywhere on this site, so that it must have gone out of use very soon. Practically no traces of timbers have been found in the trenches of this part of the site. Perhaps when the great foundation was built the planks were still in good condition and were removed for use elsewhere. This would account for the fact that no post-holes were found and that the sand filling of the trenches was continuous with the sand spread over the whole area.

The building level of the monument. Above the level of the wooden buildings a mixed layer of black occupation soil was noticed, containing objects which could be dated up to A.D. 80, and in which were found the remains of hearth I and hearth III. The level above this belongs to the period of the building on the great foundation. A mixing floor lies over the east side, extending southwards to the great foundation and westwards about 16 ft. into area XXI. It is 3 to 5 in. thick and consists of an upper layer of white concrete (1 in.–2 in.) resting on a pebble layer. It continues westwards, gradually increasing to 6–8 in. near section 21, where it contains large flint cobbles and decayed mortar. The cobbles seem to be the remains of a north-west to south-east road running across the area as far as the flange of the great foundation. It had two longitudinal gullies, one V-shaped in the middle which represents a drain, the other perhaps marking its eastern edge, the western edge having been cut away. In 1929 remains of a road or pavement of tufa blocks was noted south-west of the north-west corner of the great foundation, and this appears to be part of the same system. Finds from the metalling include a coin of Vespasian and a small fibula, and can be dated to A.D. 70–85. This road was cut through when the flange of the great foundation was added to the main mass and the whole area was covered with a layer of clean sand, about $2\frac{1}{2}$ in. thick. It is capped in some places by pebbles, in others by a deposit of small pieces of oolite and greensand with mason's chippings of marble and several bronze dowels which would be used in joining sections of marble casing; occasional large lumps of oolite occur with a deposit of pottery dating down to *c.* A.D. 90. These layers represent the remains of stone-working in connexion with the marble cased structure which stood on the great foundation and, with the sand from the excavation, were used to level up the site when work there ceased.

Between sections 21 and 14 and about 37 ft. north of the great foundation there was found a system of stone-packed post-holes in two lines, 6 ft. apart, each line containing four post-holes. The four to the east were rectangular, *c.* 3 ft. 6 in. by 3 ft., and contained a packing of tufa and chalk blocks, the others were circular, *c.* 1 ft. 6 in. in

diameter, and contained large flints. The timbers for these holes cut through the mixing floor and are obviously later. They may have formed part of some contrivance of the nature of a crane or some other machine used in the building of the superstructure on the great foundation. On the other hand, there is nothing to connect them with this period with any certainty and they may be much later.

Second and early third century. No structural remains of this period were noted, but a wedge-shaped deposit of dark soil was cut through by section 21 and found to contain objects dating up to *c.* A.D. 200.

The period of the earth fort. Northwards over the sand make-up and its pebble capping lay a stratum of heavy clay, extending from the lip of the earth fort ditch, where it was about 2 ft. 3 in. thick, 17 ft. towards the south, thinning to about 6 in. The clay is of the same nature as the clay filling of the inner earth fort ditch (*Richborough IV*, 60–66). It is clearly the lower part of the clay rampart which stood inside the inner ditch, the upper part having been used to fill up the ditch when the site was levelled by Carausius at the time of the building of the stone fort. It is possible that the stone-packed post-holes mentioned above held the uprights for a tower at the back of the rampart, 17 ft. from the lip of the inner ditch. The uprights would have been drawn when the levelling took place. The clay incorporated a few small pockets of dark soil which were thrown in with it, containing coins of Hadrian and Antoninus Pius and an indeterminate radiate of *c.* A.D. 260–90, second-century samian ware and pottery of the second and third centuries. This group confirms the mid- to late-third-century date for the construction of the earth fort.

Later hut. Before the wooden buildings of areas XIX and XXI were excavated the levels above were examined. It was known from section 21 that a stratum of burnt soil existed about 20 ft. north of pit 37, and this proved to be a circular area over 12 ft. in diameter and 6 in. thick, resting on a 4 in.-thick layer of clay, probably remains of the rampart mentioned above. The material consists of lumps of burnt clay with pottery, bones and other rubbish, and large lumps of *opus signinum* flooring. Some of these lay horizontally more or less *in situ* to the east of the burnt layer, and the remains appear to be those of a burnt-out clay hut and a rough pavement leading to it. These fragments lie directly on the clay and the hut was probably built immediately after the levelling of the rampart. Pottery from this area includes fragments of a red colour-coated bowl, *Rich.* 125, an orange-red imitation of Curle 11, a pinched beaker possibly New Forest in origin, and a number of grey ollae with undercut rims of third-century types. Pottery from the surrounding mixed soil, up to the edge of the great foundation where it is sealed by a stone layer, was of much the same date, and includes fragments of a samian globular vessel (*Niederbieber I*, 24), a high-necked beaker and flange-rimmed dishes of a late type. All these point to a late-third-century date, which indicates

that the earth fort was out of use by the end of that century. The fact that the deposit contains a quantity of marble casing, fragments of bronze statues and clamps for joining marble slabs, evidently all from the building erected on the great foundation, suggest that this must have been in ruins by this date.

Later layers. Most of the surface soil had already been removed, but a deposit in area XXI, just north of the great foundation, and others in area XIX and further west, nearly to the edge of the north–south road, provided some interesting information. A typical section in area XXI showed:

A. 4 in. of dark surface soil with pebbles.
B. 6 in. of a mixture of shingle, blue pebbles, flint chips, mortar, broken tiles etc. resting on a horizontal base of larger flints.
C. 12 in. of mixed soil lying on the sand make-up.
D. A second layer of B curved back again into C.

All the contents of these layers were loosely packed and had the appearance of material collected for use in making mortar or concrete. It is to be noted that shingle and pounded tile are characteristic of the mortar above the first tile bonding-course of the wall surrounding the cross on the great foundation and also parts of the wall of the stone fort. Finds in this mortar layer include a few fragments of first-century pottery and coins of Claudius II, Probus and Arcadius, the last clearly an intrusion. From the mixed soil below came pottery mainly of the second and third centuries, with but little recognizable as after A.D. 250. In these there is nothing inconsistent with the suggestion that the pebble layers represent material collected in the late third century for use in the wall surrounding the cross on the great foundation, when the marble superstructure had fallen into decay, or even for the wall of the stone fort.

Pits 23, 37, 109, 110, 116, and 118, cutting through all strata have already been noted as being of fourth-century date; besides these, other pits 231, 233, and 235 of the fourth century and 228, 232, 236, and 237 which might be of the third or fourth century, were emptied.

Three hearths were discovered. Hearth I in area XIX, just east of section 21, sunk in the clay layer, was composed of tile and limestone with an oval ashpit behind it which contained coins, sherds of colour-coated ware and other items of the fourth century. Hearth II was in area XXI (see p. 15), and of hearth III in area XXI, nothing is worth recording.

North–south road. A section was cut across the line of the north–south road which bounds area XIX, but rather south of the latter, and across the road-ditch to the east of it. The lowest level above natural sand (5) contained several pieces of Early Iron Age pottery similar to that found a little to the north. Above this was a layer of black pebbles, the metalling of a road of Vespasianic date (4), next (3) a make-up

of mixed material followed by two more stretches of road metalling, (2) of black pebbles dating to the late first century, and (1) of large boulders, *c.* A.D. 200 in date. The V-shaped east road-ditch of (4) had been filled in and later re-cut to take the large stones of the stone-lined drain of (2), a considerable portion of which still exists. This section was shallower than the V-shaped ditch, and small lengths of the filling could be traced. Later the stones were removed and the rectangular trench filled up.

The Southern Part of the Third-century Earth Fort (fig. 1)

In the years 1933–5 work was chiefly concentrated on the clearing out of the remainder of the earth fort ditches from the entrance southwards and eastwards to the edge of the cliff, preparatory to their being turfed. The ditches had already been cut by sections 19, 20, 44, 44 A, and 46.

In 1933 the entrance was examined and the stretch of ditches southwards to section 46 was excavated. In 1934 excavation continued from section 46 to section 44, and in 1935 the sector from section 44 to the edge of the cliff was emptied.

From the Entrance as far as Section 46

The inner ditch. A little silt was usually found at the bottom, above which lay a clay filling. From section 46 to section 20 the fill was rather of the nature of a loam, but between section 20 and section 19 it consisted of a heavy clay so tough that it had to be cut into small pieces by a spade before it could be removed. The whole filling was of an argillaceous nature, but the density increased towards the lower levels. At 30 ft. to 46 ft. from the entrance there was an irregular mass of flints *c.* 4 ft. 4 in. wide with mortar at a depth of 3 ft., while a similar mass showed in the side of the ditch a little further south and there were many loose flints in the filling. These may once have formed part of the walls of a ruined house, thrown into the ditch to fill it. Patches of mortar were found on the inner-middle ditch mound. At the bottom of the ditch a ledge ran round on the inner side (*Richborough IV*, 61) and about 4 in. of silt lay between this and the outer slope of the ditch. The ledge, however, ran out near section 46; nearby was a circular hole *c.* 1 ft. 6 in. in diameter similar to those in the inner ditch of the stone fort near the postern.

The gullies of a timber building could be traced on both sides except where disturbances had occurred. A patch of reddish soil on the inner slope was probably of Early Iron Age origin, but no pottery was found.

Pits 285, 290 lay in the filling of the ditch, and pit 288, partly in the filling, partly in the inner slope.

The middle ditch. The filling contained layers of soil with varying proportions of clay but none of the stiff material as found in the inner ditch; generally speaking it was all lighter and more friable. There was a little silt in the bottom. Pits 289 and 293–6 had been sunk entirely in the filling, pits 297–8 and 42 partially. On the middle-outer ditch mound the remains of an oven of burnt red clay was found, the fallen dome resting on, and being confused with, the base. Three holes shown in section 46 (*Richborough III*, pl. LI), and thought to be ditches, proved to be pockets of earth of no importance.

The outer ditch. Above a little silt two layers could be distinguished, differing only in that the lower contained rather more clay than the upper. The ditch was cut by pits 287 and 299. On the outer-middle ditch mound a patch of yellow soil covered another section of north–south walling composed of two layers of flints in mortar, 2 ft. to 2 ft. 10 in. wide and 13 ft. long. The mortar seemed to be the same as that used with the platform, but different from that of the wall fragment of the inner ditch. The yellow soil could be the remains of the inter-ditch mound.

There was a noticeable lack of dating evidence for the ditches. In the filling of the inner ditch was found a coin of Claudius II near section 46; further north a barbarous radiate and an *as* of Domitian. The only part of the ditch system where pottery was found in any quantity was in the outer ditch just south of the entrance, where fragments of a large number of poppy-headed beakers were found, *Rich.* 324, two being nearly complete, and other pottery dating to the middle of the third century. In the other parts of the ditches most of the pottery dated to *c.* A.D. 200, a few pieces only being possibly of the third century.

Little of the filling appears to be the result of accumulation of material while the ditches were open. The stiff clay of the inner ditch is almost certainly the remains of the rampart inside the earth fort while the lighter filling represents earth brought from some early site. The whole area seems to have undergone a general levelling-up which extended beyond the site.

Reddish earth belonging to the Early Iron Age occupation was seen in the face of the ditches at various points. The only deposit of importance showed on both faces of the outer ditch, 3 ft. 2 in. in depth and extended *c.* 1 ft. 6 in. into the inner slope and 6 in. into the outer. Only scraps of pottery were found.

Pits. There were two early pits in this section, nos. 298 and 299, the latter containing a mason's chipping of marble and pottery of A.D. 75–95. Pits 285, 286, 291, and 294 were late third or early fourth century in date. The upper part of pit 285 contained a coin of Gallienus, the lower, one of Constantine I. Pits 287–90, 291–3, 296–8 were of the fourth century.

Several objects of more than usual interest were found in this part

of the site. In the filling of the inner ditch, a few feet north of section 46, was found the head and neck of a goose in bronze (pl. LVII); just outside the earth fort a polished stone axe head (pl. LII, no. 258) was found in the surface layers; from pit 293 was recovered a mass of 100–200 coins of Constantine I (pl. LX, no. 192), probably the contents of a leather purse; and in pit 295 a mass of rusted iron, *c.* 2 ft. thick, was discovered, composed entirely of caltrops.

SECTION 46 TO SECTION 44

The earth fort ditches cut through several earlier features. It appears that when the ditches were constructed there was a north–south wall on the site. Small portions of this were found on both sides of the outer and on the south side of the middle ditch, but there was no evidence as to its purpose.

Section 46A exposed portions of the north–south road, which could be seen inside and outside the earth fort and on the inter-ditch mounds. The base of the road consisted of large cobbles with mortar, pebbles, and mud in varying quantities to a general depth of 14 in., while above this was another layer of pebbles and sand, about 6 in. thick.

Two feet of surface soil had been removed in 1931 and below this there was *c.* 1 ft. of dark soil containing late third- and fourth-century pottery, the lower portions being little later than *c.* A.D. 300. The coins—218 in all—were: first century, 3; third century, 172; fourth century, 43; the third-century coins having probably been in circulation immediately after the filling-in of the ditches. Below this layer there was much disturbance, and about twenty pits were listed.

The western part of the site was freely marked with burnt daub, especially round pit 305, possibly the result of the burning of a wattle and daub hut. Vestiges of heavy timbers, large iron nails, and burnt iron appeared; some of the wattle fragments still showed imprints of rectangular timber.

Parts of the area evidently fell into a waterlogged state and from time to time attempts appear to have been made to remedy this with layers of pebbles or cobbles. At least two levels of these were noted, a lower in the central part near pits 306 and 320 and the north end of diagonal trench II, and a higher to the south and west. The same thing occurred in the area between sections 46A and 44, where a causeway of loose flints appears to have been laid down in a manner similar to that in area XI (*Richborough IV*, 62), extending beyond the ditches in both directions. Besides these efforts, two east–west trenches were found to have been cut to carry off surface water, one being found full of oyster shells. A hearth rested on a layer of pebbles and was built of burnt clay and lined with tiles 8 in. square. It was 2 ft. 4 in. wide and *c.* 1 ft. 4 in. high; about 2 ft. 5 in. of its depth was left.

In the black soil overlying the ditches 218 coins were found, they include:

First century: Vespasian—1, Domitian—2.
Third century: Septimius Severus—1, Gallienus—15, Victorinus—9, Claudius II—15, Tetricus I—22, Tetricus II—8, Probus—3, Carausius—41, Allectus—8. Indeterminate—50.
Fourth century: House of Constantine—18, House of Valentinian—4, House of Theodosius—8. Indeterminate—13.

The deposit was not sealed and the fourth-century coins clearly infiltrated from above, the third-century coins giving the date of the filling-in. The unusually large number of coins of Carausius and Allectus point to a dense occupation of the site in the reigns of these emperors. In connexion with the causeway the coins were:

Third century: Radiates—15.
Fourth century: House of Constantine—28, House of Valentinian—3, House of Theodosius—20.

The packing of the causeway, therefore, is apparently fourth century in date.

Pits 300 to 320 were exposed and cleared. Of these, pit 300 is of second-century date; 310 late first–early second; 315 A.D. 90–100; 320 A.D. 80–90. These were cut through by the ditches; the rest, nos. 308, 317, and 319 were dug in the ditch filling. The last contained a coin of Tetricus I, while the rest yielded typical fourth-century ware. All this suggests that the ditches were filled in before the end of the third century.

Section 44 to the Cliff Edge

About 1 ft. of soil was first removed, which contained third-century pottery and but little fourth, though there were many Theodosian coins. Below this, in the western part of the site, came about 2 ft. of soil containing much red and black burnt matter which lay in an area the shape of part of an oval with its vertex near pit 322, *c.* 39 ft. east of section 44. Beyond this the soil contained stretches of pebbles and large cobbles embedded in black material. The pottery found included fragments of first- to fourth-century date, those of the third century being the most plentiful. The coins recovered may be summarized as follows:

	Black earth	*Burnt layer*	*Among cobbles*
First century	..	..	1
Third century	9	16	30
Fourth century	12	4	209
			House of Constantine—26
			House of Valentinian—17
			House of Theodosius—166

The large number of coins of the Theodosian period is probably due to the scattering of one or more hoards. Of 52 indeterminates many were probably Theodosian.

The ditch filling was rather less disturbed than in previous sectors, consisting of a light yellowish earth, replaced for short stretches by heavier soil, though there was none of the stiff clay found further west. In the bottom of the ditches there was a little silt, up to a maximum of 10 in. deep. The pottery was chiefly first and second century with a few third-century fragments and included a brownish mottled bowl with heavy flange, which was associated with a considerable quantity of first- and second-century samian ware. The coins were: first and second century, 11; Severus Alexander, 1; 1 each of Claudius II and Tetricus I and 2 other pre-Carausian radiates. This evidence confirms the Carausian date previously suggested for the filling of the earth fort ditch (*Richborough IV*, 65–66).

An offset was found at the bottom of the inner ditch, while towards the east end a buttress, 23 ft. 6 in. long, projected into the ditch about 1 ft. 9 in. at the bottom, but rather less higher up. Beyond this the offset reappeared for a further 5 ft. 8 in. This irregularity may be due to an alteration in the planning of the ditch or to later recutting.

A pebble patch, 10 ft. by 8 ft. and about 3 in. thick, lay over the filling of the later ditch near its east end. In it was a little late-third- and fourth-century pottery and coins of Victorinus and Carausius, and beneath, pottery similar to that in the rest of the filling and a late third-century radiate.

A hearth was noted on the eastern face of section 44, near the inner-middle inter-ditch mound. It had been laid over the ditch filling but had taken a curved shape through the sinking of its bed, another hearth, also of tile, being then laid above it after a level surface of wood ash and burnt earth had been formed. About 3 in. of burnt red earth lay behind the hearth. In association with the hearth were two coins of Tetricus I and one of Carausius.

Four pits were discovered in this area: no. 322, of the last quarter of the third century, was dug in the ditch filling and nos. 321, 323, and 324 were cut through by the ditches, all being of first-century date.

To sum up, it was found that there was no substantial difference between the fillings of the three ditches or at different levels. Pieces of the same pot were found in different ditches, and again near the top and bottom of the same ditch. The one exception is that the glutinous clay from the rampart was found in the inner ditch only. There was very little silt, indicating that the ditches were not open for a long time or that they were cleared out from time to time.

The pottery was mostly of late first-century date, but there was a fair amount of the second century and everywhere a little which could be third. The coins from the ditches were as follows: first century, 17; second century, 7; early third century, 1; third century,

(pre-Carausian), 14; Carausius, 1; indeterminate, 1; Allectus, 1; House of Constantine, 2. The last four, if definitely from the ditch fillings, which is doubtful, came from the top layers and may be considered to be intrusive.

Excavations in the South-west Corner of the Stone Fort

The south-west diagonal trench (fig. 1 and fig. 12, section 64)

In order to find out something of the history of the southern part of the site a trench was dug from the south-west corner of the stone fort to the nearest south-west point on the outer earth fort ditch. Under the care of Mr. L. H. Rawson the Claudian ditches were cut and both were found to contain about 1 ft. of silt, above which was slightly discoloured sandy soil with Claudian pottery and an early fibula. A little north-east, some east–west gullies were met with, in one of which was found a samian form 27 with the stamp of Albanus (Tiberius to Vespasian). These gullies were proved later on to belong to buildings K and L of area XXIII. The trench cut through a north–south road 85 to 117 ft. from the south-west corner. The road measured 21 ft. across. In the middle there was a depression 6 ft. wide, which is too great for a central drain and is probably a slightly later disturbance. There were two layers of road metalling, showing at least one period of reconstruction. A little pottery, not later than *c.* A.D. 100, was found in the metalling, and first- and second-century pottery in the disturbance. Two further east–west sections were cut in order to trace this road further to the south, but without success.

Some road metalling was detected which formed part of the north–south road to the east of the Chalk House (see section 33), and a stone patch which appears to represent the levelling up of a hollow or the consolidation of a small area of soft soil at a time in the second century when the road was no longer in effective use.

At 134 ft. from the south-west corner, an amphora burial was found at a depth of 5 ft. The amphora, which was of an unusual shape, contained burnt human bones, a samian dish form 31, a small unguent bottle of buff clay and a Castor ware hunting cup. Standing just outside the amphora was a narrow-necked, grey, polished jar of a type frequently found at Ospringe. The date of the burial is late second-century. The vessels are illustrated below (pl. LXX, nos. 518–22 and pl. VII *a*).

In a later excavation another burial was found within a yard of this. It consisted of a jar (pl. LXXVI, no. 590) with a tile cover, containing human bones, two small Castor ware cups (pl. LXXVI, no. 590), and coins of Antoninus Pius and Faustina the Elder.

It will be remembered that a little further to the north lie the remains of a masonry tomb, site V, which has been dated to A.D. 200 at the earliest. With these three burials and the possibility of others

in close proximity to them, and remembering that inhumations were usually placed outside built-up areas, it is evident that during the second and most of the third centuries there was practically no occupation on this part of the site.

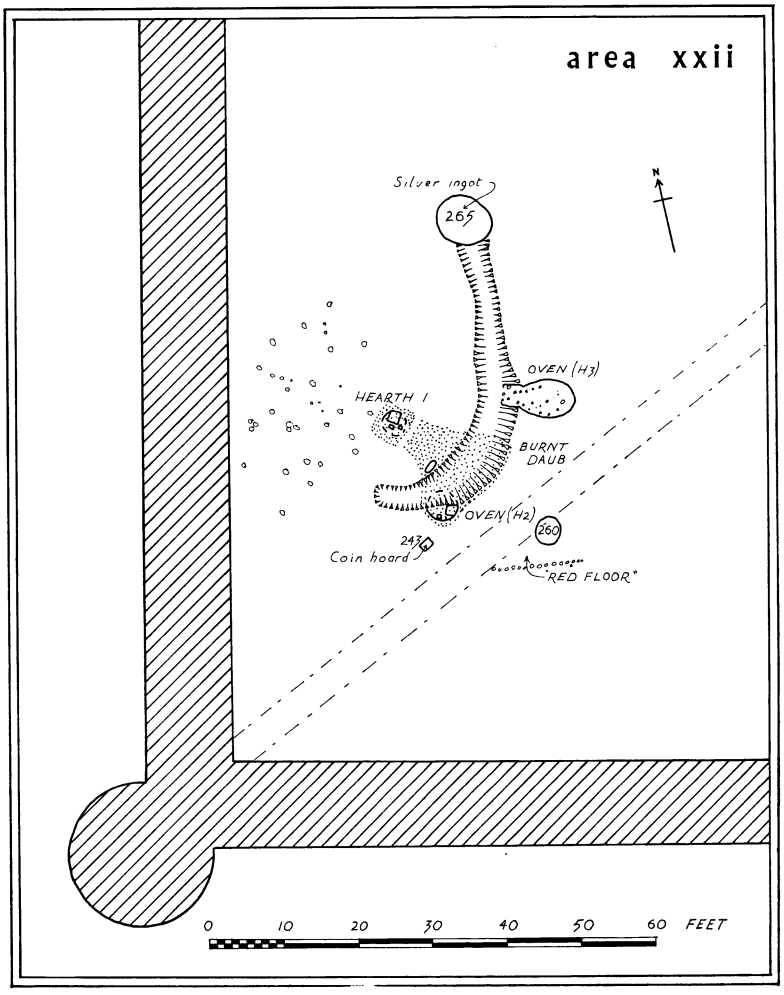


FIG. 11

Area XXII (fig. 11)

When the southern portion of the site was being cleared in 1931 signs of disturbance of the soil were apparent in the south-west angle of the stone fort, a little north of the south-west diagonal trench. This area was left for a further investigation in 1932. Excavation in that year produced two important finds: a large hoard of 'minimissimi' and a silver ingot, together with evidence of several hearths or ovens and a wattle and daub hut.

It appears that some of the soil from the trenches, in which the south and west walls of the stone fort were set, was spread out inside the fort with a definite southward and eastward downwards slope. Upon this soil a hearth (H1) and two ovens paved with pieces of decorated box-tiles (H2 and H3) had been constructed. They may have belonged to buildings erected against the walls of the fort, but no traces of such structures survive. Later a curved gully had been dug, cutting through the two ovens. It was filled with dark soil containing animal bones (chiefly oxen), late-third- and fourth-century coins and a few sherds of late pottery. The northern end of the gully terminated in pit 265, in which was found the silver ingot (pl. L, no. 243). The function of the gully is uncertain, but it may be a drainage or latrine trench and pit 265, its sump.

The whole of this area was covered with a layer of burnt daub of varying thickness, evidently from the walls of a wattle and daub hut which lay just to the south-west. It was amid the ruins of this structure that the hoard of minimissimi was found (p. 191).

Trial trenches against the west wall of the fort (fig. 12, sections 61, 62, 63, and 65)

Four sections (I–IV) were cut, under the supervision of Mr. T. G. Barnett, at right-angles to the inner face of the west wall to examine its footings. In all trenches five layers could be distinguished, varying only in detail. Beginning from the bottom these were:

1. Flint cobbles in soil, 1 ft. thick (6 in. in section IV), flush with the wall generally, but projecting 1 ft. 3 in. in section II and 1 ft. 8 in. in section IV.
2. Rammed chalk *c.* 2 in. thick, absent in section III.
3. Loose flints 6 in. thick, 8 in. in section IV.
4. Rammed chalk, *c.* 2 in. thick.
5. Mortared chalk with slight outward splay, widening to from 2 ft. 3 in. to 6 ft. 6 in. in section IV.

Miscellaneous Work on Other Parts of the Site

As part of the clearing-up operations carried out towards the end of the excavations, several minor discoveries were made and are recorded below.

Road to the south of the stone fort wall

A north–south trench was cut outside the south wall of the stone fort, 21 ft. from its present end. It proved the existence of a north–south road, the metalling of which consisted of flint cobbles lying on a layer of sand and thinning out towards the inner ditch of the stone fort. The whole of the earlier occupation soil appears to have been removed when the road was laid down. In the layer above the cobbles was much

loose stone of all kinds with pottery and coins of the late third and fourth centuries. In the natural sand were three east–west gullies. No evidence of a south postern was found.

Area X west

The part of this area inside the south-west turn of the earth fort was cleared down to gully level. Among other items, a burnt area indicated the site of a burnt wattle and daub hut, in connexion with which was found a jug, *Rich.* 163–5, with white paint decoration and part of a Saxon shield boss. The bed of heavy clay on which it rested may have been part of the inter-ditch mound.

The Claudian ditches north of section 22

The ditches of the Claudian camp, north of section 22, had been partly excavated, some sections having been later filled in. This portion was re-excavated and extended further north as near to site II as was consistent with safety. In the outer ditch, now excavated for the first time, the stratigraphy consisted of: silt, 1 ft.; drab clay, 1 ft. 7 in.; yellow sandy clay, 9 in.; the metalling of a Claudian road with some light soil below, 9 in.; mottled mixed earth, 13 in.; hard white earth, 1 ft. and an upper road, 7 in. The mid-point of the last was 9 in. west of the axis of the ditch. The pottery found in the outer ditch was of the usual Claudian type coming mostly from the drab layer, combed ware predominating. Some 14–15 ft. north of section 22 yellow soil replaced the drab layer. An oven was found on the western slope of the outer ditch, resting on natural sand.

The Claudian road ran 36 ft. northwards over the filled-in outer ditch. In section 22 it was 4 ft. 9 in. wide, elsewhere being as wide as 5 ft. 8 in., its maximum thickness being 8 in. Its base contained many large cobbles. The burnt layer of area XVI was represented by a stratum, 2 ft. thick, covering the ditch filling, the upper half of which contained much burnt daub. The Domitianic road ran obliquely over this and petered out *c.* 14 ft. north of section 22. On it was found a coin of Hadrian. Above the red layer elsewhere was 8 in. to 1 ft. 8 in. of a second-century deposit with many pebbles, these being replaced at its north end by a mass of large cobbles which lay against the east edge of the cement floor of area VI.

A large stretch of sand was met with, probably redeposited from the wall trench of the stone fort.

The north wall of the fort

A trench was cut along the footings of the north wall of the fort on the inner side. At one point a mass of mortar droppings were found. This trench was left open and turfed in order to display the mode of construction of the wall, which here has an offset. The fact that at one point the level of the bonding tile courses does not coincide suggests

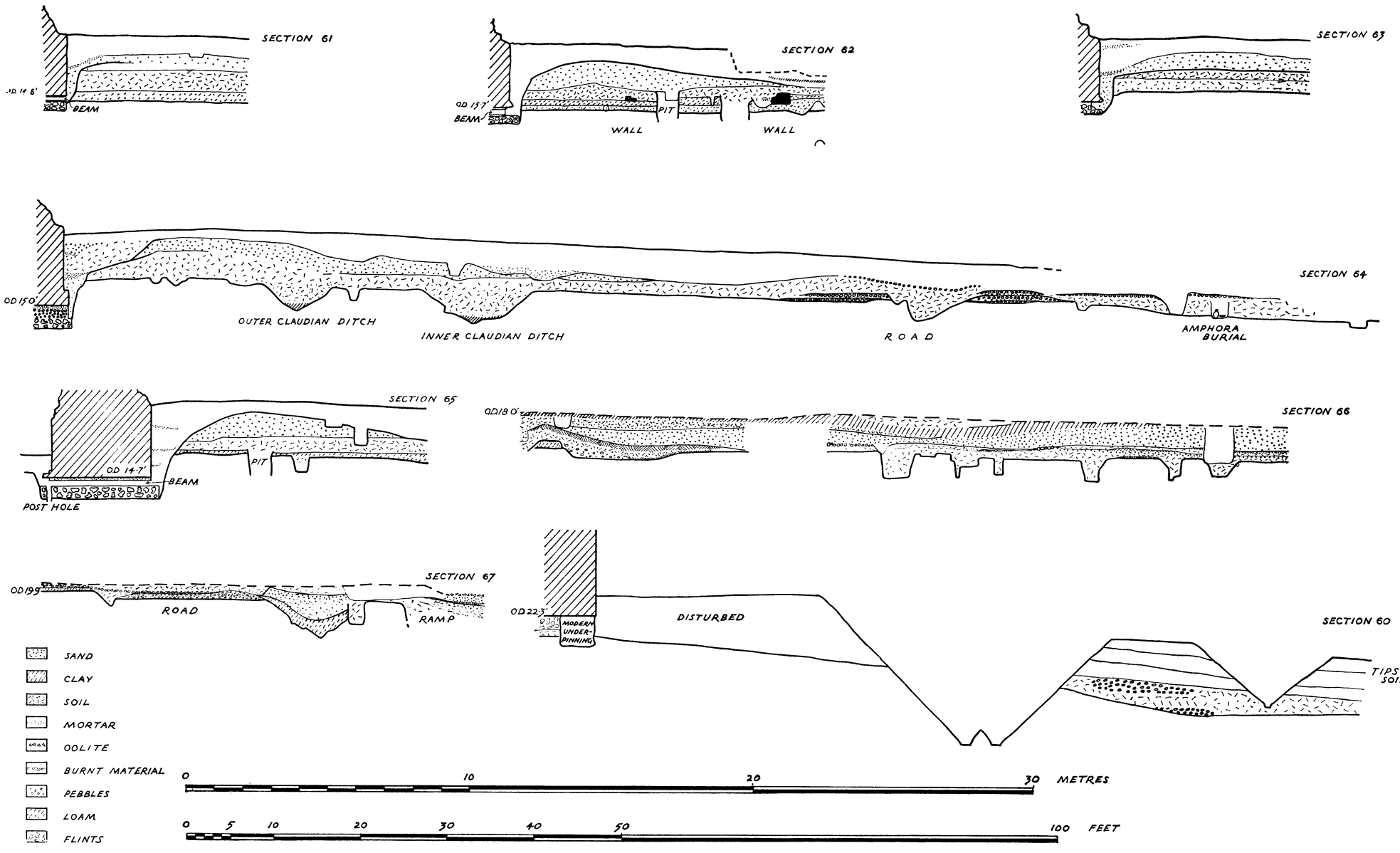


FIG. 12. Sections

that the two sections of the wall meeting here were constructed by different gangs of men working independently.

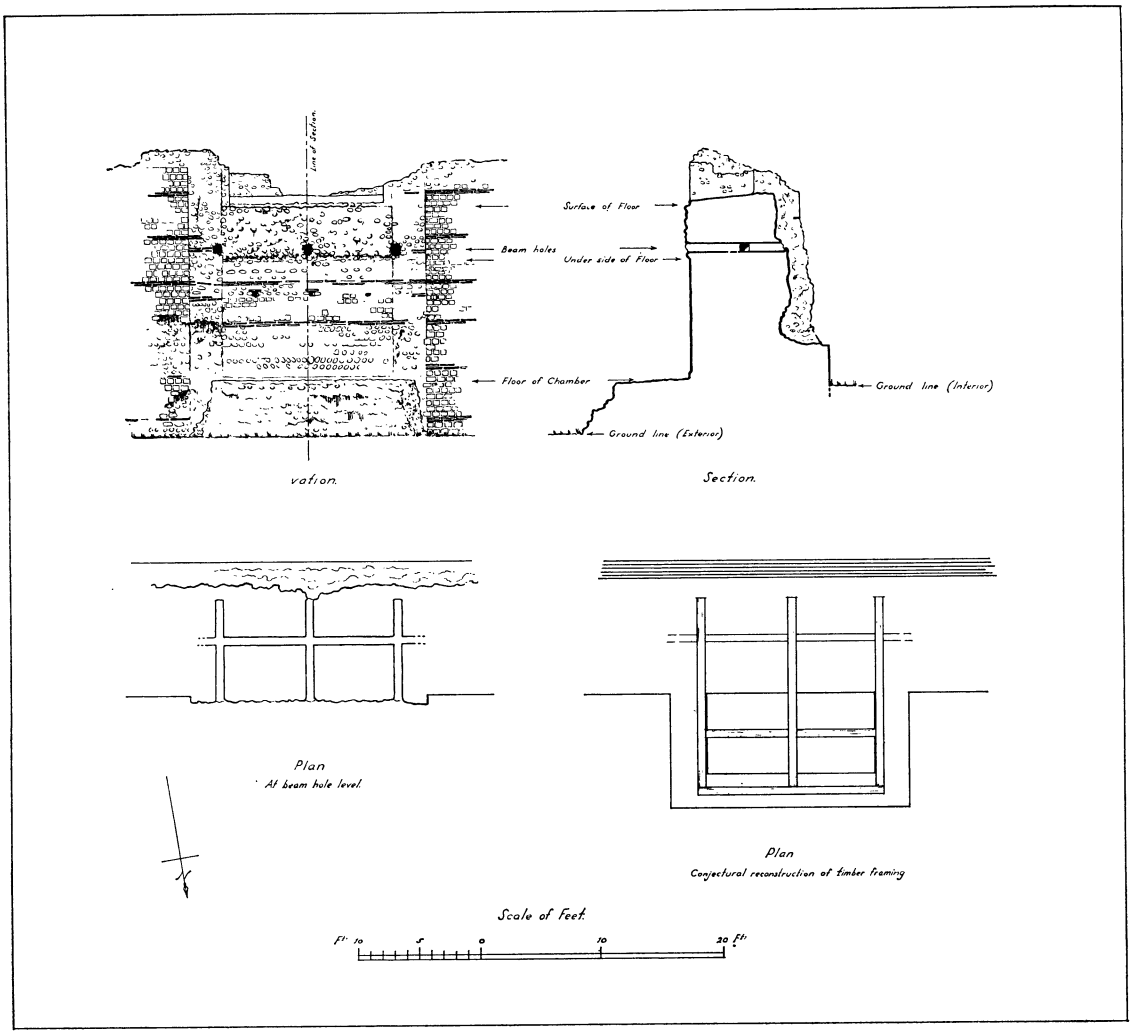


FIG. 13. Details of a bastion construction

The south wall of the fort

The eastern portion of the south wall of the stone fort had been much hidden by the accumulation of made earth. Slopes were cut in this on both sides of the wall so as to expose it to its footings. The pebble footing was found as a rule to conform with that in the rest of the wall, but in one spot it was replaced by angular chips of limestone laid dry. Traces of beam holes were found, but they were not sufficient to allow a definite plan to be made.

The Pits

Pit 228. Area XIX. Contained pottery dating to the late third to early fourth century.

Pit 229. Area XIX. Late first century.

Pit 230. Area XIX. Late first century.

Pit 231. Area XIX. Cut into first-century occupation layer. Fourth century.

Pit 232. Area XIX. Third century.

Pit 233. Area XIX. Fourth century.

Pit 234. Area XIX. Contained little dating evidence, but probably Vespasianic.

Pit 235. Area XIX. A shallow pit with mixed pottery.

Pit 236. Area XIX. A pit 3–4 ft. deep. Filled during the period A.D. 275–320, but also included some first-century pottery.

Pit 237. Area XIX. Fourth century.

Pit 238. No details.

Pit 239. Position unrecorded. Contained a Pompeian-red plate.

Pit 240. Trench I, against the south wall of the fort. Pre-dating the construction of the fort.

Pit 241. Trench II, against the west wall of the fort. Cut into the foundation trench of the fort wall. Fourth century.

Pit 242. Trench II, against the west wall of the fort. The pit contained South Gaulish samian forms 15/17, 27, 35/6, 37, and 42, *Rich.* 292 and a poppy head beaker. Last quarter of the first century.

Pit 243. Area XXII. Fourth century.

Pit 244. Area XVII/32; inside the Chalk House. The pit contained part of a limestone mortar (pl. LXVI, no. 6), and a samian vessel stamped EVNĀIS. Trajanic–Antonine.

Pit 245. Area XVII/32. Consisted of two sections separated by a bed of stiff clay. The upper levels could be dated to *c.* A.D. 200.

Pits 246 and 246a. Area VIII/32; inside the Chalk House. Two pits running into one another and dug 2 ft. into natural soil. They contained a samian form 37 stamped FRONTINVS and a form 24/5 stamped SENICIO. A.D. 75–90.

Pit 247. Area XVII/32; inside the Chalk House. Top layer contained fourth-century pottery.

Pit 248. Area XVII/32. The pit contained pottery dating up to the early third century. At the top of this pit the hoard of radiate minimi was found.

Pit 249. Area XVII/32; inside the Chalk House. This cut the eastern long gully. A.D. 75–90.

Pit 250. Area XVII/32; inside the Chalk House. The pottery included a fragment of a South Gaulish samian form 37 and a coin of Domitian. A.D. 75–100.

Pit 251. Area XVII/32. The eastern part of this pit was complicated

by a deep disturbance. Most of the finds were late first–second century, but a few later pieces were also found.

Pit 252. Area XVII/32. The pit cut through gully 5. It contained coins of Nero and Vespasian, but the pottery suggested an early second-century date.

Pit 253. Area XVII/32; south of Chalk House. The pit had 5 post-holes on its north side. The lower filling contained pottery dating to the period A.D. 80–160 and later, in the fourth century when the filling had sunk, more rubbish was thrown in to level it up.

Pit 254. Trench IV; against the west wall of the fort. Cut into the foundation trench of the wall. Fourth century.

Pit 255. South of the Chalk House. The pit contained coins of Vespasian and Domitian and coarse pottery dating to A.D. 90–140. In a depression just to the south-east of the pit a fragment of a samian form 15/17 stamped OFFELCIS was found.

Pit 256. Area XVII/32. This consisted of an early pit, dating to the last quarter of the first century, which apparently had sunk and was filled up with later material. In the lower 2 ft. of the filling were fragments of a Pompeian-red flanged bowl, rough-cast beakers and a marbled imitation of a samian form 27. The upper 3 ft. contained first- and second-century samian including form 27 stamped]AVE, a black polished vessel imitating form 30, and amphora with a graffito (p. 184), and coins of Hadrian and Verus.

Pit 257. Area XVII/32; inside the Chalk House. This is apparently part of a curved gully. At the bottom was much decayed wood and a layer of oyster shells, 1 in. thick. The pottery found in it was pre-Flavian.

Pit 258. Area XVII; near the west wall of the stone fort. Second century.

Pit 259. South of Chalk House. Second century.

Pit 260. Area XXII. No further information.

Pit 261. Area XXIII. The mouth of the pit was sealed by burnt daub and the vitrified sides of a furnace. It contained fragments of Flavian samian and other pottery of a similar date.

Pit 262. Area XVII; inside the Chalk House. Late third–fourth century.

Pit 263. Area XXIII. Part of pit 261.

Pit 264. Area XVII. Part of pit 251.

Pit 265. Area XXII. No further information.

Pit 266. South of Chalk House. The pit contained a considerable amount of pottery dating A.D. 75–150.

Pit 267. South of Chalk House. The pit contained quantities of organic material, animal bones and oyster shells, and may be a refuse pit connected with the second wooden house. It probably dates to the period A.D. 75–85.

Pit 268. Area XVII. The pit cut through the intersection of two gullies and was in turn cut by pit 256. Pre-Flavian.

Pit 269. Area XXIII. The pit contained a quantity of pottery, including samian ware stamped)NEORIV, OFSEVE, and MVRRI. A.D. 80–95.

Pit 270. Area XXIII. The pit included a samian form 27 with a stamp of FRONTINVS. A.D. 80–95.

Pit 271. Area XXIII. Cut through by gully 43. Most of the pottery is Claudian, but a single fragment of a samian form 37 was found.

Pit 272. Area XVII. The pit contained much pre-Flavian pottery. It must have been filled in the period A.D. 80–90, since in it were found fragments of samian form 37, a form 18/31 stamped OF MVR and a form 18 stamped)DAMIS O.

Pit 273. Cancelled.

Pit 274. Area XXIII. The pit was cut by gully 30. It produced a sherd, probably from a samian form 29, stamped CRESTIO.

Pit 275. Cancelled.

Pit 276. Area XVII. The lower levels dated to A.D. 90–120, the upper levels from 160–80.

Pit 277. Area XVII. The pit contained burnt material. In the upper levels was found a samian form 31 stamped LVPINIM. Below the material was a little earlier, including fragments of a rough-cast beaker. A.D. 100–60.

Pit 278. Area XVII. The pit produced pre-Flavian pottery, including a samian form 18 stamped OF BASSI.

Pit 279. Area XXIII. The pit yielded a coin of Vespasian and a samian form 33 stamped OFI SALVI. Late first century.

Pit 280. Area XXIII. A.D. 80–100.

Pit 281. South of Trial Trench IV. A fourth-century pit, into the top of which redeposited second-century rubbish, including the bone plates and lock of a trinket box, had been thrown.

Pit 282. Area XXIII. Flavian.

Pit 283. Area XVII. Pre-Flavian.

Pit 284. Pit cut into the inter-ditch mound between the earth fort ditches. The date is indeterminate.

Pit 285. In the filling of the earth fort ditches, just west of section 46. The pit contained many iron nails and staples. Late third–early fourth century.

Pit 286. 5 ft. west of pit 285. The pit yielded the skulls of one horse and four dogs. Late third–early fourth century.

Pit 287. 30 ft. west of section 46. Fourth century.

Pit 288. Earth fort ditches. Produced many coins, ranging mainly from Carausius to the House of Valentinian.

Pit 289. Earth fort ditches; north-east of hearth. The pit contained coins, mainly third-century radiates but including one early coin of Constantine.

Pit 290. 8½ ft. north of section 20. Early fourth century.

Pit 291. 18 ft. north of section 20. Late third–early fourth century.

Pit 292. North of section 20. The pit produced 26 coins, 6 being Theodosian.

Pit 293. South of section 20. The pit-filling included much burnt daub. In it were found coins ranging from late-third-century radiates to Constantinian issues. The corroded mass of coins (pl. LX, no. 192) came from this pit.

Pit 294. Pit cut into pit 298. It contained some samian, one stamped GERMANVS, coarse ware of *Rich.* type 341/2 and a fragment of colour-coated mortarium. Late third–early fourth century.

Pit 295. Pit found in the filling of the middle earth fort ditch. Towards the bottom there was a little second-century samian, above this a black layer and at the top a large mass of caltrops, all rusted together.

Pit 296. 33 ft. north of section 20. The finds from the filling included a fragment of Marne ware, a three-handled cup and coins of the House of Valentinian.

Pit 297. 51 ft. north of section 20. This pit was originally wood-lined and contained coins from Claudius II to Valentinian I. At the top lay a mass of boulders.

Pit 298. Cut by pit 294. Pottery from the lower filling suggested a late-first-century date.

Pit 299. 25 ft. north of section 46 in the outer earth fort ditch. It contained a mason's chipping of marble. A.D. 75–95.

Pit 300. In section 46 at the edge of the inner earth fort ditch. Late first–early second century.

Pit 301. Near pit 300. Late third–early fourth century.

Pit 302. Slightly south of pit 300. Fourth century.

Pit 303. Slightly east of pit 301. Fourth century.

Pit 304. Earth fort ditches. Contained rilled ware and coins from Tetricus I to the House of Theodosius.

Pit 305. In the filling of the inner earth fort ditch. A layer of decayed wood was found near the bottom. The filling produced 8 radiates, 28 coins of the House of Constantine, 3 of the House of Theodosius and 10 barbarous minims.

Pit 306. Cut partly into inner earth fort ditch. Late third or early fourth century.

Pit 307. Cut into filling of inner earth fort ditch. Not dateable.

Pit 308. Cut into filling of outer earth fort ditch. Late third century.

Pit 309. Cut into filling of inner earth fort ditch. Early fourth century.

Pit 310. Pit cut by the outer earth fort ditch. The pit contained a third-century radiate and a mortar stamped MARINVS. The bulk of the pottery is late first–early second century.

Pit 311. Cut into middle earth fort ditch. Fourth century.

Pit 312. In outer earth fort ditch. At 5 ft. from the top of the pit was a clay layer in which two circular holes had been cut. These were

filled with loose black soil which ran below the clay and in which was found a complete pot.

Pit 313. Cut into the inner earth fort ditch. The pit contained three third-century radiates, but the pottery was typically fourth century.

Pit 314. East of section 46. A rectangular pit cut just into the inner earth fort ditch and just inside its inner edge. The pit measured *c.* 4 ft. 6 in. by 3 ft., and was 5 ft. 9 in. deep. In it were found the remains of a man, a woman, and a child. The bodies had been thrown in headlong, their knees sharply bent, and all were pressed close together so as to occupy as little space as possible. The child was at the bottom, head downwards and turned so as to rest on the left cheek. The man had lain to the east, pressed against the north side of the pit, his knees at about the same level as those of the child. The woman was to the west, her skull 6–8 in. higher than that of the man.

Some of the bones, particularly those of the child, were in remarkably good condition, others had entirely disappeared, others again were powdered. Two trinket boxes lay between the man and woman: one inlaid with jet, near the woman, the other, plated with bronze (cf. *Richborough IV*, 176, pls. XLVII and XLVIII) near the man. Near the latter, and probably coming from it, were seven bracelets or fragments, a finger ring and two earrings. Parts of the man's skull were stained green from contact with the metal. The bottom of the pit also contained animal bones, broken and burnt, and fragments of iron implements. The pottery found in the pit was mostly colour-coated ware. It has been dated as late as the late third to mid-fourth century. There were coins of Carausius and Allectus at the top and bottom, in the middle there were also Constantinian and Theodosian coins.

Perhaps here is evidence of an epidemic in the late fourth-century times. Bodies lying about had to be buried for sanitary reasons, and a hole was dug at a soft spot, which was in fact the top of a rubbish pit of the time of Allectus. The bodies were thrown in together with the woman's trinket boxes, and mixed late third- and fourth-centuries soil used to fill up the grave.

Examination of the remains at the Royal College of Surgeons showed that the child was aged 12 or 13, the woman about 20; there was not enough evidence to fix the age of the man. All were of normal Romano-British type, and nothing unusual was noted about the bones.

Pit 315. Cut by the inner earth fort ditch. A.D. 90–110.

Pit 316. Cut into the mound between the inner and middle earth fort ditches. The pit contained coins of Valentinian.

Pit 317. Cut into the outer earth fort ditch and sealed by a layer of pebbles. The pit produced 4 radiate coins, including 2 of Carausius.

Pit 318. East of section 46; sealed by a pebble layer. 6 coins were found, 1 of Claudius II and 5 of Constantinian date.

Pit 319. Cut into inner earth fort ditch. The pit contained a Castor ware cover and dishes of *Rich.* type 105, 106, and 121.

Pit 320. Cut by outer earth fort ditch and by pit 308. A.D. 80–90.

Pit 321. In section 44 A. Flavian.

Pit 322. The pit contained coins of Claudius II, Tetricus I, and Carausius, together with imitations of samian forms 31 and 38 and *Rich.* forms 97/102, 121, and 185. Late third century.

Pit 323. In section 44 A. A.D. 80–100.

Pit 324. 13½ ft. west of section 44 A and cut by the inner earth fort ditch. The pit yielded large quantities of oyster shells, samian forms 29, 37, 18, 15/17, 27, 35/6, and Ludovici T 2, first-century mortarium, grey combed ware, etc. A.D. 80–100.

Pit 325. Cut into the filling of the inner Claudian ditch. Late first century.

Pit 326. Cut into the north–south road over the outer Claudian ditch. Early second century.

Pit 327. South of section 20. The pit contains samian forms 29 and 37 and *Rich.* types 306 and 291. A.D. 85–95.

THE FLEET CAUSEWAY

By Dr. J. D. Ogilvie, F.S.A.

It has been generally assumed that, during at least part of the time of the Roman occupation of Britain, Richborough was situated on an island, which was separated from the mainland by the narrow Fleet Channel, which opened, to the north into the Wantsum Channel, and to the south into a large tidal bay that now forms the marshes of the Goshall Valley. The assumption was that this Fleet Channel, sea-filled at least at high tide, was crossed by a causeway. Winbolt[1] confidently described the course of its agger, with a bend near the middle; and Margary[2] stated, in 1948, that the line was still visible. Knox,[3] as well as describing the agger, mapped a route from the west end to Reculver, and produced, as evidence, the existence of a similar long straight agger across the Westmarsh marshes, alongside the Richborough Stream.

No attempt seems to have been made to verify the nature of the Fleet agger until 1957, when the Ash Local History Group examined it. Trial holes were dug and systematic augering was carried out across and along the line, but no trace of any road was found. It was observed that, at the junction of the arable land and the marsh, the soil consisted of, from above downwards, 4 in. of topsoil, 3 ft. of silt, a well-defined 6 in. band of blue clay, 2½ ft. of silt, and a bed of greenish

[1] S. E. Winbolt, *Roman Folkestone* (1929).
[2] I. D. Margary, *Arch. Cant.* lxi (1948), 126.
[3] C. Knox, *Arch. Cant.* liv (1941), 35.

sand and shingle. (It was later observed, as River Board dyke-deepening operations were being carried out, that these layers extended along the edge of the marsh as far as Stourmouth.) As the investigations proceeded across the Fleet Channel, from the edge of the marsh, towards the middle, it was found that the blue clay layer became rapidly deeper. Flooding of the trial holes prevented the tracing of

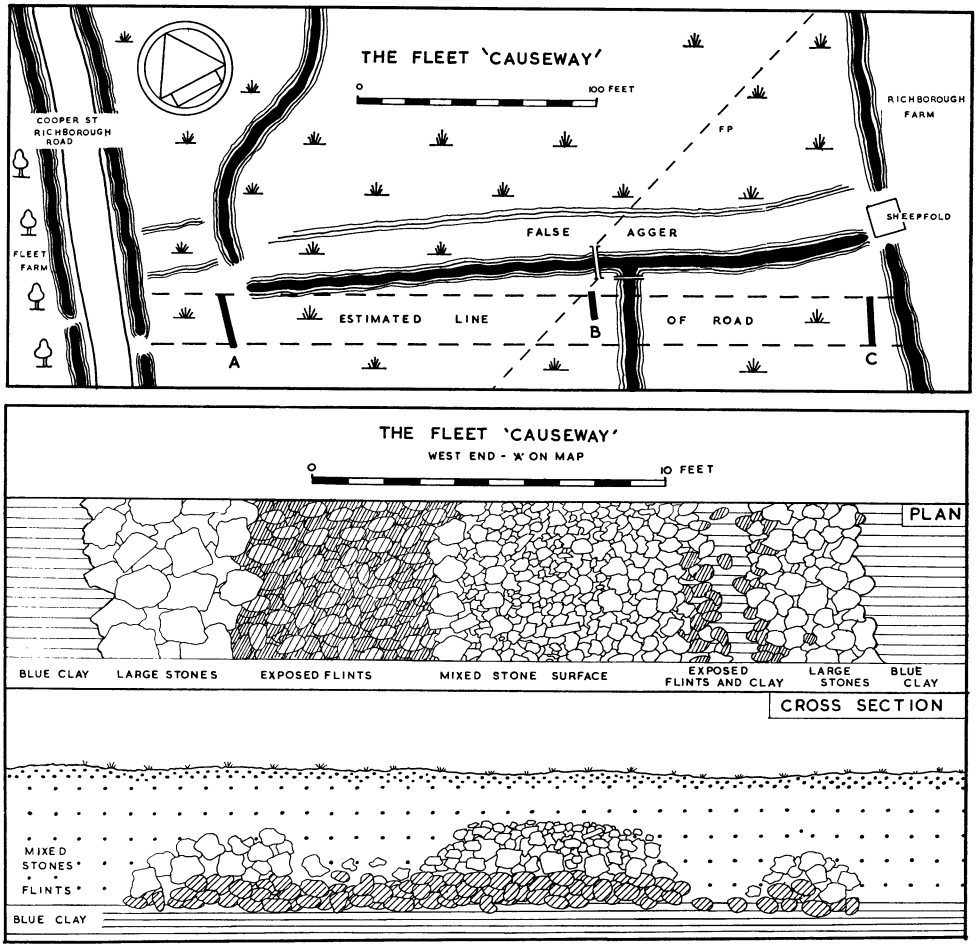


FIG. 14

the layer for more than about one quarter of the distance across. As a result mainly of the negative observations on these archaeologically empty layers, but also on examination of the neighbouring dyke system, it was concluded that the 'agger' had no Roman significance, but that it was merely the spoil thrown out when the main dyke across the marsh was dug.

It was then observed that some hawthorn bushes that had recently been dragged out from the south side of this transverse dyke, had

small fragments of oolite adhering to their roots. A systematic probing of the marsh in this area was therefore carried out using a 3½-ft. auger. A road was found at the west end of the marsh, 20 ft. south of the original trial holes and about 2 ft. below the surface. A trench was dug to expose the surface, and a section was cut across it (A on map, fig. 14).

The road was 23 ft. wide. It consisted of a double layer of rolled flints, of remarkably uniform size and shape, each about 6 in. in diameter, laid on the layer of blue clay. Over this, to a maximum depth of 18 in. was a layer of mixed stones, similar to those in the walls of Richborough Castle, and including broken Roman bricks and tiles, fragments of marble slabs, pieces of Carrara marble, flints, and large lumps of oolite. Many of the oolite stones showed evidence of having been worked, and tool markings on the marble were similar to those on specimens in the Richborough Castle Museum. The surface of the road was composed mainly of small mixed stones, but it was very irregular, to a degree that suggested that it had been robbed of its surface metalling. The centre of the road was only 14 in. below the present ground level. A search was made for wooden piles and sills by boring and by digging below the road below the section and longitudinally along the centre for a distance of 5 ft., but none was found.

An attempt was made, by augering and probing, to trace the road eastwards across the Channel. It became rapidly deeper and more irregular and was finally lost. It appeared to have been disturbed by dyke digging. Efforts to clarify the situation were prevented by the flooding of all holes and trenches dug towards the middle of the marsh. Only at one point (B on map, fig. 14), was there found a sufficient concentration of stones to suggest the presence of a further part of the road still in its original position.

Search for the Richborough end of the crossing was unsuccessful until the following year, when it was revealed by the auger. It was again further south than the information collected up until then had suggested. An attempt was made to demonstrate its structure by trenching and section (C on map, fig. 14). The inroads of water prevented its study *in situ*, but by moving each stone as excavated on to the adjacent marsh surface it was possible to reconstruct the road with a fair degree of accuracy. It was found to be identical in width, thickness, and structure to the section at the west end.

Attempts were made to trace the road away from the marsh. On the east no traces were found. This was not surprising, because of the deep dyke that had been dug at the edge of the marsh, and the depth of soil washed down from the hill above. On the west, the road could easily be followed to the edge of the modern north–south road, and the flints could easily be seen in the wall of the roadside dyke. Beyond the road adequate investigation became impossible because of the existence of an orchard there.

A search was made for evidence of the existence of the three likely routes for the continuation of the road to the west. It was hoped to add to the many facts supporting the 'Margary line' to Ash by finding a causeway at Cooper Street where the route crosses a marsh similar to, but narrower than, the Fleet Channel. Although no structure was found, the deep dyke crossing the neck of marsh yielded from its depths several pieces of Roman tile and flints similar to those from the Fleet crossing. The direct route to Canterbury, the 'Andrews line',[1] for which some evidence exists, including cremation burials at Overland,[2] and Ware, and roads and buildings at Great Wenderton, would presumably have necessitated a third crossing of a narrow strip of marsh, at Sandhills. Augering and observations of the periodic agricultural dredging of the dyke there produced no evidence. This suggests that the crossing there, if it exists, must lie under the present road. The 'Knox line' to Reculver depends partly on the existence of the 'agger' across the Westmarsh marshes. This, in its structure, resembles the false agger at Fleet, and it is obvious that at some medieval date, the many streams flowing northwards into the shrinking Wantsum Channel, so admirably described by Dr. Christopher Packe,[3] had their waters diverted by the digging of the Richborough Stream, with the consequent production of the long straight spoil mound. This cannot therefore be of Roman construction.

THE MONUMENT

By Dr. D. E. Strong

This volume was to have contained a detailed study by I. A. Richmond of the building that stood on the Great Foundation. At his death in 1965 his papers were found to contain the opening paragraphs of that study and some drawings and sketches which made it clear that he had established to his satisfaction the basic form of the structure. This present account, although it is based upon Richmond's general conclusions, cannot claim to give an accurate version of his views about the detailed design of the structure, and I am very conscious of the fact that it is a most inadequate substitute for what he himself would have written. In the short time that has been available to me to complete this work, I have aimed only to provide an account of the main facts known at present and what may reasonably be inferred from them, together with a tentative reconstruction which may serve as the basis for further study.[4]

[1] Andrews, Dury, and Herbert, *Map of Kent* (1769).

[2] *East Kent Mercury*, 18 Jan. 1936. [3] Dr. Christopher Packe, *Ancographia* (1743).

[4] I should like to thank Professor S. S. Frere, who invited me to complete Richmond's work and gave me a lot of help, Professor B. Cunliffe who also gave me his advice and help, and other friends with whom I have discussed problems connected with the monument,

The Existing Remains

The existing remains consist of a massive foundation on an alignment a few degrees different from that of the Saxon Shore fort, comprising a mass of flints laid in courses and set in white mortar. The foundation measures 125 ft. 8 in. long from north to south and 81 ft. 8 in. from east to west and is 29–30 ft. deep. It is surrounded by a

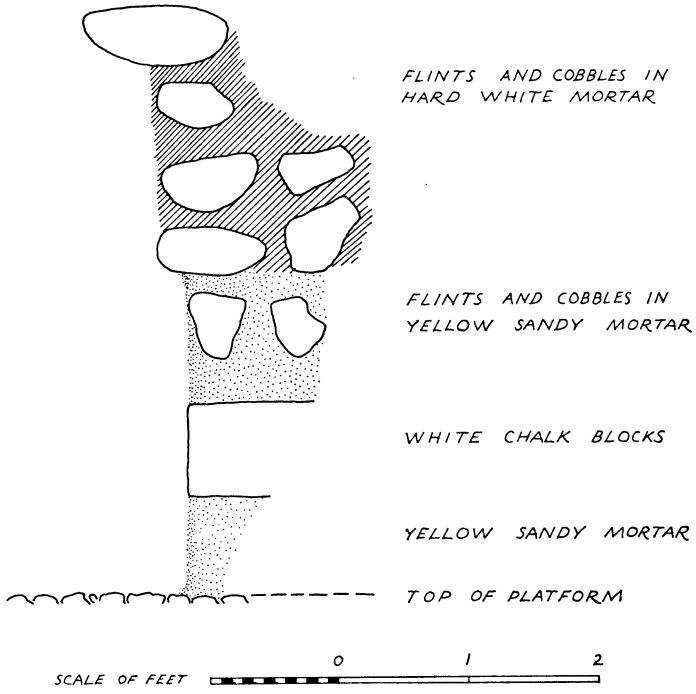


Fig. 15. Section showing the construction of the cross on the Great Foundation

flange, of one build with it, 13 ft. wide on the east, 10 ft. wide on the other sides and 5 ft. thick, the flange bringing the overall dimensions to 145 ft. 8 in. by 104 ft. 8 in.[1] In the centre of the solid foundation and axially sited upon it is a cruciform mass of concrete, now rather irregular in outline, with a wide, shorter arm extending east–west and a longer, narrower arm north–south. The east–west arm is approximately 23 ft. wide and 48 ft. long; the north–south arm has a maximum width of about 10 ft. and a length of 85 ft. This cruciform mass

especially A. H. Boddy, R. G. Goodchild, K. S. Painter, R. Wade, L. H. Wilson. I am deeply grateful to Mr. and Mrs. A. W. Rogers for their kind hospitality at Richborough and to Mr. Rogers for constant help and encouragement. Miss E. Cuthbert very kindly prepared the typescript. The photographs were taken by the Ministry of Public Buildings and Works, through the good offices of Mr. A. J. Taylor. Professor Cunliffe and Mrs. E. Baker redrew, and vastly improved, some of the text-figures.

[1] The dimensions are those given in *Richborough IV*, 38 ff.

which now rises to a height of about 4 ft. 6 in. above the top of the foundation consists mainly of flint and cobbles set in hard white mortar, and rests on a course of white chalk blocks with a layer of sandy mortar immediately on top of the foundation (see fig. 15). On the surface of the foundation, over an area extending on all sides about 18 ft. inwards from the edge of the flange is a layer of fine beach pebbles set in mortar covered with a further layer or packing of oolite, greensand and occasionally marble chippings, the area enclosed by the packing being approximately 109×68 ft.[1] A wall built parallel to the line of the foundation at a distance ranging between 13 and 16 ft. from the edge of the flange survives on three sides and once probably completely enclosed the cruciform mass. This wall is 2 ft. 6 in. wide, flint-faced and bonded with a single course of tiles; the line of its western side is broken by a series of gaps associated with re-used blocks of stone.

It has been established that the foundation was built in the period A.D. 80–90[2] and that it originally supported a monumental structure of some kind. It is also evident that the structure was built of blocks of masonry many of which are still to be found lying on the site or built into the Saxon Shore fort, and that the whole of the building was once encased in architectural decoration of marble imported from the quarries of Carrara, many fragments of which survive. Some of the marble was inscribed and some of the pieces were numbered. The marble decoration was supplemented by statuary in gilded bronze. It is generally agreed that the monument was an official imperial work and that it probably commemorated in some way the completion of the conquest of Britain. About the middle of the third century this monument, which had already been stripped of much of its decoration, was covered by the massive earth rampart and triple ditches of the earth fort which enclosed an area of about two acres and was built specifically to surround the masonry of the monument which could still serve as a lookout post and signalling tower. The building was finally demolished when the Saxon Shore fort was constructed. At this time the foundation was stripped of most if not all its masonry. Many re-used blocks were built into the western gate of the fort and an inspection of the rubble core of the fort walls reveals that similar blocks, either of white oolite or brownish greensand, and numerous marble fragments were broken up for aggregate.

These conclusions were mainly established by the excavations of the Society of Antiquaries which began in 1922, but the foundation had long been the subject of speculation and investigation, some account of which makes a necessary prelude to the detailed re-examination of the monument.

[1] *Richborough IV*, 42. [2] *Ibid.* 47.

Earlier Discoveries and Studies

The cruciform structure and some of the walls enclosing it have long been visible above ground. To Camden, Richborough was an ancient city, 'and to teach us that cities dye as well as men, it is at this day a cornfield, wherein when the corn is grown up, one may observe the draughts of streets crossing one another (for where they have gone the corn is thinner), and such crossings they commonly call Augustine's Cross'.[1] Camden was clearly referring to the Great Foundation and his view was opposed by Somner[2] who believed that the remains had nothing to do with ancient streets and that the cross was part of a church or chapel. The earliest illustration of the cross, an engraving in Stukely's *Itinerarium Curiosum*[3] from a drawing made in 1722 shows it standing out clear in a ploughed field, the only visible ancient remain within the castle walls. Stukely observes that the foundation 'has caus'd many words among the Kentish antiquarys: seems to have been a *Pharos* or lodging for the commanding officer, a *praetorium*; there are foundations of several apartments, the walls monstrously thick and strong'.

From very early times attempts had been made to explore the mass of the foundation. John Leland, after his visit between 1535 and 1543, although he does not mention the cross, records early exploration in search of treasure: 'Not far fro the heremitage is a cave wher men have sowt and digged for treasure. I saw yt by candel withyn, and there were conys.'[4] Although it had long engaged the attention of local treasure-seekers and many antiquaries, the first attempt to examine it systematically was that carried out by Mr. Boys of Sandwich in 1792. In his *Collections for an History of Sandwich*, published in 1799, Boys gives his measurements for platform and cross and some observations on the structure in general: 'Within the area of the castle, not precisely in the centre, but somewhat towards the north east corner, under ground, is a solid rectangular platform of masonary 144·5 ft. long, 104 ft. wide, and 5 ft. thick. It is a composition of bolders and coarse mortar, and the whole upper surface to the very verge is covered over with a coat of the same sort of mortar 6 in. thick. In the middle of the platform is the base of a superstructure in the shape of a cross, rising somewhat above the ground and from 4 to 5 ft. above the platform. It has been faced with squared stones, some of which remain. The shaft of the cross, running north and south, is 87 ft. long and 7·5 ft. broad; the traverse is 22 ft. in width and 46 ft. in length.' A base of such solidity, he concludes, could not have been intended for the support of a roof or have formed part of any compound building and he goes on to suggest that it served for a 'lofty sea-mark or a cross'.

1 Camden, *Britannia* (1st English edn., 1695), 202.
2 W. Somner, *A Treatise of the Roman Ports and Forts in Kent*, (Oxford, 1693), 5–6.
3 W. Stukely, *Itinerarium Curiosum*, (London, 1724), 118, pl. 97.
4 John Leland, *The Itinerary* (edn. L. Toulmin Smith, London, 1909), viii, 138.

Boys never published the details of his findings but his notes and plans which came into the possession of a later explorer, Mr. Rolfe, were known to Roach Smith and others. Boys did not lay bare the entire foundation but concentrated mainly on the area round the cross, though he did dig trial trenches to discover the dimensions of the platform. Roach Smith[1] quotes from his notes at length: 'probably there was never any wall or other building erected on this platform, excepting the cross, which is composed of the same materials with some squared stones in the facings, and rises from 3 to 4 ft. above the platform. In the south-east angle, somebody, with infinite labour, has endeavoured to penetrate into a supposed hollow . . .' According to Roach Smith, Boys found the platform strewed with fragments of marble, including moulded pieces and flat pieces bearing numerical letters.

The foundation was next explored by a Mr. Gleig in 1826. His important researches were also unpublished though G. Dowker quotes from a manuscript account of them.[2] They showed that perpendicular masonry existed under the platform, a discovery which led to further exploration that determined the correct form of the foundation and the existence of the flange that surrounds it. Mr. Gleig also 'figured and described some wedge-shaped blocks of masonry leading down from the eastern edge of the platform'.

The excavations of Mr. Rolfe of Sandwich, to whom Roach Smith in 1850 dedicated his *Antiquities of Richborough, Reculver and Lymne*, extended from 5 September to 25 October 1843 and included what Planché[3] described as a 'vigorous but unsuccessful attempt to penetrate the compact masonry'. The attempt penetrated 16 ft. into the solid masonry on the east side. Rolfe also explored and discovered the approximate limits of the platform and the foundation. On the platform he found, according to Roach Smith that 'The depth of superficial earth in the angles of the eastern side of the cruciform foundation, upon the platform, is 2 ft. 8 in. or 10 in.; beneath this, and upon the surface of the platform, is a stratum of mortar, 4 or 5 inches thick, such as serves usually for tessellated pavements, to which purpose this had probably been applied'. Rolfe found no paving slab or flat marble pieces on the foundation but a fragment of marble moulding was dug up on the north side of the platform and, says Roach Smith, 'a considerable quantity of broken pieces were subsequently discovered in the immediate vicinity of the *castrum* during the railway excavations'.

G. Dowker and the Revd. R. Drake undertook further excavation on behalf of the Kent Archaeological Society in 1865, Dowker publishing the results in 1872.[2] The cross, according to Dowker, then rose 4 ft. 6 in. above the platform, 'and has clearly been higher than its present dimensions'; the surrounding walls he found to stand on a

[1] C. Roach Smith, *Antiquities of Richborough, Reculver and Lympne*, 1850.
[2] *Arch. Cant.* viii (1872), 1 ff.
[3] J. R. Planché, *A Corner of Kent* (London, 1864), 7.

layer of intervening sand, and he believed them to be later than the rest of the foundation. He also found more fragments of the white marble mouldings and facings. Observing on the results of Dowker's researches Godfrey Faussett pointed out that the existence of a 'rock which might have supported Babel' suggests that the Romans were thoroughly distrustful of the Richborough sand, and he thought the building that stood on the foundation was a lighthouse. The surrounding wall he thought was secondary, but observes acutely: 'The smaller remains . . . are built so exactly and regularly at a short distance within that part of it which is not mere platform, 5 ft. deep, but huge solid foundation, perhaps 30 ft. deep, that we may conclude them to have been certainly built with knowledge of, and with reference to, the position and intent of the great substructure.' Dowker, in a rather polemical article published in 1900,[1] returned to the question of the foundation by opposing Godfrey Faussett's opinion and offering his own remarkable theory that the platform served for engines to winch ships out of the water. This article gives some new dimensions and details, stating that the platform projects from the main mass of the foundation 12 ft. on east and west sides and 10 ft. on the north and south sides. He draws attention to the constructional detail of the cross which rests upon a stratum of chalk blocks laid upon the mortar covering the platform, and notes that a small quantity of the material derived from the cross was spread over the platform. 'Large quantities of sculptured marble were found, and quantities of Roman coins: the marble pieces have been engraved in Mr. Roach Smith's *History of the Castrum*, and some three pieces are now in the Maidstone Museum, together with fragments of the drapery of a colossal bronze statue.'[2]

In the same year (1900) John Garstang published[3] the results of some new excavations in which one or two important discoveries were made. On the eastern side of the foundation just outside the north-east corner of the enclosing wall ('between this low wall and the edge of the concrete') Garstang found a piece of marble pavement *in situ*. Of the marble fragments which he found he made the observation that 'In all cases those fragments whose mouldings indicated the bases of column or pilaster were found near the low wall; other fragments from the shafts were more distant.' Garstang's article gives a plan of the foundation and drawings of several marble fragments.

Nothing new of importance was discovered about the Great Foundation between Garstang's excavation and the systematic exploration of the site by the Society of Antiquaries which began in 1922. In 1910 a visit of the Kent Archaeological Society, reported in the Proceedings, gave the occasion for two brief papers by Messrs. St. John Hope and

[1] *Arch. Cant.* xxiv (1900), 201.

[2] The fragments of mouldings are still in the Museum, as D. B. Kelly kindly informs me; the bronze fragments were transferred to the Richborough Museum in 1931.

[3] *Arch. Cant.* xxiv (1900), 267–72.

Livett.[1] The Society inspected the Roman walls and the cruciform foundation, which had been excavated in their entirety for the visit. The cruciform mass is recorded as standing 4½ ft. above the foundation; its condition had deteriorated since Dowker's excavation. 'It is now difficult to realize Mr. Dowker's statement that the ends and the inner angles had dressings of tufa blocks, but some fragments are still embedded in the ends.' In the north-east quarter of the foundation, part of which had been completely cleared, the original surface of smoothed concrete with fine gravel embedded could be seen. The holes seen by Dowker at the corners of the walled enclosure were also reopened. St. John Hope was inclined to support the view of Godfrey Faussett as to the purpose of the monument. He reported the discovery of more fragments of marble pilasters and wall-linings. Livett added a useful summary of discoveries and views, and said: 'I think archaeologists are agreed that the platform and substructure have nothing to do with the cruciform structure subsequently erected on it, or with the walls, which are probably of a later date.' The cruciform mass was the raised floor of a late Roman temple, he thought, finally enclosed by the later walls of a Saxon church.

The Richborough excavations of the Society of Antiquaries began in 1922, excavation reports appearing in 1926, 1928, 1932, and 1949. Although there was no systematic discussion of the foundation and its purpose, a good deal of new light was thrown on the whole question in the course of the excavations. The earliest evidence published in *Richborough I* concerned the date of the building. Deposits on adjoining sites which contained marble chippings were shown to date around A.D. 100 and there was evidence of metalworking on site I which had clearly been occupied by craftsmen working on the foundation. A pig of lead belonging to the time of Nerva was discovered under the floor level of a mid-second century house. The date of the destruction of the building was also established with some precision. In the filling of a pit (no. 7) there were large dressed stones, fragments of marble casing and part of a bronze statue which had obviously come from the monument; this filling could be dated between 285 and 305, supplying a date when the building can at best have been little more than a ruin. The excavation of the west gate at this time revealed that the structure was of large masonry blocks almost certainly taken from the demolished monument. Bushe-Fox noted that similar blocks of stone could be seen in farm buildings near at hand.

It had now become clear that the building which stood on the foundation was a massive masonry structure encased in marble and that it was built around A.D. 100. Nothing much is said about its design but Bushe-Fox comments: 'The proportions of this structure can, however, now be estimated, as the fragments of the column casing show

[1] *Arch. Cant.* xxix (1911), lvii ff.

that the shafts were some 5 ft. in diameter that is to say, about the same as those of the portico of the British Museum.' Stebbing has something to add in his review of *Richborough I.*[1] 'While it is still a moot point if the building—monumental or otherwise—erected on the substructure was completed, there is no doubt that it was covered with blocks of greensand not meant to be seen, while possibly the white oolite was exposed. In position both these were clamped together by massive dowels on to which an architectural facing of white Carrara marble was pinned by bronze dowels. From the scale of the moulded fragments which remain the treatment was truly monumental.'

In the excavations of 1924–5 reported in *Richborough II* almost the whole area provided evidence of the work involved in constructing the monument '. . . at a low level—but always overlying the remains of earlier occupation—were piles of masons' chippings of oolite, lower greensand etc., blocks of chalk and travertine, and quantities of flints'. Fragments of the marble casing came to light in these lower levels and in the upper strata many more fragments of the casing, including inscribed pieces, were found. It was suggested that the first masonry house in site III was built for the officer in charge of the building operations, and the building layer was described in some detail. It contained no brick, came up to the face of the platform on the north side but stopped abruptly a few feet away on the east where it had been bounded by a wooden board. As evidence for the date when the monument had ceased to exist, some ninety pieces of marble casing came from the filling of the three third-century ditches within the fort. The upper levels produced, apart from some new fragments of inscription, 'a portion of a Harpy' and 'the upper part of a colossal human head apparently wearing a cap and with flowing hair on the forehead.' There were also gaming boards, two on marble and one on lower greensand.

Richborough III, dealing with the excavations of 1926–7, narrows the date of the foundation and the building to the period 80–100, if not the decade 80–90. At that time the main east–west road on the west side of the foundation was heavily remetalled and wattle-and-daub buildings were erected on its northern side, probably in connexion with the building. In the same season a shaft was sunk on the west side to discover the precise depth of the foundation. The bottom was reached at 30 ft., the masonry being found to extend 5 ft. below the present water level. The masonry of the foundation is described in detail. 'The masonry had been built against a vertical face of undisturbed sand, and was composed of courses of flints—mostly water-worn—set in hard white mortar containing grit and fair-sized pebbles. The lower courses were not set in mortar, but this may have disintegrated by the action of the water. Some of these loose flints had sunk into the water-logged

[1] *Arch. Cant.* xl (1928), 182.

sand, making it impossible to determine the exact depth of the foundation, which must have been between 29 and 30 ft.' Many more fragments of the marble casing were found in this period of excavation, including one inscribed and one numbered fragment, and some bits of the casing were seen to be incorporated in the lime kilns set up some 300 ft. north of the Saxon Shore fort.

Richborough IV, the long-delayed volume, deals more thoroughly than any predecessors with the foundation and provides a plan and section, reproduced on a very small scale. The date of A.D. 85 is fairly confidently stated for the beginning of the building but little is added about the nature of the monument. 'There can be little doubt that the superstructure was encased in marble, of which hundreds of fragments, many moulded, have been found and it was in all probability erected to commemorate the conquest of Britain. At present it has not been found possible to make any reasonable reconstruction of the form of the marble-cased monument, but the depth of the foundations implies that it must have been of unusual height and weight.'

Steps were taken to establish finally whether the foundation was solid and had no internal chambers. The surface of the foundation was thoroughly cleared yet again; its surface as might be expected was found to have suffered greatly, and was very irregular and pitted. A detailed description was given of the masonry of the foundation. It was seen to be composed of rubble masonry consisting almost wholly of large rolled beach flints set in courses with each layer flushed up with small beach pebbles in mortar. Very few unrolled flints entered into the composition but some isolated examples could be seen. The top of the masonry was carefully flushed up and brought to a level with a layer of fine beach pebbles in mortar, and on this was a packing of fragments of oolite, greensand, and occasionally marble chippings. On the west side this was as much as 13 in. deep. There was no trace of this packing over the centre of the foundation or under the cross and its inner edge was practically parallel with the outer edge of the foundation, from which it measured approximately 18 ft. on north, west, and south. On the east it was not clear. Near the south-west angle it had a finished surface composed of a layer of small pebbles. There could be little doubt that this packing was laid down as a bedding for a pavement presumably of marble, of which many broken slabs some $1\frac{3}{4}$ in. in thickness were found in the vicinity. The area surrounded by the packing measured approximately 109×68 ft. On this evidence it seemed likely that the whole monument was surrounded by a paved area and that the dimensions of the inner area gave a clue to the size of the main structure.

The wall built parallel with the edge of the foundation, enclosing the cross, was also planned and described in detail; the masonry was compared with that of the fourth-century bath-building on site III. This wall was clearly secondary as was the irregular mass of rubble masonry 8 ft. from the western edge of the platform. 'It is composed of flints,

oolite, and greensand together with several fair-sized pieces of marble casing, all set in mortar similar to that of the wall just described.' The cruciform mass was examined in detail; the height was given as 4 ft. 6 in. It was shown to stand directly on the flushed-up surface of the foundation. The top was quite irregular with no signs of a finished surface, and this also applied to the sides, although at the end of the western arm there was one dressed block of tufa which seemed to suggest an ashlar face. The lower courses of the mass set in brownish-yellow mortar consisted of a bottom course of tufa blocks, oolite, etc., with a small proportion of flints and an upper course of flints set upright or sloping. The rubble masonry above overhung the two courses set in mortar. At the end of the eastern arm traces of the yellow mortar existed on the surface of the foundation for 8 in. beyond the face, apparently indicating that the masonry extended originally at least that distance. Bushe-Fox concluded from this that the lower courses of the cross were foundation, and that the whole of the original superstructure had been removed and the surface of the foundation become covered with soil before the cross and surrounding wall were erected.

On the west side, 10 ft. from the edge, a row of eight roughly rectangular holes was found cut into the foundation; there were four on either side of the east–west axis. The only objects in these holes were fragments of a first-century jug and one fragment of marble, obviously a mason's chipping. This and the fact that they contained no soil suggested an early date, but they were apparently later than the oolite and greensand packing, which pointed to their not being part of the original design. The mass of rubble masonry (above) partly overhung one of them. On the east side of the foundation two ramps were discovered: these were made for the building of the foundation and indeed the east side would have been the most convenient for taking away the soil which could be tipped over the cliff. The strengthening of the east–west road on the west side suggested that materials came in that way and on the north and north-east were a mason's yard and mixing floor. Many new fragments of the marble casing were found, including inscribed pieces. There were several new stratified deposits of mason's chippings, none earlier than A.D. 80; '. . . the date of the first appearance of the marble can now be placed in the decade A.D. 80–90 and there can therefore be little doubt that the superstructure on the great foundation was being built at that time.' As to the date of the demolition, 'Fragments of the casing came from deposits in areas X and XVII which, although not satisfactorily stratified, contained pottery mostly of Antonine date, and pit 188, filled in A.D. 180–220, produced two fragments. A fair quantity also occurred in the filling of the ditches of the third-century earth fort, and may therefore be assigned to a date before *c.* A.D. 275–85.' Bushe-Fox concluded that the monument the casing adorned must have been in a state of ruin before the later part of the third century.

Although the excavators themselves did not offer any attempt to reconstruct the monument, a most ingenious suggestion was made by C. W. Knox in 1932,[1] the year when *Richborough III* appeared. Knox begins with the despairing observation that 'It seems that there is no longer any hope that we shall ever know with any certainty what that building was which stood on the great concrete foundation at Richborough.' He argues that as the *portus* of Richborough was thought of as the gateway to Britain and stood at the beginning of the road to London, some kind of arch would be the most appropriate monument to erect there. By a clever adaptation of the so-called *praetorium* of Lambaesis Knox produced a symmetrical arcaded building which compared very closely in overall dimensions with the Richborough Foundation. The cross, lying within it, would act as a raised floor approached presumably by steps at the ends, and on this the Emperor would be supposed to stand. The monument he conceived as 'Rome's Ceremonial Entrance in to Britain; here the Emperor comes in state, and receives and is received by the assembled notables'. Knox, although he did not convincingly relate the cross to the foundation, introduced the idea of an arched structure on the foundation and thus made a very important contribution to the study of the monument. He also mentioned two oolite columns in the precinct of Canterbury Cathedral which he thought might have come from the Richborough building.

No further work was done on the foundation until 1952, when I. A. Richmond began his study of the existing remains, results of which were to have been presented in the final report. At his death, his papers were found to contain several pages of manuscript, being the opening paragraphs of a thorough reconsideration of the monument, and some twenty-five pages of drawings, chiefly of marble fragments found on the site. His only published statement on the subject is the brief one which he wrote in 1954.[2] 'Roman triumphal monuments in the open countryside would be rare. But the foundations of a famous one exist at Rutupiae (Richborough) the principal port of entry to the province. They form an enormous base 30 ft. deep below ground level, 145 ft. long and 105 ft. wide including a flange for a few steps. The structure which was thus carried was cased in Carrara marble and its main columns were not less than 50 ft. high. There may well have been a second stage above this and there were certainly some massive bronze statues of which small fragments have been found. The monument was built about A.D. 100 and may have commemorated Trajan's settlement of the province. It is comparable with the Tetrapylon or four-way arch erected at the two main entrances to the province of Egypt in honour of Claudius and this may well have been the actual form of the monument. Later, towards the close of the third century A.D. it was stripped

[1] C. W. Knox, 'Richborough-Lambèse' in *Arch. Cant.* xliv (1932), 165–71.
[2] I. A. Richmond, *Roman Britain* (Pelican History of England, 1955), 147–8.

of its ornaments and served as a fortified look-out post against Saxon pirates, a choice, no doubt, determined by its great height.'

Some of the evidence on which Richmond based his conclusion is contained in or may be deduced from the papers he left. By an excavation against the east side of the south limb of the cross (see fig. 15) and a close examination of the whole foundation Richmond established to his satisfaction that the cross, which Bushe-Fox had thought was secondary, belonged to the original superstructure and that the outer wall was certainly secondary, belonging, in fact, to the period of the Saxon Shore fort. He gives his reasons in detail, considering first the outer walling. 'This is flint-faced walling 2 ft. 6 in. wide, bonded with a single course of tiles; and the line of its west frontage, facing the west gate of the Saxon Shore fort, is broken by a series of gaps associated with re-used blocks of stone which have themselves obviously been pillaged from the monument. No stratification can now be associated with these features, nor has any been recorded, but they must plainly be regarded as foundation-work and accordingly not contemporary with the monument but superseding it. The associated floor-level will in fact go with that of the other stone buildings of the Saxon Shore fort, which run level with the top of the central feature of the cruciform foundation, now standing in artificial isolation some five feet above the main mass of the platform. Nor can there in fact be much doubt as to what building they represent. The planning of the Saxon Shore fort indicates that its builders intended to use the area of the levelled monument as the site for their *principia*, and the wall can thus be regarded as defining the building and its front portico or arcade. The 125 ft. cross-dimension of the building may be compared with that of Lympne, which is 120 ft.; the shorter dimension is not less than 75 ft. but is inexactly defined.

'This conclusion also establishes the important point that the cruciform foundation has nothing to do with the later building which superseded the monument, but was buried below its floor. In other words, the cruciform foundation must be recognized as belonging to the monument. That it is not of one and the same construction with the main foundation has indeed always been recognized. But two structural points indicate that short of complete structural unity there was the closest possible integration of the two. First, the entire mass of the cruciform foundation lies in such close contact with the mortared top of the main foundation that there is not the slightest interruption between them: secondly the aggregate in the core of the cruciform mass is composed entirely of freshly broken spalls and chippings from blocks of limestone and sandstone masonry identical with those which once formed part of the monument itself. The important distinction between these fragments and those embodied in the walls of the Saxon Shore fort is that while the latter can be recognized as derived from breaking up the masonry, the former can be identified as derived from dressing

it. In other words, while the aggregate in the Saxon Shore fort comes from destroying the monument, that in the cruciform foundation arises from the original building of it and must be regarded as contemporary with its construction. The cruciform foundation must therefore be firmly regarded as part of the monument itself, though the operation of laying it represents a stage in construction subsequent to the preparation of the foundation.'

Richmond's papers do not contain the detailed discussion he was planning of the monument which originally stood on the foundation and its cruciform superstructure. He had made a careful examination of all the surviving material that could be associated with the building, including many fragments of masonry blocks, all the fragments of marble moulding, and the sculptures in bronze and marble. He observed that apart from the monumental blocks of masonry built into the lower foundations of the west gate of the Saxon Shore fort and those lying on various parts of the site, the rubble core of the fort walls contained aggregate made from broken blocks of white oolite or brownish greensand. Numerous marble fragments had similarly been incorporated in the defensive works, and it was clear that a wholesale demolition of the monument had been undertaken when the fort was built so that now not a single stone of the massive superstructure remains in position. It was Richmond's belief that the entire monument was built of ashlar masonry faced with marble. 'It is noteworthy', he comments, 'that among all the fragments of masonry and marble casing put to secondary use there can nowhere be detected any admixture of tiles, however comminuted. The absence of tile from any re-used material that can be linked with the monument emphasizes the essentially monumental character of the structure, by indicating that it was constructed throughout in stone.'

Although we do not have Richmond's reasoned arguments about the original form of the monument, it is clear from the order in which he was preparing his report that it was the fragments of marble casing which gave him the clue to his interpretation. The key pieces are the fragments of the archivolt of a large arch, of which one complete section 2 ft. long and several broken pieces survive; they consist of a big cyma reversa moulding and a wide fascia or fillet framing it which Richmond interpreted as the extrados moulding of an arch (pl. XXIV *h* and pl. XVI *b* and *c*). The fragments also include many pieces of pilasters and columns which showed him that some form of columned architecture was associated with the arches, and from this he concluded that a monumental arched building of some kind must have stood on the foundation.

All previous investigators had considered that the cross was a foundation of some kind, except Knox who thought of it as a separate entity—a sort of platform—within the arcaded building that enclosed it. With the clear evidence before him that some kind of arched struc-

ture stood on the foundation Richmond was led to the view that the cruciform concrete, which he had already established as part of the original structure, was not a foundation but represented the passage ways of a four-way arch raised above the surrounding ground level. This view was, in fact, confirmed by his calculation of the span of the arch to which the fragments of extrados moulding originally belonged; for this gave him a diameter of something over 22 ft. which corresponds fairly closely with the actual width of the wider arm of the cross. He interpreted the building as a *quadrifrons* with a wide thoroughfare running east–west and a narrower one crossing it from north to south, the internal level being raised at least 5 ft. and approached by some arrangement of steps on the four sides. Massive piers of ashlar masonry, now entirely robbed out, must have filled the spaces between the arms of the cross and the passages will have been spanned by ashlar barrel vaults intersecting in the centre. This is the general arrangement which he shows in a pencil sketch to which he has added pilasters flanking the openings of the arch, half columns on either side of them, and three-quarter columns at the angles. The general solution is ingenious and logical, and in principle it must be correct.

The cross is, therefore, a filling put in to raise the level of the passages above the surrounding ground level and to provide a bed for the paving. The structure of the cross itself as established by Richmond in his section seems to confirm this view. The present face of the concrete has no finished surfaces, but the upper 2 ft. 6 in. approximately projects at least 8 in. in front of the lower part (see fig. 15). Bushe-Fox explained this by assuming that the lower surface had disintegrated, but it is more probable that the recess is an original feature which could be accounted for by supposing that the lowest course of the masonry against which it was built was offset from the courses above, and it is a fact that of the white limestone blocks measured (see list pp. 63–64) four have a height which closely corresponds with the 2 ft. 3 in. of the lower courses of the cross. It would be appropriate to make the offset foundation-course of this stronger material.

On the basis of these conclusions it is possible to attempt a general reconstruction of the whole monument. This will be treated in three sections: 1. The ground plan. 2. The restoration of the superstructure. 3. The architectual detail. The account will conclude with the lists of the different kinds of marble facing, inscriptions, sculpture, etc., that now survive.

The Ground Plan

The dimensions of the main structure of the *quadrifrons* are given by those of the cruciform mass. It is clear that the sides and ends have weathered considerably in the course of time, but by superimposing four symmetrical piers to fill the spaces between the arms the dimensions

of the piers and the passages can be estimated fairly closely. The general accuracy of the arrangement shown in fig. 16 is confirmed by the fact that the centre of the crossing coincides almost exactly with the centre of the solid foundation. The wider passages were 23 ft. wide, the narrower 11 ft., and the piers measured approximately 32 × 18 ft. It is clear that steps must have led up to the cross from the surrounding

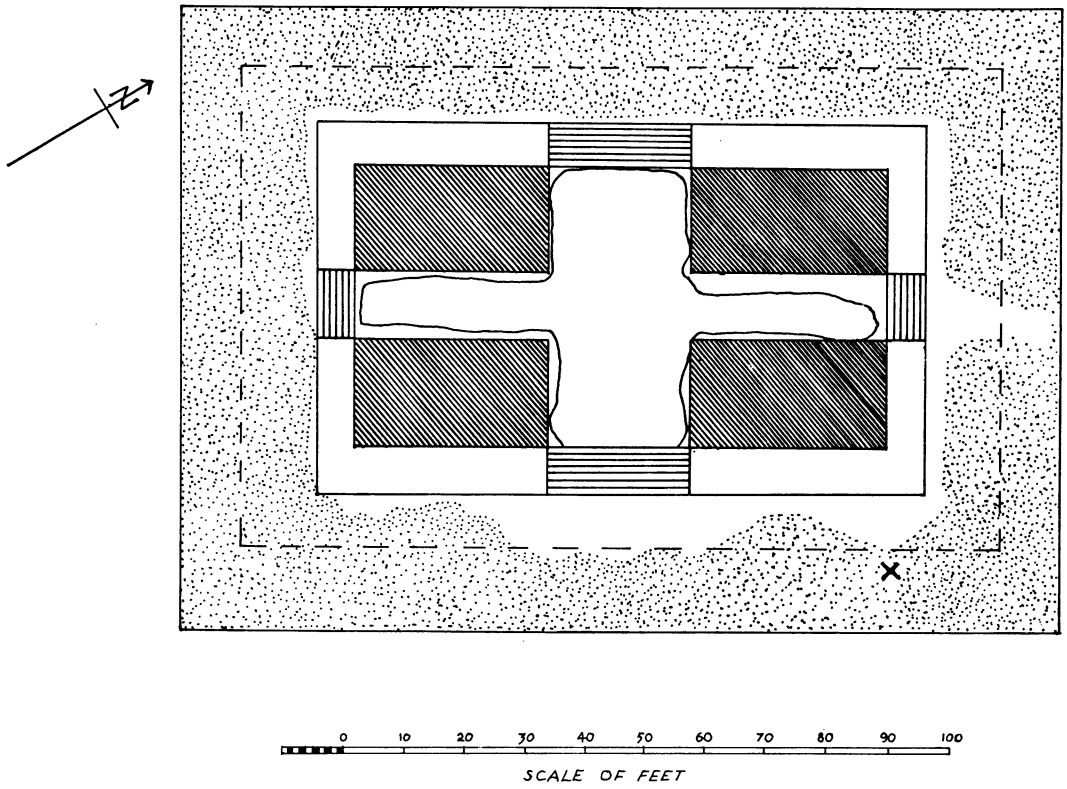


FIG. 16. Outline plan of the quadrifrons and its foundation

ground level which, as we know, corresponded roughly with the top of the foundation, and it is one of the major problems of the reconstruction to establish how these steps were arranged. The only clue seems to be given by the character and extent of the mortar bed on top of the foundation which, as already noted, extends about 18 ft. inwards from the edge on all four sides, enclosing an area approximately 109 × 68 ft. Near the north-eastern corner of the platform (the position is roughly marked by a cross on the plan, fig. 16) Garstang claims to have found marble paving *in situ* and if we accept that this was part of the original paving it would seem logical to suppose that the whole area covered by the mortar was once paved. The inner edge of the mortared area is approximately indicated on fig. 16 and it is to be noted that along the south and west sides and that part of the east side where the edge is

most regular and obviously best preserved, there is a uniform distance of approximately 8 ft. between it and the arms of the cross. Along the north side the distance is only 2 or 3 ft. greater. The measurement is so consistent that it cannot be accidental.

It is possible that within the paved area there were steps running completely round the monument rising to the height of the top of the cruciform mass, but such an arrangement is without precedent for any arched building of the Roman period and, indeed, seems to defy the whole idea of a *quadrifrons* with its four entrances. The Arch of Severus at Leptis Magna, one of the few surviving four-way arches with a raised passage had a single step or low plinth all round and two steps between the piers up to the internal level.[1] My own preference therefore is for steps to the width of the arms of the cross; and to explain the line of the mortar bed all round the cross I would suppose that the whole structure was raised on four plinths whose outer limits are defined by the mortar and whose height corresponded with the height of the cross. The steps would then rise through this plinth on the four sides. This is the solution adopted in the plan and elevation (figs. 16–18), and it has a striking parallel in the arrangement of the steps leading up to the city gate of Philae[2] in Nubia where the whole structure is similarly raised on a plinth, the width of the steps corresponding with that of the main arch. The general arrangement proposed is to some extent confirmed by the wall of flint and brick belonging to the period of the Saxon Shore fort. This enclosing wall was erected just outside the limits suggested for the plinth of the monument, and it may be supposed that when the *principia* were built the blocks of the plinth were kept *in situ* and served as the floor level of the building, the general ground level at the time being approximately that of the top of the cross. Some of the blocks immediately adjacent to the cross apparently survived until quite recent times and were seen by early explorers (see above, p. 43).

The dimensions of the building are, it should be noted, considerably less than those of the foundation on which it stands and this is certainly what one would expect in view of the enormous vertical thrust that must have been exerted by so massive a structure. It also implies that the flange has no specific connexion with the form and dimensions of the structure except in so far as it gives the dimensions of the pavement surrounding it. The character of the foundation and its appropriateness to a building of the kind and size suggested is further discussed below.

It is worth summarizing at this point the argument that has been put forward here. The building was a monumental *quadrifrons* standing on a rectangular plinth at least 5 ft. high. Four massive piers of ashlar masonry supported the arches of the *quadrifrons* and the superstructure. There were steps rising through the plinth to the level of the interior of the building as wide as the passages and the whole area around the

[1] D. E. L. Haynes, *A Guide to the Antiquities of Tripolitania*, pl. 2 *a*.

[2] U. Monneret de Villard, *La Nubia Romana* (Rome, 1941), fig. 4.

building was paved to the edge of the flange. The sequence of building operations involved would be as follows:

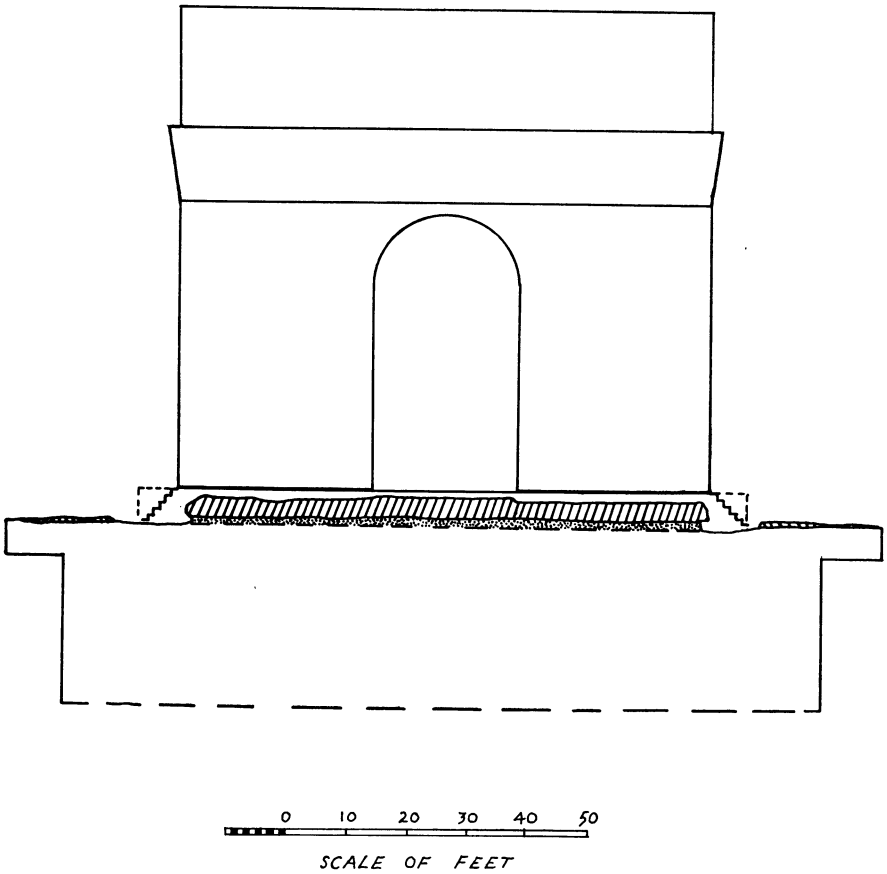


FIG. 17. Outline section of the quadrifrons and its foundation

1. The construction of the great foundation.
2. The building of the four plinths approximately 5–6 ft. high.
3. The filling of the cruciform area with concrete.
4. The construction of the piers and arches of the *quadrifrons*.
5. The decoration of the building with applied marble and sculpture.
6. The paving of the area round the monument.

We may now proceed to a more detailed consideration of the elevations of the building.

The Restoration of the Superstructure

(*a*) *The main elevation*

A more prolonged study of the masonry and the marble fragments may yet provide further evidence for the design and detail of the *quadrifrons*. For the purposes of this report no attempt has been made to restore a detailed elevation. The drawings (figs. 18–19), are intended merely to give a general impression of the form and scale of the structure. The size of the piers and arches, the arrangement of the plinth and steps, and the height of the columns are the only elements derived from evidence still available; beyond these, the *quadrifrons* has been restored by analogy with other monumental arches in various parts of the Empire.[1]

The width of the main arches worked out from the dimensions of the cruciform foundation is 23 ft., and this measurement is adopted here. It must be noted, however, that a calculation made from the marble fragment, (pls. XXIV *h* and pl. XVI *b*), believed to derive from the main arch, gives a diameter of something over 22 ft. to the extrados, if we assume, as Richmond did, that the moulding is the framing moulding of the archivolt. This is clearly too small for an opening 23 ft. wide; the extrados measurement ought to be at least 25 ft. It is not clear how Richmond was proposing to reconcile these measurements; he was inclined, I think, to reduce the span of the arches in accordance with the dimensions obtained from the fragment though he had not thought out all the changes involved. For the reconstruction I have preferred to retain the dimensions obtained from the foundation, because the calculation from the fragment cannot be claimed as completely accurate, and because the alternative would involve reducing the narrow arches to a span which seems far too small for the width of the piers. But I am aware that a difficulty exists in reconciling the measurements.

Among the fragments of marble facing there are many pieces of curved columns and flat pilasters, both kinds having convex fluting (reeding) and both being of approximately the same size. There is also one fragment of a pilaster combining convex with concave flutes, a form popular in Roman architecture from the Flavian period onwards (pl. XXV *d*). Another small fragment (pl. XXV *f*) has concave fluting smaller than that of the other pilasters and curved columns. In most Roman monumental arches, the arches themselves are supported on pilasters which generally run down to the level of the ground while the columns of the main order of the building stand on a podium flanking the opening. The pilasters of the arch are appreciably smaller than those of the order. It may be suggested, therefore, that the fragment with smaller concave fluting comes from a pilaster supporting one of the arches while the larger columns and pilasters derive from the main order. The

[1] For Roman arches in general, *PW* s.v. Triumphbogen; F. Noack, *Triumph und Triumphbogen* (Vorträge der Bibliothek Warburg v, 1929).

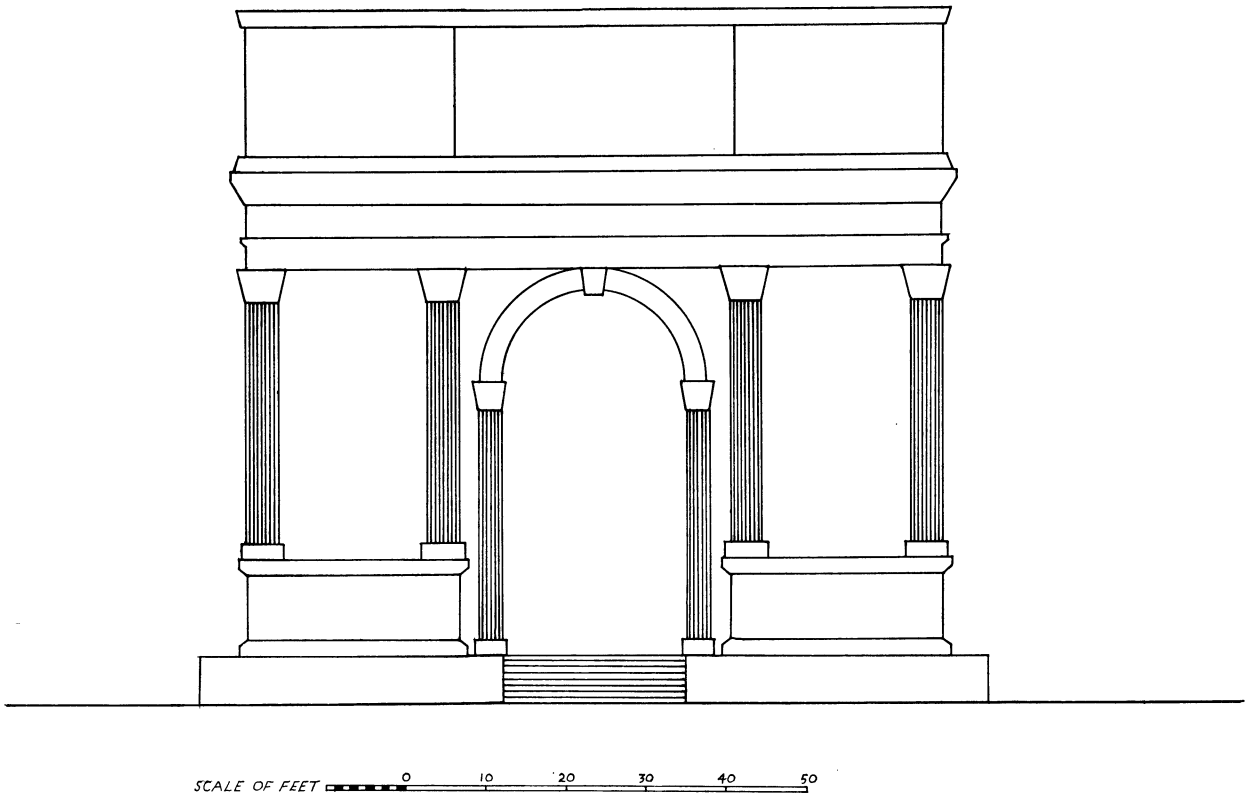


FIG. 18. Main elevation of the quadrifrons

arrangement of the main order columns and pilasters is unknown. In many Roman arches a flat pilaster forms a respond to a free standing column but at Richborough there is no evidence for marble architecture in the round, all the marble having apparently been applied as

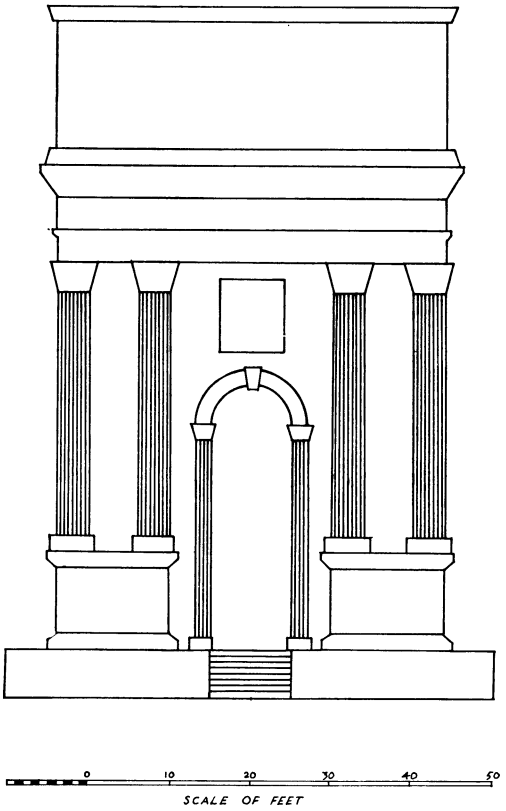


FIG. 19. Side elevation of the quadrifrons

facing to wall surfaces. The relative positions of the pilasters and half-columns is therefore quite uncertain; they may have alternated in some way. For the purposes of the reconstruction a half-column is assumed immediately flanking the pilasters of the arch and a three-quarter column at the angles.

The height proposed for the building rests on the dimensions of the main order of columns. These were difficult to estimate accurately. One fragment of unfluted column casing, presumably an unfinished piece, gives a diameter of approximately 44 in.; one of the fragments of reeded column gives a figure of 48 in. The latter is not necessarily the greatest diameter but the taper on Roman columns is generally small so that the maximum is not likely to be much more. No fragment that can be certainly identified as a capital from one of these columns survives but it has been supposed that the order was Corinthian. The

normal ratio of height to lower diameter in Roman Corinthian is about 9:1, the height including base, column, and capital. The entablature surmounting the columns is generally about one-third of the column-height and on Roman arches the plinth below the columns has approximately the same dimension. The arches of the main elevation would probably reach almost to the lower line of the architrave. Above the cornice one would expect an attic rising perhaps to twice the height of the entablature and serving as a base for a statuary group. Richmond's suggestion that there was an upper order of architecture has not been adopted. It remains, of course, a possibility that some more elaborate form of superstructure surmounted the main entablature as on several other four-way arches in various parts of the Empire, but we have no evidence for such a thing at Richborough.[1]

On the basis of these calculations the dimensions given in the reconstructed drawing, fig. 18, are as follows:

1. Plinth	6 ft.
2. Podium below the columns	12 ft.
3. Columns, including base and capital	36 ft.
4. Entablature	12 ft.
5. Attic	20 ft.

This gives a total height for the monument, excluding the statuary group, of 86 ft.

(*b*) *The side elevation*

The side elevation of the *quadrifrons* is reconstructed in fig. 19. Since the side arches are rather less than half the span of the main arches (11 ft. as against 23 ft.) it is certain that they must have been considerably lower. On the Arch of the Gavii at Verona,[2] which also has side arches narrower than those of the front, the former are 2·65 m. wide and 5·5 m. high compared with the 3·48 m. span and height of 8·40 m. for the latter, i.e. the width is over two-thirds and the height somewhat under two-thirds. In a typical Roman triple arch such as the Arch of Septimius Severus or the Arch of Constantine the smaller arches flanking the main opening are generally not less than two-thirds of the height of the main arch, although they may be as little as half the width. Since the width of the Richborough side arches is under half that of the main arches their height ought to be something under two-thirds of the main arches, approximately 26 ft., but this seems too small in relation to the massive main order and in the reconstructed drawing (fig. 19) the height is raised to 32 ft. It is worth noting here that the smaller extrados fragment (no. 24) which perhaps derives from the archivolts of these side arches is approximately

[1] U. Ciotti, 'Del coronamento degli archi quadrifronti' in *Bull. Com.*, 72 (1946–8), appendix 21 ff.

[2] P. Marconi, *Verona Romana* (Bergamo, 1957), 95 ff.

two-thirds the size of the larger extrados. It is unfortunately not possible to calculate accurately the span from the small fragments which have survived.

The Foundation

It is worth considering the character of the Great Foundation in the light of the form and dimensions of the building reconstructed here.

The hill of Richborough is composed of Woolwich and Thanet sands. The upper sand is about 10 ft. deep and the lower subsoil is sandy for about 7 ft. further; at about 16 or 17 ft. from the surface are the more clayey Thanet beds which become firmer as one goes deeper. The foundation for the monument is a solid mass of courses of water-worn flints set in hard white mortar which was built as a filling in an excavation through the sand and clay and reached to a depth of between 29 and 30 ft. In the 1926–7 excavation the water level was reached at 25 ft. and the precise depth could not be accurately discovered. The flange surrounding the solid foundation is of one build with it, 13 ft. wide on the east, 10 ft. wide on the other sides, and 5 ft. thick throughout.

It has been estimated that the mass of the *quadrifrons* covered an area 88×48 ft., a surface area of 4,224 sq. ft. By means of the foundation the downward thrust of this mass of masonry is transferred to a surface area 126×82 ft. or 10,332 sq. ft. through solid concrete, the spread being at an angle of approximately 60° to the horizontal. Given the poor nature of the subsoil which was clearly distrusted by the Roman engineers this is not an excessively large foundation for a building of the size we have proposed, though it probably allows a fairly large safety factor. Statistics for imperial buildings are unfortunately lacking. The flange surrounding the solid foundation cannot, as we have seen, correspond with any feature of the solid building. It serves two purposes, one of bringing the overall dimensions to the required area for the paved space round the monument, and the other of acting as an apron to prevent seepage down the sides of the foundation. A wider apron was allowed for on the side which was the principal façade of the monument.

The Architectural Detail

No attempt has been made in the drawings to restore the detail of the building. The surviving fragments of masonry, architectural mouldings, inscriptions, marble and bronze sculpture are discussed and listed below. In general effect the *quadrifrons* must have been rather plain. The only decorated mouldings are the astragals (pl. XXII *g–j*) which may have served as panel framings; the rest of the mouldings are without

ornament. Only two fragments of marble sculpture, neither of them clearly identifiable, have survived, and there is no reason to suppose that the sculptural decoration was lavish. We may suppose that the keystones of the arches were decorated and one of the fragments, a frontal representation of a centaur perhaps, may in fact derive from one of them. The wall surfaces were probably divided up with some system of panelling or there may have been aediculae between the main columns. One would expect that the main dedicatory inscription was placed on a panel of the attic and there is some reason to believe that this was composed of applied bronze letters, of which one still survives. Subsidiary inscriptions may have been placed on other parts of the monument. A striking feature of the building must have been the over life-size bronze statuary group, probably an equestrian group of some kind, which by analogy with other Roman monumental arches will have crowned the whole building. It is very unlikely that it will ever be possible to offer a restoration of the detail of the arch, since only a very small part of its ornament has survived.

(i) *The masonry*

Two main types of stone were used in the construction: white oolite and lower greensand, a good, brown sandstone. It may be assumed that the harder oolite was used for parts of the structure needing greater strength, but beyond that, little can be said about the probable distribution of the two different materials. The blocks are all carefully cut, one or two surviving examples having ends with anathyrosis in the best tradition of classical masonry.

A thorough study of all the blocks re-used in the west gate as well as those lying in various parts of the site and others which are still to be seen in the surrounding farms would, no doubt, throw more light on the details of the construction. The blocks measured by Richmond, and a number examined later, vary in dimensions; the blocks of lower greensand range in height between 20 and 24 in. Long and short blocks occur in both materials, the long blocks of greensand being about 30 in., the short 23 in. There are also many approximately square blocks in both stones and some of exceptional length, as much as 5 ft. long, in oolite.

None of the blocks have carefully carved mouldings, except one piece of greensand on one end of which are cut the fasciae and crowning moulding of an architrave and another fragment of the same stone with what looks like a large cyma recta profile. Of these the former is almost certainly a secondary use and the latter is not clearly preserved. Normally the stones were cut with straight angles to which the moulded marble was fixed. Several fragments with rebates and sloping surfaces survive. The exceptions were the half-columns which were cut in the stone and then faced with curved veneer. The remains of one

block with an attached segment of a column now lie not far from the broken end of the west wall (pl. x *a*).

The masonry was cramped together and jointed without the use of mortar; the cramps were of bronze run with lead. Other holes which are commonly to be seen on the masonry blocks are the lewis holes in the top bed used for lifting the higher-placed stones, and dowel holes for fixing the marble. It may be assumed that the arches and vaults of the *quadrifrons* were also constructed of ashlar masonry, but no fragments of voussoirs can be identified with certainty. However there can be little doubt that the wedge-shaped blocks of masonry discerned by Gleig in 1826, 'leading down from the western edge of the platform' were voussoirs from the fallen arches of the building.

Masonry details

Rectangular masonry blocks

Brown stone (lower greensand):

1. L. 33″ × H. 24″ × W. 30″; drafted on end, dowel holes and cramp holes.
2. L. 29″ × H. 20″ × W. 28″.
3. L. 22½″ × H. 24″ × W. 16″.
4. L. 23″ × H. 22½″ × W. 23″.

White limestone (oolite):

1. L. 36″ × H. 27″ × W. 23″.
2. L. 38″ × H. 14″ × W. 23″; corner block.
3. L. 33″ × H. 26″ × W. 19″; lewis hole in top.
4. L. 24″ × H. 24″ × W. 26″.
5. L. 30″ × H. 27″ × W. 9″.
6. L. 24″ × H. 24″ × W. 20″; corner block.
7. L. 60″ × H. 27″ × W. 17″; dowel hole on one side.

Other fragments

Brown stone (lower greensand):

1. fragment with cyma recta profile on one side, lewis hole in top; L. 23″ × H. 22½″ × W. 27″.
2. block with chamfer on one side and mouldings on the other; lewis hole and dowel hole. Probably re-used.
3. fragment with segmental projection; part of an engaged half-column (pl. x *a*). Broken on one side; estimated width of segment 2′ 6″.

White limestone (oolite):

1. block with rebate and sloping surface; W. 41″ × L. 36″, 2 cramp holes.

2. corner block with sloping rebate; 24″× 21″.
3. block with one concave surface; 54″× 56½″× 51″.
4. block with socket to take another block; L. 56″× W. 36″× H. 15″; cramp holes. Broken.

Bronze cramps, etc. (pl. x *b*):

1. T-cramp, broken; with original lead setting. W. 2$\frac{7}{10}$″, L. (preserved) 2″; thickness of metal $\frac{7}{10}$″.
2. no. 3558. Cramp for fixing marble facing; with original lead setting. L. 5$\frac{1}{10}$″. The point which drops into the dowel hole in the marble is at an angle of 90° to the flat surface of the cramp.
3. cramp for fixing marble. L. 4$\frac{3}{10}$″, W. 1″; thickness of metal $\frac{1}{10}$″. Broken.
4. cramp for fixing marble facing. L. max. 7½″; dowel end at 90° to flat surface; opposite end bent at angle of 60°.
5. cramp for fixing marble facing. L. 9$\frac{4}{5}$″. Dowel end bent back to 110°; opposite end flat.

(ii) *The Marble Facing*

Several thousand fragments of the marble facing which once decorated the monument have been found in the area of the fort. Roach Smith was the first to illustrate examples and Garstang figured a number of the more interesting moulded pieces. The material of all the fragments examined by the present writer is Luna (Carrara) marble but, in the past, examples of Pentelic marble have apparently been identified among them.[1] It is clear that only a very small proportion of the total marble facing has survived; the rest has been burnt for lime or broken up for the aggregate used in the concrete of the fort walls, but it is still possible to get a fair idea of the character of the facing and the methods by which it was applied to the solid masonry.

The vast majority of the fragments are flat wall veneers and it is clear that the whole of the building was faced in this way. The veneers were cut very thin, to economize in marble, and the backs are sawn to a very smooth finish. The methods used to fix the veneers are shown by the holes drilled in them and by the surviving bronze cramps. Dowels at one end of the horizontal cramp were dry fixed into the top and bottom edges of the slabs, the other end being leaded into the masonry. The blocks were also fixed to one another by horizontal dowels.

Apart from the flat veneers many fragments of architectural mouldings have survived. These, too, were cut as thin as possible. The cornice slabs (e.g. no. 13) were applied to projecting blocks of stone

[1] *Richborough IV*, 46.

with the front face at an angle of 45°, and they were fixed back with cramps, the dowel ends of which were bent back at an obtuse angle (as no. 5). The column facings were applied to curved surfaces carved in the masonry; they were made in fairly small sections with several pieces required to complete the circumference of one of the columns. The method of jointing the sections is shown by a number of surviving examples (see pls. XXV *b* and *c* and XVI *a*). The base mouldings of the columns and the mouldings of the pilasters are made of more solid marble and fixed back to vertical surfaces either straight or curved.

Although a large number of different kinds of mouldings survive and their general purpose is clear enough, it is not possible to assign them precisely to positions on the building: fragments of columns and pilasters, cornices, plinths, mouldings from the archivolts of the arches and framing mouldings for panels and the like are included among them, and it is likely that a fair cross-section of the different kinds has been preserved. It is, however, remarkable that there are no pieces which may be identified as deriving from column or pilaster capitals except possibly the fragment no. 22 with incised or shallow cut lines. The quality of the workmanship is fair only. The profiles are carefully and accurately cut but their finish is rather rough. The bead-and-reels are poorly carved by comparison with the best Roman work, and in the columns the contrast between the smooth finish of the fillets and the rough claw tooling of the flutes is striking. The detail is remarkably plain; there are no decorated mouldings apart from the large series of bead-and-reel ornaments which served as panel framings and perhaps to divide the fasciae of the architraves. There are one or two unfinished pieces, including a section of unfluted column drum, but there are not enough to suggest that the monument as a whole was left in an unfinished state. The marble fragments in general are moderately weathered but on some of the base mouldings the weathering is heavy.

The marble fragments

1. Flat wall veneers or paving slabs; they vary in thickness, the commonest sizes being 2½″, 2″, or 1½″. It may be suggested that the thickest slabs are those used for paving; the fragments marked out with squares serving as gaming boards were almost certainly paving slabs. The largest slab noted so far measures 27½″ × 16″ and is 2¼″ thick.
2. Corner moulds, presumably used for re-entrant angles in straight surfaces (pl. XXII *a–c* and pl. XI *a*). This is Richmond's interpretation; the use of such pieces would avoid the necessity of carefully jointing the slabs at the corners. On the other hand, some of these triangular pieces may be bits cut from slabs in shaping them to the requirements of the building.
3. Semicircular string moulds for flat surfaces (pls. XXII *d* and XI *b*);

they could have been used for bordering panels. They are $1\frac{2}{5}''$ in diameter; lengths of up to 2 ft. survive.

4. (*a*) String mould (pl. XXII *e* and pl. XI *c*), with roll-moulding on one side and drip moulding on the other, which may have crowned a small projecting feature. W. 2″; one only.
   (*b*) Larger mould, similar (pl. XXII *f*). W. 3″; one only.
5. Bead-and-reel mouldings for flat surfaces (pl. XXII *g–j* and pl. XI *d*); 69 fragments in all, the longest being $7\frac{3}{10}''$. There are three sizes: $1\frac{4}{5}''$, $1\frac{2}{5}''$, and 1″ in height. One (pl. XXII *j*) bead-and-reel is combined with a 1″ fascia.
6. Moulded reveal (pl. XXII *k* and pl. XI *e*), broken; perhaps for a recess. H. $5\frac{1}{2}''$.
7. Base mould with scotia and cyma recta (pl. XXII *l* and pl. XII *a*); the moulding was fixed to a vertical flat surface, perhaps the base of a plinth. H. $5\frac{1}{5}''$; it has been considerably rubbed, as if in a frequented passage way.
8. Base mould, similar but narrower (pl. XXIII *a* and pl. XII *b*). H. $5\frac{1}{5}''$.
9. Torus moulding, crowned by a broken scotia (pl. XXIII *b* and pl. XII *c*). H. $5\frac{3}{5}''$. There are examples for straight surfaces, salient angles, and curved surfaces. Probably part of the bases of pilasters and columns.
10. Torus moulding, crowned by a scotia (pl. XXIII *c* and pl. XII *e*). H. $8\frac{2}{5}''$. Applied to a flat surface, probably a pilaster base.
11. (*a*) Torus moulding, similar, but with half a scotia above and below (pl. XXIII *d* and pl. XIII *a*). H. $8\frac{7}{10}''$. Applied to straight and curved surfaces, probably from pilaster and column bases.
    (*b*) Similar moulding, smaller (pl. XII *d*). H. 6″.
12. Cyma recta moulding (pl. XXIV *a* and pl. XIII *b*); part of a cornice or a crowning member. 14 pieces. H. $5\frac{4}{5}''$.
13. Cornice moulding with half-round moulding at the top, cyma recta, double fillet and cavetto (pl. XXIV *e* and pl. XIV *a* and *b*). Vertical height 10″. About 20 pieces, there is no complete piece. The section (pl. XXIV *e*) is composed from 2 fragments.
14. Cornice moulding with fillet, cyma recta, fillet, and cavetto (pl. XXIV *b* and pl. XIV *c*). Vertical height $5\frac{1}{2}''$.
15. Half-round moulding (pl. XXIV *c* and pl. XIV *d* (right)), perhaps a necking or echinus for a column. H. $2\frac{1}{2}''$.
16. Convex moulding with setting-out line on top or bottom surface (pl. XXIV *d* and pl. XIV *d* (left)). H. 3″.
17. Base moulding(?) with concave and convex profiles divided by a fillet (pl. XXIV *g* and pl. XIII *c*). L. $6\frac{1}{4}''$.

18. Cornice mouldings similar to 13 but flatter; half-round at top, cyma recta and cavetto (pl. XXIV *f* and pl. XV *a*). L. 10″. 2 or 3 pieces.

19. Curved and fluted columns (pl. XXV *a* and pl. XV *d* and *e*). At least 100 fragments of these column-casings survive. They have convex flutes (or 'reedings') approximately $2\frac{1}{2}$″ wide divided by flat fillets $1\frac{1}{2}$″ wide. The fragments show how the pieces composing the circumference of the column were fitted one to the other (pl. XXV *b* and *c* and pl. XVI *a*).

20. Straight fluted pilaster (pl. XXV *d* and pl. XV *b*). only 1 fragment survives. It shows the junction between the reeded lower portion of the pilaster and the upper part with concave fluting. The size of the fluting is approximately the same as that of the curved columns.

21. Flat pilaster with concave fluting, smaller (pl. XXV *f* and pl. XV *f*). One fragment only of the bottom of the fluting: W. of fluting $1\frac{3}{4}$″.

22. Fragment with incised lines (pl. XXV *g* and pl. XV *c*); the purpose of this piece is uncertain.

23. Framing moulding of an arch, with a broad fillet and cyma recta (pl. XXIV *h* and pl. XVI *b* and *c*). W. $7\frac{1}{2}$″. Fitted to a surface projecting at an angle to the horizontal. Several pieces, including one complete section $23\frac{1}{2}$″ long.

24. Similar moulding, but smaller (pl. XXIV *i* and pl. XVI *d*). W. $5\frac{1}{2}$″.

25. Curved facing slab (pl. XVII *a*); probably part of an unfluted column drum. H. 16″, W. 21″ thickness $1\frac{1}{5}$″–$1\frac{2}{5}$″.

26. Part of a facing slab with chamfered edges (pl. XVII *b*) in the manner of drafted masonry. Joint on one side. H. $6\frac{7}{10}$″, W. $7\frac{1}{2}$″. Thickness $1\frac{3}{10}$″.

27. Part of a panel with cyma reversa and broad fillet framing it (pl. XVII *c*). H. $4\frac{1}{5}$″, W. $5\frac{2}{5}$″. Burnt. Probably framing of an inscription (cf. no. 8). Thickness $1\frac{7}{10}$″. Dowel hole in edge.

28. Large irregular slab of marble with cut surfaces, one curved, and a rough section (pl. XVII *d*). Probably an unfinished piece or a waster. L. 22″, W. 19″.

(iii) *Inscriptions*

The fragments of marble inscription found on the site are listed on pp. 68–69. Of these nos. 1–6 appear to be from the same inscription. The letters are uniformly about $3\frac{1}{4}$ in. high in good Roman monumental lettering; they are carved on marble slabs $1\frac{1}{5}$″ to $1\frac{3}{10}$″ in thickness, the back of which is claw-chiselled. No. 7, a small and insignificant fragment, may belong to the same series but the letters are certainly

smaller. The thickness of the slab and the treatment of the back is the same. No. 8, which is also good monumental lettering, is from a different series. The slab is a good deal thicker, $1\frac{7}{10}''$, with a very smooth finish at the back. The lettering is smaller, not more than $2\frac{1}{2}$ in. high, though similar in general character to the main series. Both these inscriptions may come from the monument. They are in Luna marble and the thicknesses correspond fairly well with those of the facing slabs that survive. The fragments of facing with roughly carved numerals, 9 *a–g*, were interpreted by Bushe-Fox as masons' marks indicating the positions of the slabs. These are generally cut on the smooth side and they are found on slabs of different thicknesses.

Apart from the marble inscriptions there is one letter surviving of a monumental inscription with applied bronze letters. This letter, A, is $3\frac{2}{5}''$ high, rather larger than the letters of the marble series nos. 1–6.

There are, therefore, the remains of three inscriptions which may be associated with the monument; the style of lettering in all these would suit a date around A.D. 100. One would expect the main dedicatory inscription of the arch to be placed in a panel on the attic and, in view of the size of the monument, the letters of the upper lines would be very large, perhaps as much as 1 ft. high. It has been pointed out that as none of the letters of the marble fragments exceeds $3\frac{1}{4}''$ in height they are unlikely to be part of the main inscription, even allowing for a considerable diminution in the size of the letters from top to bottom as is common in Roman monumental inscriptions. If neither of the two marble inscriptions formed part of the main inscription, the possibility remains that the single bronze letter almost $3\frac{1}{2}''$ high is a survivor from the main inscription composed of applied bronze letters, and it might just possibly come from a lower line of such an inscription. Certainly if there was a bronze inscription on the monument it is likely to have been the main inscription, which was probably placed on the attic on the side towards the sea. It may have been repeated in marble on the landward side. The two marble inscriptions from which letters survive will have been subsidiary inscriptions either contemporary with the building or added later. There seems no likelihood of recovering the content of these inscriptions. Collingwood's restoration of the name and titles of the Emperor Hadrian on the basis of fragment no. 5 has nothing to commend it.[1]

1. (pl. XVIII *a*) 2 fragments joined; remains of 2 lines. ....]AM[..../....]M.I[.... Joined by I. A. Richmond. $10\frac{1}{2}'' \times 7\frac{1}{4}''$. H. of letters $3\frac{1}{4}''$; one fragment badly burnt. Thickness of slab $1\frac{3}{10}''$. *Richborough II*, pl. XIII, 3, 4; *RIB* 46 *c* and *d*.

2. (pl. XVIII *b*) 1 fragment; remains of 1 line ....]NSV [.... Apparently a bottom line. $7'' \times 7''$. Thickness of slab $1\frac{1}{5}''$. *Richborough II*, pl. XIII, 6; *RIB* 46 *g* (different reading).

[1] *JRS* XVI (1926), 243, no. 12.

3. (pl. XVIII *c*) 1 fragment; remains of 2 lines ....]V [../...] IB[... $3\frac{1}{2}''\times 4\frac{1}{2}''$. Thickness of slab $1\frac{1}{5}''$. *Richborough II*, pl. XIII, 2; *RIB* 46 *e*.

4. (pl. XVIII *d*) 1 fragment; remains of 1 line ...]PE[.. $4''\times 3\frac{1}{4}''$. Thickness of slab $1\frac{1}{5}''$. *Richborough II*, pl. XIII, 5; *RIB* 46 *f*.

5. (pl. XVIII *e*) 1 fragment; remains of 2 lines ...]M[.../...]DIV[... $6\frac{1}{2}''\times 5''$. Thickness of slab $1\frac{3}{10}''$. *Richborough III*, pl. VII, 1; *RIB* 46 *a*.

6. (pl. XVIII *f*) 1 fragment; remains of 1 line ...]VM[... $5\frac{1}{2}''\times 4''$. Thickness of slab $1\frac{1}{10}''$. *Richborough II*, pl. XIII, 1; *RIB* 46 *b*.

7. (pl. XVIII *g*) 1 fragment, remains of 2 unidentified letters. Probably part of a monumental inscription, but letters smaller than nos. 1–6. Thickness of slab $1\frac{1}{5}''$.

8. (pl. XIX *a*) 1 fragment; remains of 2 lines ....]ND [..../.....] IOC[.... H. of letters: upper line $2\frac{3}{4}''$, lower $2\frac{1}{10}''$. Thickness of slab $1\frac{1}{10}''$. *Richborough IV*, pl. LXX *a* 1; *RIB* 51.

9. Fragments of facing with inscribed numerals.

(*a*) Facing slab fragment (pl. XX *c*), inscribed on reverse XXVIII; $8''\times 7\frac{1}{2}''\times 2\frac{1}{4}''$. *Richborough III*, pl. VII, 2; *JRS* XVI, (1926) 243; *RIB* 60.

(*b*) Facing slab fragment (pl. XIX *b*), inscribed X; $4\frac{1}{2}''\times 6''\times 1\frac{1}{2}''$. *Richborough II*, pl. XIII, 8; *JRS* XV, (1925) 248; *RIB* 59.

(*c*) Facing slab fragment (pl. XIX *b*), inscribed ...]VIII; $4''\times 1\frac{1}{2}''$. *Richborough II*, pl. XIII, 7; *JRS* XIV, (1924) 245; *RIB* 58.

(*d*) Facing slab fragment (pl. XIX *b*), inscribed LXIV(?). *Richborough II*, 12; *RIB* 62.

(*e*) Facing slab fragment inscribed ....]CL; $11''\times 8\frac{1}{2}''\times 1\frac{5}{8}''$. *Richborough IV*, 46; *RIB* 64.

(*f*) Facing slab fragment (pl. XIX *b*), inscribed DLXX[....; $8''\times 7''\times 1''$. *Richborough IV*, pl. LXX *a* 3; *RIB* 65.

(*g*) Facing slab, several fragments recomposed, inscribed LIIII LIII $24''\times 19''$. Badly burnt; it is suggested that the numbers were inscribed when the slab was re-used. *RIB* 61.

(*h*) Facing slab, fragment, (pl. XIX *b*) inscribed T; $4\frac{1}{2}''\times 5''$. *RIB* 57.

10. Fragments of facing marked out as gaming boards. (eg. pl. XX *d*) *Richborough II*, pl. XIV, figs. 1, 1–2. Another board was drawn out on a slab of lower greensand.

Bronze letter

No. 1862. Bronze letter A (pl. XIX *c*). H. $3\frac{2}{5}''$. Fixed back to the masonry by two tangs $\frac{1}{2}''$ long on the uprights just above the crossbar. Electrolytically cleaned.

(iv) *Bronze sculpture*

Fourteen fragments of bronze sculptures have been discovered within the walls of the fort. Some of these came to light during the Society of Antiquaries excavations but have not been described in previous reports; others, excavated by the Kent Archaeological Society and formerly in the Maidstone Museum, were given to the Richborough Museum by the Society in 1931. The latter, referred to by Dowker (see above, p. 45), were found in excavations of the area surrounding the cross. There seems little doubt that these fragments are from sculpture which once decorated the monument. A list of them is given below.

Three fragments (nos. 1, 2, and 4), and perhaps a fourth (no. 3), are from drapery on a scale that appears to be well over life-size. Fragments no. 5 and no. 8, the former of which is gilded, may be identified as deriving from a cuirass; no. 8 is almost certainly part of the system of palmette and scroll ornament which often decorates the cuirass over the abdomen. A close parallel is provided by the detail of the cuirassed statue of Trajan in the Rijksmuseum, Leiden.[1] No. 5 could be part of a shoulder tab of a cuirass but this is less certain. Nos. 9–13 are locks of hair, the shape and size suggesting that they were not human hair but hair from the manes, tails, and other parts of horses. This seems particularly clear in the case of no. 12 where the hair seems to grow out of the surface of the skin precisely like the mane of a horse. It is perhaps unwise to argue at all from such slight evidence about the character of the bronze statuary on the arch, but the fragments do seem to suggest that there was once an equestrian group of some kind with a figure of an emperor wearing a military cuirass and paludamentum and that the group, which was clearly over life-size, stood on the attic of the *quadrifrons* where one would normally expect the statuary to be set up.

Like most big Roman hollow-cast bronzes, the fragments show evidence of the extensive patching which was necessary to repair faults in the casting. The patches were hammered into beds carefully cut with chamfered sides which would hold the bronze in position. The fragments give the impression of having been deliberately broken up into small pieces; the few that survive must have escaped when the rest of the figures were consigned to the melting-pot in the third century A.D.

1. Folds of drapery (pl. XXI *a*). L. 11½″; W. 6½″; metal ⅛″ thick (approx.). Two shallow folds and edge of garment on one side, deep central fold, broader shallow fold on the other side with broken edge. Green patina; long rectangular patch, ⅘″ × 2½″ above the shallow folds, smaller patch in centre. Perhaps part of a military cloak.

[1] C. C. Vermeule, 'Hellenistic and Roman Cuirassed Statues' in *Berytus* xiii (1959), pl. XII, 36.

2. Folds of drapery (pl. xxi *a*). L. (max.) 8″; W. $7\frac{1}{4}$″. Broad flat fold on one side, deep fold and edge of garment on other; large area damaged in casting and extensively patched.

3. Fragment of thick bronze, perhaps drapery (pl. xxi *b*). L. $5\frac{1}{2}$″× W. $3\frac{1}{2}$″. Bent out of shape. Very heavily patched with small rectangular patches still in position; cutting for one very large patch.

4. Fold of drapery (pl. xxi *a*). L. $6\frac{1}{4}$″× $2\frac{2}{5}$″. Edge on one side, broken on other. Electrolytically cleaned. Patch on concave side.

5. Fragment (pl. xxi *b*) with shallow grooved lines on one side. $3\frac{1}{4}$″× 2″; metal $\frac{3}{10}$″ thick. The surface is gilded.

6. Fragment of thin metal, gilded (pl. xxi *c*). $1\frac{3}{10}$″× $\frac{9}{10}$″; metal $\frac{1}{10}$″ thick. Probably a patch. Lumpy incrustation over gilding.

7. Fragment of thin metal, gilded (pl. xxi *c*). $\frac{3}{5}$″× $\frac{9}{10}$″. One edge sharply bent.

8. No. 1142. Fragment with 6-petalled rosette forming the end of convex fillet (pl. xxi *b*). L. $3\frac{1}{5}$″× W. $2\frac{1}{10}$″. Traces of gilding? Perhaps part of decoration from a cuirass.

9. No. 969. Lock of hair, twisted (pl. xxi *b*). L. $3\frac{7}{10}$″, W. $1\frac{1}{5}$″. Badly corroded. Has a flat surface at one end and was attached as a separate piece.

10. No. 4555. Two locks of hair crossing (pl. xxi *b*). L. $3\frac{9}{10}$″, W. $2\frac{3}{10}$″. Very thick metal.

11. Small fragment of lock of hair (pl. xxi *b*). L. $2\frac{1}{2}$″, W. 1″. Badly corroded.

12. Lock of hair (pl. xxi *b*) with plain concave surface from which the hair grows. L. $4\frac{3}{5}$″, W. 2″. Part of the mane of a horse?

13. Lock of hair (pl. xxi *b*). L. 3″, W. $1\frac{1}{10}$″; electrolytically cleaned.

14. Fragment of thick metal, curved (pl. xxi *b*). L. 4″, W. $2\frac{3}{5}$″, thickness $\frac{2}{5}$″. On concave side gilding and remains of purple colouring. Heavy incrustation.

15. Bronze patches (pl. xxi *c*). The thickness of these patches is approximately $\frac{3}{32}$″.

(*a*) L. $2\frac{1}{2}$″× W. $1\frac{3}{4}$″; concave sides.
(*b*) L. $1\frac{1}{2}$″× W. $\frac{1}{2}$″.
(*c*) L. $\frac{3}{5}$″× W. $\frac{3}{10}$″.
(*d*) L. $\frac{3}{5}$″× W. $\frac{2}{5}$″.
(*e*) L. $\frac{4}{5}$″× W. $\frac{2}{5}$″; curved.
(*f*) L. $\frac{1}{2}$″× W. $\frac{5}{12}$″.
(*g*) L. $\frac{4}{5}$″× W. $\frac{2}{5}$″; broken on one side.
(*h*) L. $1\frac{3}{10}$″× W. $\frac{3}{10}$″.
(*i*) L. $2\frac{1}{2}$″× W. 1″; one side concave.

(v) *Marble sculpture*

1. Forepart of an animal(?) (pl. xx *a*) H. 11″ × W. 8″. *Richborough II*, 12–13: 'portion of a Harpy'. This is a fragment of a relief; the background is 1½″ thick and there is a cut edge on one side with a dowel hole. Perhaps part of a decorated keystone.
2. Part of a colossal head(?) (pl. xx *b*). Maximum dimension 9″. *Richborough II*, 13: 'the upper part of a colossal human head apparently wearing a cap and with flowing hair on the forehead'. Has been burnt.

The Character and Purpose of the Monument

The description of the Richborough *quadrifrons* as a triumphal monument puts a slightly wrong emphasis on its purpose. Richborough, which had served as a key base in the Claudian invasion, was always thought of as the gateway to Britain, Rutupiae being almost synonymous with British in describing the coast, and it would have been appropriate at a time when the conquest of Britain was regarded as complete and no further advance was contemplated to erect there as a monumental entrance to the province an arch of some kind. Many such arches at the frontiers of provinces survive or are known to have existed; well-known examples are the arches at Ossigi, Bara, the arch on the frontier between Illyria and Macedonia, and another in Cilicia.[1] The Arch of Trajan at Ancona[2] provides the most instructive parallel for the building at Richborough. It stood on the harbour mole, raised on a high base approached by steps and it symbolized, as the inscription records, the *accessus Italiae*,[3] marking not only the point of access from the sea but the beginning of a road system reaching to many parts of Italy. The symbolism is carried to the detail of the architectural decoration; the head of Neptune decorates the keystone on the seaward side and a head, probably of Tellus or Italia, appears on the other. The Richborough arch stood at the beginning, and on the alignment, of the Watling Street which had been laid in Claudian times and ran direct to London; its position on high ground made it a conspicuous mark from the sea. There is little doubt that its chief purpose was to symbolize the *accessus Britanniae*.

The date for the beginning of the construction, first put about A.D. 100, was later narrowed down by the excavators to the decade A.D. 80–90, this being the period when the marble used for the building is known to have been worked on the site. The date of its completion is not known but it presumably took a number of years to construct. The pig of lead dating from Nerva's reign which came from

[1] For this type of arch see A. L. Frothingham, 'The Territorial Arch' in *AJA* xix (1915).
[2] *Rend. Accad. Arch., Lettere e Belle Arti di Napoli*, xxxii (1957), 158.
[3] *CIL* ix, 5894.

an early level in the vicinity of the foundation may suggest that building operations were still going on as late as A.D. 96–98. It is worth speculating on the circumstances under which the *quadrifrons* came to be built in the reign of Domitian. The recall of Agricola in A.D. 84 and the abandonment of the forward policy in north Britain might seem a particularly appropriate moment to erect such a symbolic entrance to Britain, to a province which Imperial propaganda wished to be considered as completely conquered: *Perdomita Britannia*. Nor would the building have been completely without reference to the military victories by which such a conquest had been achieved. Statues of emperors in military dress were frequently placed on buildings not erected to commemorate a specific triumph. The territorial arch at Bara had a statue of Trajan and the arch erected to the memory of C. Caesar at Pisa was surmounted by spolia and military figures.[1] At Richborough, we know, there was a bronze statuary group with at least one figure, probably an imperial figure, in military costume, and the grant of *ornamenta triumphalia* to Agricola will have provided Domitian, that notorious arch-builder,[2] with a specific occasion to make reference to his military successes in this distant province. If it was Domitian whose statue first crowned the *quadrifrons* we must suppose that it was removed with the passing of the decree of *damnatio memoriae* and replaced by one of Nerva or Trajan.

Whatever the precise circumstances that led to the building of the Richborough Arch, there can be no doubt that it was treated as an imperial project of considerable importance. It must have required the presence of at least an architect from Italy or Gaul who was acquainted with the use of marble as a building material. Even if much of the decorative work was imported ready-made, skilled masons must have been brought in to supervise the erection. The detail, it is true, is strikingly plain with no hint of the rich ornamental detail associated with Flavian building enterprises in Italy, but in scale the building rivals all the great monumental arches constructed in the Roman world and its massive severity must have been as effective and impressive a piece of imperial propaganda as one could find throughout the Roman Empire.

SMALL OBJECTS IN METAL, BONE, ETC.

EACH small object found during the Richborough excavations was given a consecutive number and was listed in a set of Inventory books now preserved on the site; these books are the only record of the

[1] *CIL* ix, 1421 '. . . utique arcus celeberrimo coloniae nostrae loco constituetur ornatus spoliis devictarum aut in fidem receptarum ab eo gentium, super eum statua pedestris ipsius triumphali ornatu circaque eam duae equestris inauratae Gai et Luci Caesarum statuae ponantur.'

[2] Suetonius, *Domitian* 13, 2.

position of each find. During the period covered by *Richborough I–IV* nearly 4,000 objects were recorded, of which less than 600 have been illustrated. In this present volume 291 of the 1,764 discovered between 1931 and 1938 are published, more than twice as many as were originally selected for illustration by the excavator. It has been thought advisable to include, in brackets, the original inventory number of each find after its publication number.

THE BROOCHES

By M. R. Hull, F.S.A.

(Pls. xxvi–xxxiii)

Including those in the present Report at least 222 brooches have been found and published from Richborough. Considering the extent and duration of those excavations the number is not large but it is large enough to merit serious comparison with the returns from other sites where sufficient material has been recovered.

The comparison is valuable because the main occupation of Richborough begins with the Claudian landing in A.D. 43, and was for some time mainly military, though there was certainly some native occupation. A comparison should perhaps show how much native we have at Richborough and how much Roman. The invading force brought with them brooches in use on the continent, and the military occupation of the site seems to run up to about A.D. 80, after which it faded until the late third century. Consequently not much interest lies in the figures after A.D. 80, but up to that date the comparison with other early sites where brooches are found in sufficient numbers proves, as might be expected, to be of some interest.

The first sites which come to mind are Silchester and Colchester. The former is a Belgic oppidum, without, it seems, a Roman military occupation. The latter was also a Belgic oppidum, but with quite a lot of Roman military material in the upper levels. There is no early Roman military site which has yielded a sufficiently large number of brooches for useful comparison. The Durden collection (in the B.M.) from Hod Hill probably contains much from the Roman fort, but was collected from the whole oppidum. Here, in the south-west, we are in a different native series basically, though south-eastern types also occur, perhaps taken there by the followers of Caratacus. The brooches from the Roman fort (not yet published) should correspond closely to those at Richborough. There are a fair number of brooches now known from Caerleon, but the beginnings of the purely Roman occupation there are rather late for our purpose. The numbers available from Cirencester are adequate, but the earliest material there is from Bagendon, and not very numerous, while the bulk, from Cirencester itself, is now rendered uncertain by the discovery of one

or more Roman forts under the town. Chester, Wroxeter, and York are, as yet, not suitable for comparison, the numbers being still small and mostly not early enough for our purpose.

In the table we have included the early types which were in use on the continent at the time of the invasion. It will be seen that many of them were in common use in our native oppida, but, as the table shows, not at Richborough, so that we see a clean-cut difference between the imported types used by the Romans and those used by the native Britons.

The following table, which was made out originally by simply quoting the numbers found, has been adjusted for comparison by summing the total for each of the five sites and then converting the numbers to percentages. While this is not perfect it affords a better means of comparison than the actual numbers.

Type	*Silchester*	*Colchester*	*Richborough*	*London*[1]	*Hod Hill*
Nauheim deriv.	27·17	7·9	10·7	26·0	12·5
Do. iron	8·7	1·72	4·3	..	15·27
Colch. A	14·7	25·1	8·6	6·85	15·27
Colch. B	4·4	8·6	19·3	6·85	..
Aucissa	9·2	10·53	12·9	9·58	12·5
Rosette A	1·0	6·88	1·07	2·74	..
Rosette B	0·5	0·64	..	..	..
Langton Down	7·6	9·24	..	1·34	1·39
Rosette C	1·6	2·8	1·07	2·74	2·76
Langton Down C	2·7	1·7	..	..	..
Hod Hill	16·85	17·4	33·3	32·87	37·5
Dolphin A	..	4·3	..	..	1·39
Dolphin B	..	0·86	2·14	..	1·39
Light Polden	..	1·07	..	..	..
Polden	2·0	0·4	2·14	2·74	..
Deal	3·8	0·64	..	2·74	..
Eye	..	1·07	4·28	5·58	..

To make the identification of the types clear the Nauheim derivative is type VII of the *Camulodunum* report, which includes those of iron. 'Colchester A' is *Cam.* type III, 'Colchester B' is *Cam.* type IV. The Rosette types, A, B, C, differ from *Cam.* type X, inasmuch as A is here used to comprise *Cam.* pl. XCIII, figs. 68–78, while B is fig. 79 on the same plate and C is figs. 80–84 on pl. XCIV. The Langton Down type is *Cam.* type XI A and B, but we have preferred to show the Langton Down C type separately. The Hod Hill type, *Cam.* XVIII, includes all the many variants. 'Dolphin A' refers to sprung brooches, *Cam.* type V, while 'B' refers to similar brooches with hinged pin (not found in Camulodunum). The type we have called 'Light Polden' is an early and interesting form of the Polden

[1] Since complete lists of the brooches in the British, Guildhall, and London Museums are now available it has been possible to list the Romano-British brooches found in London.

Hill brooch, which has not been published, although at least a dozen examples are known. The Polden type is well known. Under the name 'Deal' we have classed all one-piece brooches which have a button on the bow. The 'Eye-brooches' are well known.

The Nauheim derivatives are uniformly common; despite their lack of size and strength their abundance at Neuss legionary fortress shows they were as popular with the troops as they are on native sites. With the exception of one at Newstead their incidence is pre-Flavian, and this agrees with the area they cover. Those of iron are almost limited to the native oppida.

The Colchester A type is chiefly native, unless the Roman fort at Hod Hill provides evidence to the contrary. The B type, of two-piece construction, is not pre-Roman and it is not surprising if, as the evidence suggests, it was too late to be taken to Hod Hill. Both A and B types belong to the south-east; A reached Hod Hill in numbers, while B did not.

The Aucissa type occurs frequently in the oppida, but is also popular with the Roman troops, the same applies even more strongly in the case of the whole series of the Hod Hill type. The figures from Richborough and London are double those from Silchester and Colchester, and suggest that, at Hod Hill, the Roman fort was the main source of their discovery.

In complete contrast to these last two types we find the cylindrical-headed Rosette and Langton Down types chiefly in the oppida, almost absent from Richborough, and poorly represented in London and Hod Hill.

On the other types we have little comment, except that the Eye-brooches, which in any case are nearly always poor and late examples in this country, would seem to have come in with the conquest.

We have not continued this analysis further, for the remaining types are later, and Richborough has no claim to any cardinal importance in their distribution. Its renewed military importance in the fourth century came too late for most brooches, with the exception of the heavy crossbow type, which has, at present, the following pattern of distribution: Colchester, 15; Richborough, 14; London, 11; Silchester, 10; Corbridge, 6; South Shields, 5; York, 5; Lydney, 5; Stowting (Kent), 4; Wroxeter, 4; Bath, Cirencester, and Woodeaton, 3 each; Caistor-by-Norwich and Gloucester, 2 each, and single examples at Elton (Derby); Lincoln; St. Albans; South Ferriby; Hockwold; Mundford; Lowick; Bradwell-on-Sea; Alborough; Wallingford; Brough (Westm.); Burgh Castle; Caerleon; Brancaster; Odiham; Leicester; Icklingham; Brigham (Cumb.); Kettering; and Moray Firth.

The distribution is predominantly eastern and is shared by towns and military sites alike, with two examples in Scotland, and a few only in western England. There are examples from the Saxon Shore forts

on the east coast, but not on the channel coast, with the exception of Richborough. One wonders what was the nature of the site at Stowting.[1]

It remains only to remark that quite a number of the brooches previously published from Richborough are of such poor workmanship as to resemble beginner's work, cf. *Richborough II*, nos. 5 and 15; *Richborough III*, no. 4 (which has a parallel at Cirencester); *Richborough IV*, nos. 32, 39, 57, 62, and this Report nos. 76 and 77.

List of Brooches found, 1931–1938

La Tène II Type

Two of this type have been published, *Richborough IV*, nos. 1 and 2. We now add a third:

1 (5006) The bow and part of the foot; the missing parts were probably similar to those of the two published. No provenance.

At one time it seemed possible that the two brooches, *Cam.* no. 3 and one from Wroxeter in Shrewsbury Museum, were evidence that examples of Roman date were distinct in that the metal of the bow was turned *inwards* at the toe to form the foot, and carried up the inner, or under, side of the bow, whereas the older examples all turned outwards, ending at the button. But it appears that the Roman examples may be made in either manner, and there is no means of determining exactly how many of the older pattern are really of Roman date.

Iron Brooches

Iron brooches mostly occur on sites which were occupied well before the Roman conquest. It is not therefore surprising that we have only four at Richborough. One of these, *Richborough III*, 9, is of Colchester type, with hook and wings, and a straight bow of square section with solid catchplate. It was in a late first-century deposit, but was probably out of its horizon.

2 (4167) Remains of an iron safety-pin brooch (Nauheim derivative) with bilateral spring and bow of round wire, foot missing. Surface, south-west area.

Parallels are known from such places as Silchester, Ham Hill, Rotherley, and Colchester.

Derivative Forms of the Nauheim Brooch

The typical Nauheim brooch is of rare occurrence in Britain, being just too early for us. It has been very fully discussed by Joachim Werner in *Jahresbericht der R.-G. Zentral-Museum Mainz*, ii (1955). The similar, or parallel developments, which we call derivatives, are however, very numerous, so much so that it is difficult to classify them.

[1] The brooches are in the B.M. and were registered in June 1904.

At Lowbury Hill 28 out of 56 brooches were of this type, and seven were of iron. The bow may be flat or of round section, the spring is bilateral, of four turns or less, and the foot is solid. The profile of the bow may show a single curve, or be reversed in direction in the lower part.

3 (4326) Very corroded, the flat bow is possibly quite plain; shouldered at top and bottom. Surface, south-west area.

4 (4201) Corroded, but two marginal grooves visible on bow. Area XIX. Lower occupation layer.

These two, with very flat bow, may both have resembled *Richborough IV*, 4 in profile, or the latter might belong to a group in which the bow runs smoothly into the foot, which has reversed curve. Of these there is the head of one (with two grooves) from Wroxeter in Shrewsbury Museum, one in Bedford Modern School from Sandy, and one in St. Albans Museum from Verulamium. They are probably Roman, and belong to the third quarter of the first century.

5 (4076) Almost normal, but bow narrow and flat, with reverse curve at foot. Surface, south-west area.

6 (4806) Similar, both have a sharp angle near the head, like *Cam.* pl. XCII, 39. Area XVII. West extension, west of outer Claudian ditch. Top layer.

7 (4996) Similar, but distorted, foot missing, fairly large and could possibly have been of La Tène II type. Area XVII, unstratified.

8 (4400) A large, fine, and well-preserved brooch; distinctive in size, profile and decoration. This is Werner's 'Giubiasco' type and belongs to north Italy. South-west area. Surface.

9 (4978) Upper half of a brooch with flat bow highly curved at the head; there is a bar through the spring. Claudian ditch, north of section 33.

With *Richborough II*, no. 1, *Richborough IV*, nos. 3 and 4, and another not illustrated there are twelve bronze Nauheim derivatives from Richborough, and one of them (*Richborough IV*, 4) is of the late, knobbed type.

The Colchester Type

This has been fully described as type III in the Camulodunum report. The following have been found:

10 (4242) Bow flat, with S or reversed curve, and running across the long, pierced catchplate. Wings small, detail of spring obscured by corrosion. Bottom of the outer Claudian ditch.

This is a continental form; another, *Richborough IV*, 30, was found unstratified.

11 (3626) Decorated example of Colchester type, foot missing, typical, with spring of six turns. Surface find.

12 (4729) Another similar, with bar through spring. Area XVII, surface.

13 (No field number.) Very corroded bow, lacking foot and most of head. Not illustrated.

14 (4923) Small and very unusual, made in one piece, but otherwise resembling the type I have called Colchester BB. I know of no parallel. South of Chalk House, 2 ft. above gully level.

15 (5310) A very small but normal example. Middle fort ditch. 0 ft.–2 ft.

Only three other brooches of this type were found, *Richborough I*, no. 1, and *Richborough IV*, p. 122, two of the slender variety, described as like *Swarling*, pl. XII, 4 and XV, 14, making eight in all. Of the long-armed variant *Cam.* type III *a* the only one found at Richborough is *Richborough IV*, 26. Of the very small variant, *Cam.* III *b*, there is only one;

16 (4366) Very small, with longish spring and short bow (cf. *Cam.*, pl. XCI, 32 and 33, and St. Albans, *Verulamium*, no. 28). Area XXI. In pebbles of road, west side.

Colchester B Type

17 (4664) Small, corroded and distorted, with groove down bow. No provenance.

18 (5057) Another similar, better preserved. No provenance.

19 (4889) Another, corroded, but apparently not grooved; wings rather long, spring of at least eight turns. Area XVII. Top of gully 13.

20 (4497) Very corroded, detail obscure. Not illustrated. Surface, south-west area.

21 (No number) So corroded that it can only be attributed to this type on probability. Not illustrated.

22 (4318) Upper half only of a normal example. Not illustrated. Surface, south-west area.

Colchester BB Type

These differ from the preceding (which is *Cam.* type IV) in not having the two hollow flutings running down the bow. Instead the bow is of flat D-section, either plain, or with a short groove on the head, which is usually hatched with short strokes, or with a central rib on the head or running the full length of the bow. They may also have a terminal knob, which the B-type has not.

23 (5006) Rather stout example, the bow unusually wide, of D-section with median rib. No provenance.

24 (4820) Small, bow of D-section with lateral ribs, the head has no crest. It is noteworthy that there is a small bulge on each side of the head (a peculiarity of the Polden Hill group) which we can only parallel, in

a brooch of this type, at St. Albans (Verulamium Mus. 30. 120). No provenance.

24a (5061) Another brooch of this type, not illustrated. No provenance.

Of the B-type eleven examples have been published in previous Richborough Reports, viz. *Richborough I*, nos. 2 and 3; the former in a deposit of *c.* A.D. 80–100; *Richborough II*, no. 3 and two others not illustrated (p. 41); *Richborough II*, no. 4; *Richborough III*, no. 10, in pit 35, A.D. 80–120; *Richborough IV*, no. 27, in pit 87, *c.* A.D. 90 (this brooch has a knob), and three more, one from pit 179, dated about A.D. 80, and two from section 35. Our six make the total up to seventeen. The BB-type, with only three examples, is remarkably scarce here, for it is usually common elsewhere.

Dolphin Brooches

These also are scarce. *Richborough IV*, 28 is a hinged example with long crossbar and pierced catchplate; *Richborough IV*, 31 is similar but cruder; the nearest parallel I can find to it is one from Marlborough (Devizes Mus. no. 35). To these we can add:

25 (4823) Brooch of Dolphin shape, but the construction and catchplate are of Colchester B type. The elaborate astragaloid decoration of the arms follows dolphin tradition, but the rearward hook has been abandoned in favour of the more efficient hole in the crest. There is also an approach to the Polden Hill construction in closing the ends of the arms, where there are V-shaped nicks instead of holes for the end of the bar passing through the spring. Surface find, area XVII.

One with a similar bow in the B.M. (no number) has a moulded toe-knob like no. 26 below. It has discoid ends on the arms and axial bar as in the Polden Hill type. Other parallels have the fluted bow of the Colchester B-type; two of these are from Colchester (one in Colchester Museum and one in the B.M.) and three from Silchester, one of which has a knobbed foot; there is also one parallel in the B.M. with bow of Colchester BB type and knobbed foot.

26 (4239) Brooch of the same general form, but with hinged pin. Arms elaborately moulded with knurled astragals; this pattern is carefully repeated on the foot. The bow has five deep flutings. Position uncertain, but thought to have been in the dumped layers in area XVI.

Richborough IV, no. 39 might perhaps be included in this type.

The Polden Hill Type

In this two-piece brooch the spring was originally held by a rearward hook, but also secured by having a bar through it which engaged in the ends of the arms. Later a hole in the head or the crest was preferred to the hook.

27 (3946) An excellent example of the fully developed type. Bow long, rounded, dolphin-shaped, with long triangular catchplate; as often,

a rib from this runs right up to the head. Spring of eight turns; on each side of the head of the bow is a marked appendage which is nearly circular. Surface, south-west area.

Richborough IV, no. 25 is a more elaborate example. The tapering ornamental band on the head is characteristic, the mouldings at its base unusual. The distribution of the type seems to be centred on Wroxeter.

28 (4010) A typologically earlier brooch of the same series, in which the appendages take the form of a small lateral moulding. Slight knob at toe. Surface in south-west area.

These brooches may be assigned to the last third of the first century, and to the early part of the second.

The Alcester Type

This type was published by me in the Camerton Report (*Camerton*, 223, no. 16 and fig. 52, 16 A–K). My attention was first drawn to it, as a type, by a photograph of one found on the 'blacklands' at Alcester.

29 (4800) Trumpet-head full-round, with small loop on top, median disc bell-shaped, but cut off flat across the back; foot flat, recessed for enamelling. Spring of four turns between two small lugs. Found south of the Chalk House.

Parallels from Newstead, Lydney, Colchester (three), Alcester, Carlisle, and one in the B.M. were illustrated in the Camerton Report, and we can now add the following: Weston-under-Penyard (Gloucester Museum) very like ours, but preserving numerous traces of applied silver rosettes and bands: Canterbury, one in the Brent collection, Royal Museum, something like the one from Leicester, but with a bullet-shaped central disc and tapered foot: Brough, Westmorland (B.M.), similar in shape to that from Leicester, the decoration on head and disc of intensely dark spots (niello?), the foot flat, expanding, and recessed for enamel: Silchester (Reading Museum), a complete example very like that from Lydney, and the upper half of one like that from Colchester (*Camerton*, fig. 52, 16 C), with many marks of rosettes and bands: Caerwent (M.O.W. excavations in Pound Lane), a small and rather poor example like that from Lydney, but the end of the foot is rounded. In all these there is little evidence for date, the second century is more probable than the first, and the Newstead brooch should confirm this.

The Backworth Type

30 (5016) A broken and distorted example, plain, but well made. The point on the head shows it had a wire loop; the button with acanthus is full-round. This plain and elegant type had a very wide distribution in the northern half of the country, especially at York. The date is Antonine. No provenance.

31 (4847) A rather poor example of the decorated type with enamelled head; the leg is unevenly moulded and may have been enamelled. Button cut off behind (Collingwood's R iv). Surface find, area XVII, Antonine.

32 (4202) A small and slender example; plain, and the button cut off at the back. Surface find, area XIX, Antonine.

33 (5430) An example of a series sufficiently distinct to merit a better description than it has had so far. The head-loop is fixed; the spring of four turns is in a box at the back; the bow is of triangular section, bearing a small transverse rib or chevron; the button has a small and neat acanthus, and the foot is flat. Earth fort ditches east of hearth above ditch filling.

Almost exact parallels are provided by *Lydney*, no. 17, and *Holt*, fig. 55, 9, which, however, have oblong heads.

The only other Backworth brooch found was *Richborough IV*, 41.

Disc and Trumpet Type

34 (4727) A small example, with broken head-loop. Enamel on disc white or colourless. The foot may or may not have had a loop or knob. Surface find south of chalk-house.

A larger example, *Richborough IV*, no. 40, was unstratified. The whole series has recently been discussed at great length by Miss K. M. Richardson in *Antiq. Journ.* xl, 200 ff. She concludes that they date between A.D. 150 and 200.

Lamberton Moor Type

These brooches are distinguished by the stud on the head and the frequent use of enamel. Four have been published, *Richborough IV*, nos. 33–36; no. 37, which has no stud is of a type which I have called after Thealby Mine in Lincolnshire; of the four two are plain and two enamelled. The series is related to the Backworth brooches. Like them it may be sprung or hinged, and may have a loose wire loop and shackle in either case, but hinged examples usually have a fixed loop. Of our four no. 33 is sprung, nos. 34 and 35 are hinged, with wire loop (the latter dated A.D. 75–90) and no. 36 has a fixed loop. It was found with another identical, making a pair, in a pit dated A.D. 80–90.

35 (4545) A large example, with hinged pin and fixed head-loop. Bow of round section with stud at head and small knob at toe; arms ribbed; no enamel. There is no close parallel. Trench outside south wall, south-east corner.

The Sawfish Type

In this series there is generally a number of teeth arranged along each side of the bow, which is usually enamelled. The bow ends in

a knob which faces forwards, and the arms may have large settings for stones. The sprung series should, typologically, be earlier than the rather more impressive hinged series. Yet the latter has, in its best examples, an elaborate feature in that the crest is made in the form of a crouching dog. This soon loses its shape and becomes almost amorphous.

36 (5095) A rather poor and flat example. The head crudely and squarely finished, bearing a thin crest (vestigial of the dog). Lateral teeth small; enamel gone. North-west of pit 288.

Richborough IV, no. 38 is another example in which the terminal knob is (exceptionally) not turned forward. It was in the inner stone fort ditch. The series appears to begin in the Flavian period.

The Eye Brooch

There is nothing to add to those already published, which are *Richborough III*, no. 7 and *Richborough IV*, no. 8, and two like *Richborough III*, 7 mentioned on p. 122 of the *Richborough IV* Report. Of the latter, one was Claudian, the other 'pre-85'. All were of late and poor type. For full discussion of the type see *Cam.* 320, type XVI.

Almgren's 'Kräftig-Profiliert' *Type*

We have called this K/P for short. One example from Richborough has been published, *Richborough IV*, no. 9, from area XVI, dated A.D. 50–80. We now add three more examples:

37 (4977) A neat little brooch with spring of eight turns and axial bar. The hook is wide, the top of the bow corroded, the button fairly carefully made, and the toe-knob is neat. Found in pit 279 at 3 ft. Last quarter of first century.

38 (4563) Spring of eight turns, hook narrow, head of bow very wide. Mouldings neat, that in centre flat behind. Found in area XVIII, dated before A.D. 85.

39 (5056) A crude example, with ill-formed mouldings which are flat behind. Spring much damaged. No provenance.

The type is not common in Britain, where it is recorded only from London, Lincoln, Chester, Wetherby, Bury St. Edmunds, and Caister-by-Norwich. There is one in Salisbury Museum. That from Caister should not be before A.D. 61, and that from Wetherby not before A.D. 70.[1]

Almgren shows the type is at home on the Danube and in the Austrian Alps; in Germany and Britain the distribution is sporadic.

[1] Since the above was written one has been identified from Nether Denton (Chesters Mus.).

The Langton Down and Rosette Types

In *Camulodunum* we divided the Langton Down type into A, B, and C. I would now prefer to combine A and B, and make C a separate type, for it is very distinct, but as yet it has no name.

40 (4502) Langton Down C. Head only, with upper part of bow and complete cylinder. The latter has the raised decoration seen on *Cam.*, pl. xcv, 106. The raised band across the top of the bow has a row of punch-marks. Area XVIII. Trench east of temple ditch, in filling.

41 (3996) Brooch of rosette pattern, neatly made, but the pin is attached across the back, as on another example, *Richborough IV*, no. 5. A rosette which was riveted to the plate is missing. The tail has an engraved zigzag line down the middle and marginal grooves. Surface in south-west area; probably Claudius–Nero.

Thus the cylindrical-headed brooches of Langton Down and Rosette types, which are so common on sites like Colchester, Silchester and Bagendon, are only represented here by half a Langton Down C and two of the latest and poorest Rosettes known—if indeed they may be admitted as such, for they are scarcely more than vestiges of the Rosette type, being plate-brooches, with keyhole-shaped plate, and as such, frequently exhibiting small lugs round the edge of the disc. There is, however, a good Rosette A from Richborough in the E. T. Stevens Collection in the B.M. (68. 7–9. 65).

Aucissa Brooches

In *Camulodunum* the Aucissa type was very fully described, and there is no point in doing this again. We divided the material into two series, A with flat bow and B with ridged bow; we had no example of C, in which the bow is of rounded section. The following from Richborough have already been published: *Richborough III*, no. 1, and *Richborough IV*, p. 122, three not illustrated, from area XVI, pit 86 (*c.* A.D. 90) and pit 140 (pre-Flavian). To these we now add:

42 (4337) An Aucissa B brooch in perfect preservation, stamped with the name AVCISSA. Details perfectly normal and typical. Found in the lower occupation level of area XIX, and therefore earlier than A.D. 85.

A list of signed examples was published by Haverfield in *Arch. Journ.* ix (1903), 236. Since then the number has been much increased.

43 (4917) Another Aucissa brooch, but this time the variant C, with bow of rounded section. The head is rather short, with deep lateral notches and two knurled mouldings. Parallels for this type of bow can be quoted from Hod Hill (*Hod Hill*, nos. C 44 and C 45) and Woodeaton (Ashmolean Mus.), and there is one from Naix in France stamped VRNACVS. From area XVII; mid-first century.

44 (6987) (Wrongly numbered?) A typical Aucissa bow and head, of B type, foot missing. Not illustrated.

45 (4717) A similar bow and foot, the head missing. This is a remarkably small example, hardly 2½ in. long. Not illustrated. South of section 19, on gully level.

46 (3895) Bow only, strongly ridged, exactly like no. 44. Not illustrated Car park site.

47 (4860) Similar example, nearly complete. Not illustrated. Area XXII, surface.

48 (4869) Similar, foot missing. Not illustrated. Area XVII, top of pillars.

49 (4701) Two very corroded fragments, almost certainly of this type. Not illustrated. Area XVII. West of outer Claudian ditch. First layer.

With *Richborough III*, no. 1 and three more noted in *Richborough IV*, p. 122, the Richborough Aucissas amount to eleven, which is a comparatively large proportion, and reflects how the site, in the mid-first century, was supplied from abroad rather than from native sources.

Only one imitation Aucissa has been found here, *Richborough IV*, no. 11, and it is so good that it also is probably imported.

The Hod Hill Type

50 (4854) A long, plain bow, tapering to a fine point, with a ridged head and hinged pin; the bow has three ribs and the catchplate is perforated as shown.

In 1947 the similar brooch *Cam.*, pl. XCII, 54 was new to us; it is now confirmed as a type, not only by the present brooch but by one from Silchester (Reading Mus. 03171), which has a knobbed foot, and by two heads in Cirencester Museum. Unstratified, but Claudius–Nero in date.

51 (5016) Another long, tapering bow with hinged head of Hod Hill type. Bow stout, of flat D-section, with knobbed toe. Down the middle is a knurled ridge between grooves; catchplate hammered, not pierced. Tip from area XVII.

There is an exact parallel from the Marberg, figured in *B.J.*, 101, Taf. IV, 4, with three round holes in the catchplate; another in the B.M., without provenance, has a single round hole; one from Silchester (Reading Mus. 03172) has no knob, but may be broken; one at Colchester (Col. Mus. 38/27) has two ridges across the head; the foot is missing. One from London (Guildhall Mus. 3426) has two large lateral knobs at the head and three bold ridges down the bow; there is the lower half of a similar bow from the Harlow temple site.

52 (Number uncertain) A small and insignificant Hod Hill brooch, almost flat, with a bold ridge on the bow.

53 (4536) A typical Hod Hill brooch; bow with four ridges and a raised wavy line down the middle, and lateral knobs at base of bow. South-west area. Cobble layer, surface clearing.

An exact parallel is in the B.M. without provenance. Two from Ham Hill (Taunton Mus. A 1152) and Harlow have multiple moulded foot.

54 (4879) A well-preserved example with four ridges on bow and knobs at the shoulder; transverse mouldings at button strongly developed. Found in pit 245 north, which runs up to mid-first century. Pit 245 N. 2 ft. 6 in. below gully level.

Richborough IV, no. 16 appears to be a clumsy copy of this; *Cam.*, pl. XCVII, 143 has a similar button.

55 (4557) A fragment, crushed flat, with a knurled central ridge between flutings. The edges are scalloped as shown. Area XIX on surface of upper road.

There is an exact parallel in a fragment from Silchester (Reading Mus. 03158a). A complete brooch from Broxstowe (Nottingham Mus.) is similar, but the edges present what is more like a series of points, while a complete brooch from Silchester (Reading Mus. 03161a) has five square teeth on each side of the bow.

There is but little doubt that these projections are vestigial of knobs originally set on bars passing through the bow. On this subject see *Bagendon*, figs. 33–35.

56 (4666) In two pieces, too corroded to draw. Bow narrow, parallel-sided, with heavy cross-mouldings at each end. Area XVII. South of Chalk House, bottom layer. It may have been a rather bolder version of a brooch like, *London in Roman Times*, fig. 26, 16 (for which there are many parallels), or one of those with bars and knobs such as *Bagendon*, fig. 35, 2.

57 (4779) Foot only of a very corroded example like no. 53 above. Not illustrated. Area XVII. Material of north–south road.

58 (3422) Bow and head only, the bow with two broad flutings and lateral lugs at the base. Not illustrated. Outer ditch, bottom layer.

59 (5058) A complete example of small and complicated type; there are many cross-mouldings, one of which is triple and knurled; another is large, oval and smooth; another is quadrangular, with a sunken disc in the centre. Foot very slender. There is no close parallel to this. No provenance.

60 (5134) Very small, short, and simple; much resembling *Richborough III*, no. 11, but having a bold ridge across the head and a round hole in the catchplate. Found in the middle earth fort ditch, filled in about A.D. 285.

Despite this and the lack of parallels these two brooches should be mid-first century. One even smaller, of the same general shape, but

with a long, narrow cross-bar in the middle of the bow, bearing a row of niello crescents was found in Canterbury in 1947.

With 21 Hod Hill brooches previously published[1] the total for Richborough is now 32, which leaves us in no doubt of the popularity of this type with the Roman army in the middle of the first century.

An Inscribed Brooch

61 (4240) Bow short and broad, forming one wide fluting, in which are scored the letters SI AMAS EGO PLVS, 'If you are in love I am more so'. The foot consists of a series of mouldings, the thin ones knurled, and one with melon-like markings. Found in the drain of the north–south road.

This is a foreign type, rare in this country, where it has only been found at Camerton (*Camerton*, no. 30*b*) and in four examples at Nor'nour in Scilly. The type is Exner, Taf. vii, b. and the Scilly examples are sufficiently distinct for them to have been made at Nor'nour. The date is second century.

Note that for the inscription to be read correctly the brooch must be worn point upwards—a fact already clear to us from other evidence. The inscription is well known, see *C.I.L.* xiii, 10027.150.

Plate-brooches

62 (3945) A remarkable brooch representing a sea-animal (horse?) in full round, the mane indicated by two knobs, and the tail a thin plate with scalloped edges (possibly there was a loop). At the base of the chest the metal appears to be broken, as if two short legs may have projected forward. Pin hinged between two lugs. There is no parallel at present. Surface, south-west area.

62 a and b (No numbers) Two brooches similar to *Richborough IV*, no. 6; apparently all three had arms of approximately equal length.

62 *a*. A round pit at the centre-point, around which is a band containing fifteen similar pits. Lateral terminals missing.

62 *b*. Small hole in centre, surrounded by a smooth, sunk band; two terminals missing. This brooch lacks the usual grooves between the terminal knobs. Both have simple, hinged pins. Not illustrated.

The type is well known in the middle of the first century. It is recorded from Vindonissa and Autun; from Hofheim (*Hofheim*, Taf. x. 261); Bingen (*Cat.* 163, Abb. 77, 13); Mohn (Hettner, *Drei Tempelbezirk*, Taf. iv, 31); and Mainz legionary fortress (*M.Z.* vi, 105, Abb. 24, 16). Thus those found in Britain are to be regarded as imported from A.D. 43 on. The list is as follows: Colchester, three from the Camulodunum site (*Cam.*, pl. xcviii, 165), all date between A.D. 50 and 65; Wor Barrow, (*Cranbourne Chase*, iv, pl. 258, 14); Odiham, Kent; and Cholesley Farm, Hants., excavated by Miss

[1] Viz. *Richborough III*, 2–6, 8, and 11(?); *Richborough IV*, 12–20, 23, 24, and three not illustrated.

D. M. Liddell in 1937. An unusual example in Saffron Walden Museum, possibly of local provenance, resembles *Cam.* 165 in form, but the twin terminal knobs are on divergent, curved extensions.

63 (4506) Small flat disc-brooch, the field filled with white or colourless enamel in which are eight bronze spots; the round centre which is vacant, probably held a stud; pin hinged. Surface find.

There is an exact parallel from Wroxeter; others from St. Albans, York, and Chew Stoke, have only five or six spots. One from Silchester retains a conical stud in the centre.

64 (3956) A similar brooch but the whole field once held enamel, all of which is missing; there is one very small hole in the centre. The enamel may have been chequered mosaic. Earth at south end of Sandwich Bay.

65 (4805) Enamelled disc-brooch, the field divided into two bands and a central disc. Enamel in outer band uncertain, in inner band blue; central space vacant, may have held a stud or enamel. Pin hinged. South of west wall in trench IV, above upper pebble layer.

65a (5308) A flat brooch formed of a disc, recessed for enamel, with two loops rising from acorn-like appendages. Middle fort ditch, 0–2 ft.

There are somewhat similar brooches at Hofheim (*Hofheim*, Taf. x, 258–60). The significance of no. 258 is explained by a much better example in Colchester Museum in which the projections are clearly vases, with a snake rising from each and forming the loops. All are Claudian.

66 (4479) Enamelled disc-brooch with a deep groove round the central conical boss, which ends in a knob. At the foot a flat disc stamped with concentric circles, at the head a small loop with two mouldings beneath it. Equally spaced on the periphery are six small knobs. Pin hinged. The outer band is enamelled with a white ovolo on a green ground; on the central boss are five white ovals on a green ground. Part of a bronze chain is attached to the loop, so the brooch formed one of a pair. Surface near south wall inside stone fort.

Richborough III, no. 14 is a similar brooch, but with a quatrefoil in the centre. One from Caerleon in the National Museum of Wales is enamelled in blue, white, and yellow. One from South Ferriby in Hull Museum has blue (and white?) enamel; these two have quatrefoil centres, but one in Peterborough Museum, in red and blue, has a cinquefoil centre. These brooches are British, and are the work of craftsmen; some day we shall find where they were made. The same works produced the toilet-set brooches, which have the same ovolo-motif, such as that in Canterbury Museum (*Proc. Soc. Ant. Lond.* vii, 376) and the one from Baldock in Letchworth Museum. This particular form of ovolo does not appear among Bequet's[1] enamelled

[1] A. Bequet. 'La Bijouterie chez les Belges', in *Annales de la Société archéologique de Namur*, xxiv. 237–76.

brooches from Anthée near Namur, nor in Exner's work on the enamelled brooches of the Rhineland, nor in Sellye's review of enamelled work in Pannonia.

67 (4873) Almost flat, very corroded, consisting of a square plate set obliquely, which had small discs at the lateral angles and one end (at least) zoomorphic; the other end is missing. No enamel remains. Found in area XVII/32, west of north–south road.

It belongs to Exner's first group, with hinge across head, Taf. VIII, 13, series 39, where he lists nine examples from second-century sites, including Heddernheim, Saalburg, and Stockstadt. Compare *London in Roman Times*, fig. 24, 7, and there is a small one at Warrington (May (1906), pl. VI, 6).

Richborough IV, 49 is another enamelled lozenge.

68 (4137) An ill-made and distorted brooch, with flat bow divided by cross-mouldings into three rectangular faces recessed for enamel, the central one with a small round boss, with an eye of white(?) enamel. The present angle of the foot and position of the hinged pin show that the bow must have been originally semicircular. The work is very inferior. Found on surface in south-west area.

This also comes in Exner's first group, series 11, Taf. VI, 13; compare also no. 16 in series 13; four are listed from Mainz-Zahlback, Bingen and Trier (with Trajanic pottery), and Trier Tempelbezirk.

69 (No number) A similar brooch, smaller, the bow slightly tapered and foot much moulded. The work is poor. The three cross-mouldings at the head seem to have been intended to be corded or beaded; the enamel in the upper rectangle is green, in the central one yellow, the rest is uncertain.

This belongs to Exner's group 1, series 18, Taf. VII, 4, but his foot seems usually more plain. Ten examples are listed from sites including Saalburg, Heddernheim, and Miltenberg. The only British parallel for these two brooches is one from Silchester (Reading Mus. 03232); two others, *Richborough III*, no. 16, and *London in Roman Times*, fig. 28, 24, have flat bows sharply angled at each end.

Rectangular Plate-brooches; double-ended

70 (4152) The plate is almost square, laterally ridged; one ridge is indistinctly knurled; in the middle are six triangles for enamel, now empty. Surface find, south-west area.

This compares with Exner, group 2, 1, but his bows are not so flat, and lack the triangles, and the lugs at the corners. Our brooch probably had small lugs at the four corners (cf. *Richborough III*, no. 15), as had at least one of the two examples from Nor'nour, Scilly.

71 (4472) Similar, imperfect. The centre plate oblong, with transverse ridges obscured by corrosion, possibly enamelled. *Richborough III*,

no. 82 is somewhat different, and close to another from Nor'nour. Surface, south-west area inside fort.

Late Brooches with Sheath-foot

72 (4921) Brooch with triple bow, the three limbs running from a knobbed triangular head-plate to a three-lobed plate at the button; foot missing. Diagonal trench IV, near west wall.

73 (4696) Part of another, exactly similar. Not illustrated. Surface. Area XVII.

Richborough II, no. 13 is a third example, and a fourth is mentioned there but not illustrated. The date is mid-third to fourth century.

Similar brooches are recorded from Corbridge, South Shields, York, Colchester, and Canterbury. Some have only two limbs.

74 (4022) A very plain brooch with cylindrical head and double bow; the profile is distorted. Surface find, south-west area.

Poorer work than *Richborough II*, no. 12, but just like one from York, recorded as in the Whincopp Collection in Way's Album in the library of the Society of Antiquaries, and one from Weeting in Norwich Museum. See also Jacobi, *Saalburg*, Taf. 1, 12.

75 (4237) Another similar, but more elaborate and tinned. The head has a wavy crest (cf. *Richborough II*, 11). Both arms of bow, the mouldings below, and ridge of the foot are knurled. The toe has a moulded end and there are two rows of punch marks down the leg. The catch is long and heavily cast. From south-west diagonal trench.

A similar brooch is in Colchester Museum; see also one from Corbridge (*Arch. Ael.*[4] iii, 402, fig. 19); Kirkby Thore (*C. & W. Trans.* xix, no. 5*b*); Carlisle (*ibid.* 5*a*); Aldborough, Yorks.; and Caister-by-Norwich. Richborough scores heavily with seven examples of this type, including *Richborough II*, nos. 11, 12.

Late P-shaped Brooches

Though we have none to report, three P-shaped brooches have been found on the site; *Richborough III*, 13 belongs to a rare and very interesting type, which we may call the 'Corbridge' type. The bow is recessed to receive a curved strip of metal which bears large ornamental knobs. The few examples known are all British; these include: Corbridge, two examples, 1910 report, nos. 20, 21; Caerleon (*Arch.* 78, fig. 14, 7), and South Shields; these are all typical, and all are from military sites.[1] A brooch from Manton, in Lincoln Museum looks like one of these which has lost its inset, and the lower half of one from Studland is perhaps another case of this. A third example from Corbridge has five very small knobs on the inset, which is gilded between them.

[1] Since this was written I find there is yet another, from Kirkby Thore in Carlisle Museum.

The inset is not a new idea; some examples are published by O. Kleemann in *Germania*, xxxi, 27 ff. The insets are long narrow strips standing up like a crest, but the spring is totally different from the British examples.

Richborough IV, nos. 54 and 58 are of a more usual type, but *Richborough IV*, no. 53 with its triangular head seems without parallel, though one from South Shields is near to it and to Kovrig, Taf. XVII, 173 and 174.

Crossbow Brooches

76 (3763) Crudely made, or even unfinished. The ends of the crossbar seem to have been left roughly shaped for knobs to be attached, and the central knob is represented by a square stem only. The foot is moderately well finished, and on the bow are two unusual small cuts near the foot. Stray find.

77 (3971) Corroded, the central knob missing; bow very plain of rectangular section, details of foot obscured. Surface, south-west area.

78 (4313) Bow and part of head only, tinned and very corroded.

This is part of a light crossbow brooch like *Richborough IV*, no. 56; a very similar one is in York Museum. Not illustrated. Surface, south-west area.

79 (No number) Head and part of bow only, very corroded, from a brooch like *Richborough II*, nos. 14, 15 and *Richborough IV*, no. 61. Another like *Richborough II*, 14 was not illustrated.

80 (5249) A complete brooch, but not typical, for the knobs are comparatively small, the crossbar long, solid, and the foot short. Top of pit 304, probably about A.D. 350.

A very similar brooch from Bath in the B.M. (81. 1–25. 1) is of silver decorated with niello. Other examples in this class are *Richborough I*, no. 9, and *Richborough IV*, nos. 55, 59, 60–62.

81 (5135) A complete brooch, crossbar rounded, not hexagonal, with small projections on the front (cf. *Richborough II*, no. 18). The catch opens on the wrong side. Pit 293.

Another crossbow brooch is mentioned in the second report, where it is said to be similar to *Richborough II*, no. 14.

82 (No number) A well-made mammillate knob on a short pin with screw-thread on shank. Found over the earth fort ditches. Compare two others, *Richborough II*, no. 20 and *Richborough IV*, no. 66.

83 (No number) Another such pin, damaged. Surface, south-west area.

It is curious that Richborough has produced four of these quite scarce screwed pins, which were designed to secure the pins of the heavy crossbow brooches against loss. There are two from Silchester in Reading Museum.

Other heavy crossbow brooches are *Richborough II*, nos. 16–20, and *Richborough IV*, nos. 64–66.

Late Brooch

84 (5346) Almost complete brooch like *Richborough IV*, no. 51. The spring was in a box on the back of the head, held on a bar between two small lugs. The curved part of the bow is quite hollow at the back. Foot quite flat, with small catchplate. Inner fort ditch. Between sections 44 and 46A, 0–3 ft.

This type is presumably late, and is but little known. Good examples are *Corbridge* (1910), fig. 23, and *Richborough IV*, no. 51. There is one in Carlisle Museum from Lazonby (*C. & W. Trans.* xix, no. 1). Similar, but with a thin solid bow is one from Traprain Law (*P.S.A. Scot.* lxvi, 334) and compare the ornate brooch *Lydney*, no. 15.

Penannular Brooches

85 (4233) Penannular brooch, the ends flattened and rolled upwards; ring of round section, corroded. Surface, south-west area.

86 (5378) Similar, one end missing; pin much curved. Not illustrated. No provenance.

This is the early form, which we called Class A in the Camulodunum Report (*Cam.* 326). It is not at all rare and extends over the south of England from Lydney northwards to Thistleton and South Ferriby. It is probably entirely pre-Flavian. With *Richborough I*, no. 26 there are three from Richborough.

87 (4932) A stout hexagonal ring, tapered to the ends, which are turned back in the same plane and bear moulded knobs (one missing). Pit 271, Claudian.

88 (4630) Penannular bronze brooch with terminals bent back over themselves and lightly knicked. This is Fowler's Type D.1., which she dates first–third century A.D. (*P.P.S.* xxvi (1960), 151). To the distribution list (*ibid.* 176) add Lydney, Glos. (*Lydney*, fig. 14. 30). Area XVII, south-west corner of Chalk House, above concrete floor.

89 (4875) Penannular bronze brooch with milled knobs: part of the pin survives. This is Fowler's Type A.2. (*P.P.S.* xxvi (1960), 151). To the distribution list (*ibid.* 174) add Newstead (*Newstead*, pl. LXXXVII) and Stanwix, Cumberland. (*Antiq. Journ.* xi, pl. VII, 45). West section 19, in mound between inner and middle ditches: bottom layer.

Three other penannular brooches were described in *Richborough II*, nos. 6–8.

A number of plate-brooches and two knee-brooches, published in previous Reports have not been mentioned above, for on the whole they call for little comment and mostly would need to be illustrated again. It may suffice to mention that there are two with paste stones set in

the centre, one square, the other star-shaped (*Richborough IV*, nos. 7 and 10); then there is the remarkable bull's head in Celtic work (*Richborough IV*), 29, and two of the fourth-century disc-brooches which are gilt, with a conical central glass stone.

Other Objects of Bronze, Iron, Silver, Lead, Bone, and Stone

By Miss M. G. Wilson, F.S.A.

(Pls. xxxiv–lxiv)

90 (5286) Helmet-plume stiffener or support of bronze, with an unusual base, curved to fit the helmet: this base is broken at each end, and once had two arms projecting at right angles on one side; their stumps remain; the base was probably once riveted on. Parallels exist at Novaesium (*Novaesium*, Taf. xxxiv, 73); Aislingen (Taf. 20, 15); Ulbert, *Der Lorenzberg bei Epfach* (1965), Taf. ii, 13, and xxiii, 3. Pit 314.

91 (5571) Bronze scabbard chape for dagger, similar to one from Colchester (*Arch. Journ.* cxv, 77, fig. 4, 71) and others from Newstead (*Newstead*, pl. xxxv, 13), Caerleon (*Caerleon, 1927–9*, fig. 36, 15, with a suggested date of *c.* A.D. 120–200), Corbridge (Collingwood, *Arch. of Roman Britain*, fig. 66 l). Cf. *O.R.L.*, Abt. A, Bd. III, 40, Stockstadt, Abb. 7, nos. 11, 13, and Zugmantel, *ibid.*, Abt. B, Bd. II, Taf. xi, 4; and two from Novaesium (*Novaesium*, Taf. xxxA, 24 and 29). Area VI.

92 (5422) Bronze scabbard-chape similar to 2, but larger, for sword. Middle earth fort ditch, 0–2 ft.

93 (4221) Bronze hook of *dolabra* sheath. Cf. *Wroxeter III*, pl. xx, 3; *Camulodunum*, pl. ciii, 3; *Hod Hill*, fig. 5, A137. Surface find. In the south-west area inside the fort.

94 (5192) Bronze hook of *dolabra* sheath. Cf. 93 above. Unstratified.

95 (3298) Bronze belt buckle of military type with parallels at Hod Hill, cf. *Hod Hill*, A.91, Claudian, and one from the 1957 excavations at Verulamium in a Claudian deposit; cf. also *Newstead*, pl. lxxvi, 3, probably Flavian. Bottom of outer ditch.

96 (5465) Bronze belt buckle, similar to 95 but with triple moulding. Parallels exist from Waddon Hill (*Arch. Journ.* cxv, 93, fig. 7, 213, Claudian–Neronian) and Camulodunum (*Camulodunum*, pl. cii, 20, with double moulding, *c.* A.D. 60). Found at the bottom of the inner earth fort ditch.

97, 98 (4793, 4974) Two bronze belt-buckles, one with an iron pin. Cf. *O.R.L.*, Abt. B, Bd. V, Hüfingen, Taf. xi, 41, and *Wroxeter III*,

pl. xxi, i, 5, there dated probably *c.* A.D. 80–120. Both, area XVII. Surface.

99 (2828) Bronze hinged fastener. A parallel exists at Fishbourne (1962 excavations—pre-Flavian). Cf. *Hod Hill*, A.97–102. Pebble area west of trenches 6 and 7.

100 (4477) Bronze belt-buckle with stylized horses' heads. Type Ib (British-made) of S. C. Hawkes and G. C. Dunning (*Med. Arch.* v, fig. 15 g) and assigned by them to the late fourth or early fifth century. Surface find. South-west area inside fort.

101 (4336) Bronze buckle attached to plate; the barred tongue appears, both early (London, *Arch. Journ.* cxv, 87, fig. 6, 167) and late (e.g. late fourth-century buckle from Lydney, *Med. Arch.* v, fig. 18 *a*). Area XIX. Lower occupation layer.

102 (5069) Bronze hinged fastener, perhaps for the baldric; cf. *Hod Hill*, A.100. Pit 78: 6 ft. down.

103 (4616) Bronze buckle-plate. The openwork decoration is similar to the late Roman examples from Leicester and Holbury (West Dean), Hants. (*Med. Arch.* v, fig. 17 *g*, *h*); S. C. Hawkes and G. C. Dunning, type II A (British made). No provenance.

104 (4023) Bronze buckle-plate. The geometric style is suggestive of late fourth-century chip-carving, and the plate may be compared with late Roman examples illustrated in *Med. Arch.* v, figs. 17 and 18 *a*. Surface find. South-west area inside fort.

105 (4170) Bronze buckle- or belt-plate similar to 106. Cf. *Wroxeter III*, pl. xxi, i, 1; *O.R.L.*, Abt. A, Bd. IV, Taf. 24, 94, and 98. Surface find. In the south-west corner of the fort.

106 (5354) Bronze buckle-plate fragment, resembling an example from Osterburken (*O.R.L.*, Abt. B, Bd. IV, Taf. 6, 36); cf. similar openwork decoration on an oval buckle from Zugmantel (*O.R.L.*, Abt. B, Bd. II, Taf. x, 51). Area between trenches 46 A and 44: 0–3 ft.

107 (1942) Bronze buckle-plate with repoussé decoration, probably fourth century. Cf. a similar example but with punched decoration from Intercisa (*Intercisa*, ii, Abb. 100, 10 and p. 467, 53). Narrower plates with repoussé decoration are known from Stockstadt (*O.R.L.*, Abt. B, Bd. III, Taf. viii, 24) and from Colchester (*Rom. Colchester*, fig. 47, 8). No provenance.

108 (3674) Enamelled bronze belt-plate with two studs at the back and some red enamel remaining in the circle at the top round a void for a stud. The four slightly sunken panels also probably once held enamel as on a plain rectangular belt-plate from Caerleon (*Caerleon, 1939*, fig. 7, 30, found with early second-century pottery). A somewhat similar plate from Hofheim (*Hofheim*, Taf. ii, 9 and p. 16, 13) had traces of enamel on the central part, and there is multi-coloured enamel on one from Lydney (*Lydney*, fig. 20, 97). Unstratified.

109 (4678) Bronze openwork plate perforated at the corners for attachment, probably to a belt. Area XVII. West extension, outer ditch filling, third layer.

110, 111 (4894) Bronze cuirass buckles, 111 from Gully 5. First-century examples can be quoted from *Richborough III* (pl. XII, 39*g* and 40); *Hod Hill*, fig. 3, A.54; *Camulodunum* (pl. CII, 6 and 9); and *Hofheim* (Taf. XI, 12, 13, 15–19). Cf. *Arch. Journ.* CXV, 87, fig. 6, 159.

112 (4922) Bronze cuirass-buckle and plate. Diagonal trench IV. In chalk layer.

113–15 (5641, 5369, 5673) Bronze cuirass-hinges. All unstratified.

116 (4733) Part of a plain hinged strip of bronze, probably from a cuirass. Cf. *Arch. Journ.* CXV, fig. 5, 126, and *Hod Hill*, fig. 3, A.73. Area XVII. West extension, south of Chalk House, surface.

117 (4435) Bronze plate and hook, perhaps from a cuirass. Cf. *Arch. Journ.* CXV, 93, fig. 7, 206; *O.R.L.*, Abt. B, Bd. II, Wiesbaden, Taf. X, 43. Surface find. South-west area, inside fort.

118 (5203) Bronze tongue-shaped strap-end of the same general type as *Richborough II*, pl. XXI, 49, which is dated to the fourth or fifth century; cf. *Richborough IV*, pl. XXXVI, 113 with openwork decoration from a pit of *c.* A.D. 350; and the late fourth-century example from Dyke Hills, Dorchester-on-Thames (*Med. Arch.* V, fig. I, 11), which lacks the terminal boss. Unstratified.

119 (4149) Amphora-shaped bronze strap-end, with circular and openwork decoration, which would have been hinged to a small square plate as at Intercisa (*Intercisa*, II, Abb. 103, 8 and p. 463, dated to the fourth century). Cf. *O.R.L.*, Abt. B, Bd, II. Wiesbaden, Taf. X. 38 and *Richborough II*, pl. XXI, 47, a type dated to the fourth or fifth century. Surface find. South-west area, inside fort.

120 (3298) Bronze strap-end, probably fourth-century in view of its position. Cf. *O.R.L.*, Abt. B, Bd. II, Zugmantel, Taf. X, 76 and 78; *Caerleon 1927–9*, fig. 34, 36; *Segontium*, fig. 62, 7, and Stanwix (*Antiq. Journ.* XI, pl. VI, 9, probably *c.* A.D. 125–50). From the bottom of the outer ditch.

121 (4292) Bronze strap-end, slightly more elaborate than 120. Cf. *Newstead*, pl. LXXVI, 15; *Segontium*, fig. 61, 15. Diagonal trench I: 110 ft. along, 5 ft. 6 in. deep.

122 (4841) Bronze openwork strap-end, perforated for attachment. Cf. *O.R.L.*, Abt. A, Bd. II, ii, Strecke 3, Taf. 13, 35 and pp. 159, 39. Area XVII. Unstratified.

123 (5296) Bronze openwork strap-end with stud for attachment. Inner fort ditch. In clay layer.

124 (5563) Bronze belt or apron mount. Cf. *Caerleon Amphitheatre*, pl. XXXII, 5, *Newstead*, pl. XCII, 4. A similar mount, with traces of enamel,

was found in the 1959 excavations at Verulamium in the ruins of a building burnt down *c.* A.D. 150–5. Unstratified.

125 (5585) Bronze belt or apron mount. Area VI. East of Claudian ditches, 0–2 ft. above level of filling.

126 (4577) Mount for a strap with studs for attachment. The surface has been silvered, and the circular boss, riveted by its stud which penetrates the plate behind, has traces of niello inlay. Traces of an engraved pattern, where this has penetrated the silver (most of which is here worn away), survive on both the square and rounded portions of the plate. Above the boss a break occurs, but the mount can be restored as figured from examples at Aislingen (*Aislingen*, Taf. XVIII, 1–6); Thamusida (Boube-Picot, 'Phalères de Maurétanie Tingitane', *Bulletin d'Archéologie Marocaine* V (1964), pl. XIII, 1); and Camulodunum (*Camulodunum*, pl. CIII, 20. Area XVIII. East end.

127 (5628) Fragment of an ornamental bronze mount, perhaps pelta-shaped like a smaller one from Camulodunum (*Camulodunum*, pl. CIII, 32) and others from Novaesium (*Novaesium*, Taf. XXXII, 38, 43, and 47). Site IV: just above layer of oolite chippings.

128–30 Pelta-shaped bronze strap-mounts with studs for attachment; cf. examples from Stanwix (dated *c.* A.D. 125–50, *Antiq. Journ.* xi, pl. VI, 15 and 16); the Langton villa (Corder and Kirk, fig. 18, 11); Novaesium (*Novaesium*, Taf. XXX B, 50); and the mother-of-pearl 'Pendant' from Wroxeter (*Wroxeter III*, pl. XXI (2), 3) perhaps once applied to such a mount. 128 (5233) is unstratified; 129 (4060) is from area XIX; 130 (4845) is from area XVII, north of Chalk House.

131 (No number) Devolved pelta-shaped bronze mount decorated with incised concentric circles. Cf. the more complete example, *Richborough IV*, pl. LII, 129. No provenance.

132 (4892) Part of an ornamental bronze mount with loop at the back for attachment perhaps to a strap. Area XVII. Pit 252.

133 (5584) Bronze *phalera* with central perforation. Area VI. East of the Claudian ditches, 0–2 ft. above the level of the filling.

134 (5209) Lunate bronze object, with no studs for attachment. It could perhaps be sewn to leather. Cf. *Newstead*, pl. XCII, 3. Unstratified.

135 (5388) Bronze leaf-shaped mount decorated with punched incisions and lacking specific means of attachment. Area XXIV. 1–2 ft.

136 (5429) Bronze mount. Found at the bottom of the middle earth fort ditch.

137 (4954) Flat bronze ornament with incised circles, perhaps representing a peacock's feather or a shell. Area XVII. Pit 276, 6 ft. from top.

138 (5163) Disc-headed bronze dress-fastener; cf. *Hod Hill*, fig. 5, A.130. Claudian–Neronian. Gillam (in I. A. Richmond (ed.), *Roman and Native in North Britain* (1958)) attributes a native origin to these

fasteners. Found at the bottom of the inner earth fort ditch between sections 46 and 20.

139 (5063) Bronze dress-fastener with domed head; cf. *Hod Hill*, fig. 5, A. 127–8. Area XXII. Surface find.

140 (5611) Looped fastener of bronze. For a variant shape see *Richborough I*, pl. xv, 28. Site IV. Surface find.

141 (4722) Bronze object, broken at the lower right-hand end; perhaps a faulty casting for a harness ornament? Unstratified.

142 (4763) Bronze pendant or amulet. Cf. *Devizes Museum Cat. II*, pl. LXVIII, 4; *Richborough IV*, pl. XL, 156; *Lydney*, fig. 18, no. 65; *B.M. Roman Guide*, 52; *Camulodunum*, pl. C, 18. For a general account see *P.S.A.L.*[2] XXX, 54–63. Trial trench IV. Pit 258, 3 ft. below the surface.

143 (4304) Part of a bronze oxhead amulet reconstructed after pl. XII A of the *Colchester Museums Report* 1930. See references cited under no. 51. Diagonal trench II. 100 ft. along, 2 ft. 6 in. deep.

144 (4111) Bronze toggle (or cheek-piece for bridle?) probably with enamel insets (now missing). This closely follows a native pre-Roman type, e.g. from the Polden Hill hoard (British Museum, *Guide to Early Iron Age Antiquities* (1925), 144, fig. 163; *Later Prehistoric Antiquities of the British Isles* (1953), pl. XIII, 4; C. Fox, *Pattern and Purpose* (1958), pl. 72 *a*) but the decorative pattern shows devolution. Site I. In mortar of courtyard wall.

145 (4458) Bronze mount or phalera with repoussé central boss and remains of a loop at the back for attachment. If this is part of a harness-mount, the broken circle on the left could have carried a pendant like those published by Boube-Picot ('Phalères de Maurétanie Tingitane,' *Bulletin d'Archéologie Marocaine* V (1964), pl. IX–XI.) Another attachment appears to have been broken away on the right. Area XXI. In sand.

146 (5047) Bronze crescent-shaped harness-trapping. First-century parallels exist from Hod Hill (*Hod Hill*, fig. 3, A. 43), Richborough (*Richborough IV*, pl. LI, 181) and Hofheim (*Hofheim*, Taf. XIV, 5). Others are shown hanging from circular *phalerae* (Boube-Picot, *op. cit.*, pls. I–VI). Unstratified.

147 (No number) Bronze harness-pendant in the form of a vine leaf. Cf. *Richborough IV*, pl. LVI, 275; *Arch. Journ.* CXV, 77, fig. 4, 59; and *Hofheim*, Taf. XIV, 3.

148 (5334) Bronze leaf-shaped pendant. Outer earth fort ditch, between sections 44 and 46.

149 (4857) Cock cast in solid bronze; it was probably attached at the base, perhaps to a shaft like that from *Camulodunum* (pl. C, 21). Another from Weissenburg (*O.R.L.*, Abt. B, Bd. VII, Taf. VIII, 4 and p. 33, 7)

has a hollow base and was riveted to a shaft. Bird figures are not infrequent on sacred sites as at Woodeaton, Willingham Fen, Lydney and (presumably) Thoroughsale Wood near Corby (Northampton Museum); cf. two with funerary associations at Intercisa (*Intercisa*, i, Taf. xxi, 15, 16). Unstratified.

150 (5283) Bronze pendant in the form of a bell with remains of an iron clapper. Bell pendants have been noted at Richborough, Hod Hill, Newstead, London, and Camulodunum, and at Zugmantel and Hofheim, though none has this exact shape. Pebble area east of section 46.

151 (4238) Bronze *caduceus*, no doubt from a statuette of Mercury. The treatment of the snake-heads is reminiscent of the confronted dolphins on several late Roman zoomorphic buckles (*Med. Arch.* v, figs. 6, 13, and 17). Diagonal trench II. 2 ft. 6 in. deep.

152 (4459) Part of bronze jug-handle, cut or broken at each end, and bearing traces of solder at the back low down. Area XXI. Surface find.

153 (5293) Penannular bronze bracelet of three twisted flat strands. Fourth-century parallels exist at Richborough (*Richborough IV*, pl. xlix, 11) and Lydney (*Lydney*, fig. 17, N). Pit 314.

154 (4235) Bronze bracelet of two strands. Diagonal trench III. 3 ft. deep.

155 (No number) Bracelet of solid bronze tooled in imitation of the twisted strand type; the hook-and-eye fastening is broken. Very similar to *Richborough II*, pl. xxii, 59. No provenance.

156 (4480) Bronze bracelet with spiral fastening. Cf. *Richborough III*, pl. xiv, 45, dated after A.D. 330. Area XXI. Surface find.

157 (No number) Penannular bronze bracelet with engraved decoration. Cf. the fourth-century example *Richborough IV*, pl. xlix, 4. No provenance.

158 (4863) Fragment of decorated bronze bracelet. Area XXII. Pit 256.

159 (5441) Small penannular bronze ring, perhaps an ear-ring, or child's bracelet. Inner earth fort ditch. 3 ft. down.

160 (4180) Inscribed bronze ring, perhaps a signet-ring. Professor J. M. C. Toynbee writes: 'This ring, now lost and known only from a drawing, is obviously Christian and must date from the fourth century A.D. The exterior face takes the form of nine rectangular panels separated from one another by vertical lines and each adorned with a border of dots. The panel on the bezel is larger than the panels on the hoop and bears the Chi-Rho monogram, ☧ flanked by Λ and ω, the Alpha (which lacks a cross-bar) and Omega being shown upside down when the Chi-Rho is seen the right way up. The bezel device, if used as a signet, was presumably worked in intaglio, in which case, on the impression, the head of the Rho would have been on the wrong side of its down-stroke and the Alpha and Omega on the wrong sides of the monogram, except when the latter was viewed upside down. The

eight panels on the hoop carry an inscription, presumably in relief or incised, the letters of which correspond in their direction to that of the Alpha and Omega—IVSTINEVIVASINDEO "Justinus, may you live in God". This is a very common early Christian formula, a prayer that the person addressed may be united to God both in this life and in the next. The ring is likely to have been given as a present to a Christian named Justinus.'

The nearest parallels to this ring, as regards its inscription, among finds from Roman Britain are: (i) a gold ring unearthed in 1829 in the Roman fort at Brancaster in Norfolk, and now in the Castle Museum, Norwich (*JBAA*, Ser. 3, xvi, 1953, p. 19, pl. 4, fig. 6). It bears on the bezel two very crude confronted busts in intaglio with VIVAS | INDEO, in letters, partly incised and partly punctured, above and below the busts. This inscription, which reads from left to right on the bezel itself, but retrograde on an impression, may well be secondary, added when the ring was presented to a Christian. (ii) A gold ring found at, or near, Silchester in Hampshire, now at The Vyne, Basingstoke (*ibid.*, pp. 19–21, fig. 6, p. 20). On the bezel is in intaglio a female bust labelled VE | NVS. Engraved on the hoop, clearly at a somewhat later date, is a secondary Christian inscription reading SENICIANEVIVASIINDE(o), 'Senicianus, may you live in God'. The engraver, through some blunder, doubled the I in IN and so left himself without room for the O in DEO.

The Brancaster and Silchester rings seem to have been originally pagan objects adapted to Christian use. The Richborough ring, on the other hand, is wholly Christian, although the engraver has muddled the Christian device on the bezel.

For this bezel-device and for the Richborough ring's completely Christian character three parallels from Roman Britain, all with plain hoops, may be cited: (i) and (ii) a couple of silver rings with square bezels found in the villa at Fifehead Neville in Dorset (and known now only from drawings), on one of which a dove and two palm- (or olive) branches are combined with the Chi-Rho monogram (*ibid.* p. 19, and note 7). (iii) A gold ring discovered at Brentwood in Essex in 1948 and carrying a round bezel with a dotted border. (*ibid.*, p. 19, pl. 4, fig. 5). On none of these do Alpha and Omega flank the monogram. The Brentwood ring is clearly a signet with the Chi-Rho on its bezel engraved in reverse. But if the Fifehead Neville rings were used as signets their devices would have appeared the wrong way round on the impressions, as in the case of the Richborough ring. Surface find in the south-west corner of the fort.

161 (5393) Bronze signet-ring with empty bezel. Area XXIV. 1–3 ft. down.

162 (4294) Bronze ring with (?) glass inset, now lost, and known only from the drawing. Diagonal trench I. 140 ft. along, 6 ft. down.

163 (3966) Amber glass inset from a signet ring with the head of a youth, left, perhaps Hermes. Surface find. In the south-west corner of the fort.

164 (5372) White glass inset from a signet ring showing two cornucopiae and a standard. Unstratified.

165 (4195) Bronze finger-ring with rectangular grooved decoration. Cf. *Richborough IV*, pl. xxxv, 101. Surface find. In the south-west corner of the fort.

166 (4319) Bronze pin with hooded human head, probably male. Surface find. In the south-west corner of the fort.

167 (5483) Bronze pin, perhaps a hairpin, with openwork head probably terminating in a crescent like the example from Poultry, London 'somewhat reminiscent of a military standard' (Wheeler, *London in Roman Times*, fig. 32, 3). Another, from Walbrook, London (*B.M. Guide to the Antiquities of Roman Britain* (1951), fig. 14, 13) shows spherical pendants attached to the two chains. Inner earth fort ditch. Inner side.

168 (4424) Bronze pin with head in the form of a duck. Cf. one from Kapersburg (*O.R.L.*, Abt. B, Bd. II. ii, Taf. vii, 13). Surface find. In the south-west corner of the fort.

169 (4603) Bronze pin with head in the form of a bird. There is another bird-headed pin from Richborough (*Richborough IV*, pl. xxxix, 140), and one from Leicester (*Jewry Wall*, fig. 89, 16). Unstratified.

170 (4310) Bronze pin with head in the form of a model axe. Parallels exist at Lydney (*Lydney*, fig. 18, 61) and Richborough (*Richborough IV*, pl. xxxix, 138). Surface find. In the south-west corner of the fort.

171 (4438) Bronze pin with globular head. Surface find. In the south-west corner of the fort.

172 (4714) Bronze spatula-probe with spiral grooving. Examples dated to the early second century or earlier exist at Verulamium (R. E. M. and T. V. Wheeler, *Verulamium, a Belgic and Two Roman Cities* (1936), fig. 45, 51), London (*Walbrook*, pl. v, p. 12), Caerleon (*Amphitheatre*, fig. 14, 36) and Aislingen (*Aislingen*, Taf. 24, 2. Pit 249).

173, 174 Bronze spatula-probes with baluster-moulding. No. 173 (4206) is from top of pit at east end of trial trench III. No. 174 (4399) is a surface find from the south-west area of the fort.

175 (4738) Bronze probe, spatula end broken off. Area XVII west extension. Surface find. West of outer Claudian ditch.

176–9 Bronze nail-cleaners, 176 and 179 with loop in same plane as blade; 177, 178 with loop at right angles to plane of blade. No. 176 (5292) comes from a lower layer of black earth between sections 44 and 46; 177 (4332) and 178 (4150) are surface finds from the south-west area inside the stone fort; 179 (5336) is from the outer fort ditch 0–3 ft. down.

180 (4361) Bronze spoon, bowl separate from handle and connected to it by a tenon. This 'mandolin-shaped' spoon-type is usually datable to the third or fourth centuries (*Richborough II*, pl. xx, 37; *Lydney*, fig. 19, 89), but for one attributed to the second-century, see *Camerton*, fig. 69, 9*s*, where the tenon projects from the bowl. Surface find. In the south-west corner of the fort.

181 (4266) Bronze casket-handle with bird-head terminals. Cf. *Richborough II*, pl. xxi (1), 45. Unstratified.

182 (4885) Bronze spoon with circular bowl; this type occurs from Claudian times onwards (*Richborough II*, pl. xiv, 2–3). South of Chalk House. Second layer.

183–5 Bronze seal-box lids with stylized bird with outspread wings in relief (183), a toad (184), and a hare (185). For similar seal-box lids see *Wroxeter III*, pl. xviii, 26, *Richborough III*, pl. xii (1), 36, *O.R.L.*, Abt. B, Bd. IV, Osterburken, Taf. vi, 48. No. 183 (4976) is from gulley C, south of section 19; 184 (5458) is from the inner earth fort ditch, 7 ft. down; 185 (4030) is a surface find from the south-west corner of the fort.

186 (5417) Bronze casket-handle with bud-shaped terminals and part of a split pin for attachment. Area XXIV. Outer earth fort ditch, 0–2 ft. down.

187 (5192) Mount in solid bronze in the form of a mask, broken; at the back the centre is roughly hollowed for attachment to a box or casket. The profile suggests that a lion is intended. A larger similar mount from Mainz has a ring-handle attached below the nose (Lindenschmidt, 1889, Taf. xx, 15). Unstratified.

188 (5194) Bronze head of a goose or swan, found in 1934 in the outer ditch of the earth fort near the south-west corner. This ditch is considered to have been filled-in during the reign of Carausius, and the filling contained fragments of marble from the Great Monument: this piece accordingly may also have come from it. It appears to have been made to stand against a flat surface. Mr. H. Maryon writes: 'The object was formed by hammer work and chasing. The head and neck are made from a single piece of metal. The marks, which at first sight suggest that the head was once a separate piece of metal, are but traces of a repoussé decoration on either side of the raised collar which crosses the neck. This decoration was abandoned after it had been attempted, and efforts were made to remove traces of it from the outer side of the work. It could have been planished smoothly by hammer on a stake, but it was considered sufficient to flatten the outer surface with chasing tools, probably on the pitch or other yielding material on which the original repoussé and chasing had been done. The last two inches at the extremity of the neck have been roughly cut and folded, apparently to enable the end of the neck to be tucked into some recess, but this was not its original fitting.'

Miss J. Liversidge writes: 'What kind of object did this bronze adorn? Could it have been used to decorate an article of furniture as birds, especially swans or ducks, were a favourite subject for the decoration of Roman couches and tables? For example, a wooden table found at Luxor in Egypt, and now in the Musée du Cinquantenaire in Brussels (G. M. A. Richter, *Ancient Furniture*, 1926, fig. 213, or *Antiquity*, xxiv (1950), pl. iv, opp. p. 29), had legs carved to represent those of antelopes, crowned with a band of acanthus foliage from which rise swans' heads and necks, supporting a tenon on which rests the table top; and a similar table is carved on a Roman grave relief, now in the Museum of Antiquities in Istanbul (Richter, *op. cit.*, fig. 214). There are also the bronze tables and tripods found at Pompeii, with their animal legs ending in claw feet, the upper halves being decorated with sphinxes, human figures, and other embellishments (e.g. Richter, *op. cit.*, figs. 325, 326). All these legs, however, were surmounted by either a tenon, or some sort of an attachment for the table top or tripod bowl, and the Richborough bronze shows no features of this type. The head is bent at quite a sharp angle, and it is difficult to believe that the upper part of the neck was intended to support anything. Then there are the fulcra or armrests of couches of the Roman backless type, frequently decorated with bronze busts representing horses, mules or birds. The upper part of such a rest, now in the British Museum (H. B. Walters, *Catalogue of the Bronzes, Greek, Roman and Etruscan, in the British Museum*, No. 2567) has these ornamental features, with the heads of mules in front and ducks' heads behind, and these ducks have the small ear shown on the Richborough head. Compared with the Richborough head, however, with its long neck ending in a tenon base, the couch mountings are much smaller, the birds' heads are turned sideways on a short neck decorated with vertical ribbing, and they have a curved attachment at the base of the neck into which fits the frame of the rest. It seems unlikely that the Richborough bronze could ever have belonged to a couch of this type, even in the form of a later provincial development. In the present state of our knowledge there appear to be no true parallels for it.'

It remains to point out its similarity to the *cheniscus* or ship's figurehead in the form of a goose's head; cf. the model ship's prow from London, (*P.S.A.L.* xvi, 306, R.C.H.M. *Roman London* (1928), 175, fig. 86, B.M.).

If the Great Monument carried some sort of naval scene or trophy this might be the explanation of the piece.

189 (4110) Bronze handle of jug, ending above in the usual leaf-shaped thumb piece which is now broken away, with volutes on each side. Below this on the shaft are a shovel and a fish. The lower half of the shaft is plain (save for a small piece inset to repair a flaw in the casting). At the lower end is the bust of a woman, the head turned slightly to one side; the hair in 'melon rolls' with a long lock falling on each side.

The bust appears to be bare, with drapery falling from the shoulders and drawn together in front by the right hand. (Length $3\frac{7}{8}$ in. = 10·02 cm.)

A late and poor example of the *anse historiée*; Gaulish work of the Antonine age. On the type cf. Schreiber, *Alexandrinische Toreutik*, 344, and many Gaulish examples in Reinach, *Bronzes de St. Germain-en-Laye*, 406 ff.

Bronze jugs with decorated handles were found in two late-first-century pits at Newstead (*Newstead*, pls. LV, LVI). These had a woman's head at the lower end, one of which is figured (*ibid.* 276, fig. 38). The British Museum has a jug (*Antiquities of Roman Britain* (1951), p. 38 and pl. 6) found at Faversham, with figures of Diana, Actaeon and hounds instead of a single bust, and birds' heads terminals at the lip. (B.W.P.) Surface find. In the south-west area of the stone fort.

190 (4165) Bronze relief with a bust of a woman, broken from the base of a jug-handle similar to the preceding number; and like it, probably Gaulish work of the Antonine age, but larger in scale and much superior in style. The woman wears a *stephane* over which the hair is curled back to the nape of the neck, with a lock curling down on each shoulder; on the back of the head, the hair is finely tooled. Drapery falls over the back and left shoulder, leaving the right shoulder exposed. The features are injured, but the casting is of excellent quality. (Length $1\frac{7}{8}$ in. = 4·8 cm.) (B.W.P.) Surface find. In the south-west corner of the fort.

191 (4138) Bronze key-handle in the form of the fore part of a hound, flat in section. Cf. *Richborough IV*, pl. XXXVI, 117, dated A.D. 50–80. For a parallel from Bavai see, Faider-Feytmaus, 'Recueil des Bronzes de Bavai', *VII Supplementa Gallia*, pl. xlii, 263. Surface find. In the south-west corner of the fort.

192 (No number) Group of 100 to 130 coins corroded together and retaining the shape of a leather purse. They all appear to be of the same issue of Constantine I or at least of the same period, A.D. 324–30. One is definitely *Obv.* CONSTANTINVS AVG. Bust r. laur. dr. *Rev.* PROVI·DENTIAE AVGG, Camp gate. (B.W.P.)

193 (4186) Hinged bronze hasp from a casket, decorated with an acorn on each side and a shell below. 'Before *c.* A.D. 85.' A similar hasp (with shell but no acorns) was found with a late first–early-second-century burial at Radnage, Bucks, (*Antiq. Journ.* iii, 335). Area XIX. Lower occupation layer.

194 (5443) Hinged bronze hasp for a lock. Area XXIV. Inner earth fort ditch, 3–5 ft. down.

195 (4500) Hinged bronze fitting with a bronze moth riveted to it. 'Second half of first century.' Area XVIII. In sand.

196 (5205) Rotary bronze key with hollow shaft. Unstratified.

197 (3980) Rotary bronze key with hollow shaft, the wards at right angles to the plane of the ring. Surface find. In the south-west corner of the fort.

198 (4619) Bronze finger-ring with rotary key. Unstratified.

199–203 Bronze keys for slide-locks. No. 199 (5072) is unstratified from the diagonal trench; 200 (4753) is from pit 256, 0–6 ft. down; 201 (4752) is from area XVII, south of Chalk House; 202 (4448) is a stray find from the surface in the south-west corner of the fort; 203 (4766) is from trial trench IV in sand below the upper pebble layer.

204 (4377) Small bronze slide-key in the style of the larger T-shaped iron keys, e.g. no. 280 below. Surface find. In south-west corner of the fort.

205 (5276) Bronze lock-bolt operated by a slide-key, such as no. 199 above. Inner earth fort ditch. 3 ft. down.

206 (5516) Square bronze plate, with head, left, in relief: 0·5 mm. thick, perhaps from a casket. Cf. *Intercisa* ii, 296, Abb. 59, especially E, and p. 301, Abb. 65, Taf. LXIII, 11. Outer Claudian ditch, below level of concrete floor.

207 (5008) Escutcheon from a bronze bowl about 6 in. in diameter, the hole for the handle being nearly worn through. It is paralleled at Benwell (*Arch. Ael.*[4] xi, 201, no. 28) where a date of *c.* A.D. 120–80 is suggested for the type. Cf. *O.R.L.*, Abt. B, Bd. II i, Zugmantel, Taf. XIII, 8 and 10. Another similar was found in the 1960 excavations at Verulamium associated with Antonine pottery. Unstratified.

208 (4305) Bronze horse-head decorated with small punched dots, and projecting forwards from triple rings, two of which are now broken. The rings are flat at the back for mounting, perhaps on a bucket. The object differs from the animal mounts illustrated by Hawkes (in W. F. Grimes (ed.), *Aspects of Archaeology in Britain and Beyond* (1951), especially pls. VIII B and IX), first in having no upper ring to take the handle, and also in the projection of the head. The hook here formed by the animal's neck shows little if any wear, but may have been intended to carry the handle. A somewhat similar arrangement of three rings with a man's head in relief (*Richborough I*, pl. xv, 29) or a bird's head (*Richborough II*, pl. XXI, 57) were interpreted as martingales; they do not closely resemble this piece. Surface find: in south-west corner of the fort.

209 (5663) Decorated bronze strip, perhaps a bucket-binding. Cf. the vertical strip on the Mount Sorrel bucket (W. F. Grimes (ed.), *Aspects of Archaeology in Britain and Beyond*, pl. VIII B). Unstratified.

210 (3986) Bronze foot for a small wooden vessel such as a tankard. No Roman-period parallels have been traced, but cf. the bronze-bound wooden vessel from Mölsheim (Lindenschmidt, 1889, Taf. xv, 30). The present piece, too, may perhaps be fifth-century. Surface find: in the south-west corner of the fort.

211 (4657) Set of three bronze forks riveted together. The other ends, now broken, were probably pointed. Four exactly similar forks riveted together were found at Kastell Heftrich (*O.R.L.*, Abt. B, Bd. II, i, Taf. II, 6, p. 8, no. 18) where a surgical or tattooing purpose was suggested. Cf. the rather different toothed instruments from Chalton (*Antiq. Journ.* xxxvii (1957), pl. xxvi; *ibid.* xxxviii (1958), 244–6) which may have been used in puncturing leather for stitching. Such a purpose however appears ruled out for the present objects by the nature of their fastening. Section XIX. West entrance, top layer.

212 (4937) Bronze netting needle; cf. *Richborough I*, pl. xiv, 22. Pit 269. 4 ft. down.

213 (5068) Square bronze weight with bevelled upper edges and a dotted symbol on top which may be an owner's mark or a mark of value. It measures almost exactly $1 \times 1 \times \frac{1}{5}$ Roman inches (= 24·6 mm.). Its weight is 33·2 grammes (= 512·3 grains). Taking the Roman *uncia* as 432 grains, this is almost equivalent to $1\frac{1}{5}$ *unciae*, the difference of 6 grains (= 0·38 grammes) being perhaps attributable to corrosion. Diagonal trench. Unstratified.

214 (4204) Part of a bronze steelyard. Surface find. In the south-west area of the fort.

215 (5231) Acorn-shaped weight of solid bronze for a small steelyard. Weight, 26·185 grammes (= 404·09 grains). A similar-shaped iron weight is shown suspended from a steelyard from Stockstadt (*O.R.L.*, Abt. B, Bd. III, Taf. ix, 66). Unstratified.

216 (4637) Steelyard weight consisting of a thin bronze casting filled with lead. Weight, 96·11 grammes (= 1483·17 grains). Area XVII. Surface find.

217 (4772) Steelyard weight in lead. Weight 337·46 grammes (= 5207·7 grains), or 12·05 *unciae*. Pit 256. 3–6 ft. down.

218 (5385) Bronze terminal or pendant. Area XXIV. Ditch section 44 B, 1–2 ft. down.

219 (4537) Bronze object. Unstratified.

220 (5026) Ornamental bronze bolt with perforated shank. Curle (*Newstead*, pl. lxxviii, 10) suggested that such objects might be used for fixing a lock-plate. Unstratified.

221 (4055) Bronze stud, perhaps from harness. Area XIX. Between the surface and the first layer of pebbles.

222 (4968) Ornamental bronze bolt-head with broken shank, which may have been perforated like 220. Area XVII. Surface find.

223 (4970) Hollowed bronze casting similar to one found at Worth (*Antiq. Journ.* viii, 86, fig. 18) which was 'once filled with lead'. Area XVII. Surface find.

224 (5355) Small bronze hemispherical bowl, decorated with incised lines. Middle earth fort ditch between sections 46 A and 44, 0–3 ft. down.

225 (No number) A representative group of pieces of decorated bone inlay from a wooden box or casket, with the lock plate (U) and small bone pins for fixing. The actual lock was in too corroded and fragmentary a condition to be isolated. Thickness 1·5–2·5 mm. From pit 281. Cf. *Richborough IV*, pl. LVII, 276.

226 (4814) Bone pin with polished head, made separately. Pit 260. 4 ft. 6 in. down.

227 (4781) Bone belt-buckle, copying early bronze type. Area XVII. South of west wall cutting, third layer.

228 (4746) Bone scabbard-plate with raised decoration in the form of an elongated pelta, broken on the left. The back has a grooved flange widening towards the base. Cf. *Rom. Silchester*, fig. 11, 3; *Caerleon 1927–9*, fig. 43, 2; *O.R.L.*, Abt. B, Bd. III Stockstadt, Taf. VIII, 46–48; unpublished examples have been found at Verulamium (1955 excavations) and Reculver. Pit 256. 0–3 ft. down.

229 (4914) Portion of a bone buckle. The thinner arm is pierced at the surviving end for a metal cross-piece. Area XVII. Unstratified.

230 (4745) Bone tally with nine notches on one side and eleven on the other, and a hole for suspension. Pit 256. 0–3 ft. down.

231 (4405) 'Length of red deer horn roughly squared, with two perforations at one end, in a late fourth-century level with some earlier pieces.' (B.W.P.) Surface find. In the south-west corner of the fort.

232 (3704) Bone plate with two worn perforations and a small dotted circle on one corner. 'Perhaps a reel for a fishing line.' (B.W.P.) Outer ditch. North side, from the filling.

233 (4052) Oval bone counter with ring and dot decoration on top and on one side. Ditch north of early road, east of platform. Top layer of sand make-up under the mixing floor.

234 (3965) Decorated bone inlay, 7·5 mm. thick. The straight edge has been cut, not broken. Surface find. In the south-west corner of the fort.

235 (4212) Bone knife-handle. Surface find. In the south-west corner of the fort.

236 (5473) Bone knife-handle with remains of iron knife. Unstratified.

237 (4428) Part of a bone knife-handle. Chapel area. Unstratified.

238 (4725) Bone pin with head in the form of a human hand. Area XVII. Surface find.

239 (4417) Bone knife-handle with remains of iron knife. Surface find. In the south-west corner of the fort.

240 (5530) Bone plate or handle decorated with incised lines and fastened by 8 bronze rivets, with a central row of four ornamental bronze studs. Cf. *Novaesium*, Taf. xxxv, 5, xxxiii, 40 and 41. Area VI. Burnt layer.

241 (4804) Bone handle with two rivet-holes. Trial trench IV. 2 ft. to 2 ft. 6 in.

242 (5615) Bone die with numbers 4, 5, 6. Cf. *Richborough I*, pl. xv, 31, numbered 1–6. Site IV. Between upper and lower pebble layers.

243 (4886) Silver ingot of double-axe form. Weight 317 grammes. A list of known ingots and a discussion of their function has been published by Mr. K. S. Painter, (*J.B.A.A.*[3] xxviii (1965), 3 ff.) This is his no. 4. An additional lump of metal appears to have been hammered on to increase the weight. Area XXII. Pit 265.

244 (4031) Jet bead with perforation for two strings. Cf. *Lydney*, fig. 18, 76 and 78. Surface find. In the south-west corner of the fort.

245 (No number) Decorated strip of shale. No provenance.

246 (4551) Part of a pottery vessel: a snake is entwined round the upper end of a ribbed handle in hard pinkish-buff fabric. The complete vessel would have had three such handles terminating in small circular vases. Two examples, from Vindonissa and Augst (Staehelin, *Die Schweiz in römischer Zeit* (third ed., 1948), p. 549, Abb. 160, 161) are dated to the first century, and attributed to the cult of the Thraco-Phrygian god Sabazios. Punched holes, representing scales, on the snake's body are shown, (*ibid.*, Abb. 162, 164), on simpler vessels and on a fragment from Intercisa (*Intercisa*, ii, Taf. xii, 17). Similar fragments are known from Cirencester and Lullingstone. Surface find. In the south-west corner of the fort.

247 (5547) Part of the top of a circular lamp in reddish buff clay, decorated with a hound attacking a stag, in relief. A lamp from London, perhaps from the same mould, is in the B.M. (*Antiquities of Roman Britain* (1951), fig. 20, 2); cf. also two figured by H. Menzel, *Antike Lampen im Römisch-germanischen Zentralmuseum zu Mainz* (Mainz, 1954), Abb. 44, 5 and 45, 2. The type began in the mid-first century, but continued common thereafter. Area XI. Near the outer Claudian ditch.

248 (5025) Lamp fragment showing a lyre-player, probably Apollo, in relief; found 'in black earth, south of Tomb'. Cf. H. B. Walters, *Catalogue of the Greek and Roman Lamps in the British Museum* (London, 1914), pl. xxv, 776. Probably first century. Area XVII. South of tomb.

249 (No number) Lamp in light clay with brown slip. This is Wheeler's Type III B, dated to the second century (*London in Roman Times*, fig. 15, 5). North-west diagonal trench I. In black earth below Hut site.

250 (4773) Lamp-stand. Area XVII. North of section 33, bottom of road ditch.

251 (4591) Female head from a two-handled jug in colour-coated ware in white paste with slate-coloured slip. Probably from the Nene Valley Potteries. In sand above mixing floor to the north of the Monument.

252 (4552) Fragment of lamp of somewhat unusual form with side handles. No provenance.

253 (4594) Female head in elaborate head-dress from a jug in smooth light red clay with grey core. Cf. *Richborough II*, pl. xxv, 83. Surface find. In south-west corner of the fort.

254 (5015) Small crucible in grey clay, containing a little red enamel. The thickness of the clay would help to retain heat. Pit 282.

255 (No number) Tile-fragment with the impression of a sestertius of Nero, *R.I.C.* 139 ff.: 'Nero galloping l. bears spear: he is followed by a soldier on horseback carrying spear as vexillum. DECVRSIO S. C.' A.D. 65–66. No provenance.

256 (5053) Small marble palette with bevelled edges and polished surface. Area XVII: under concrete south of trial trench IV.

257 (5461) Stone object. Area XXIV. Just below fort level.

258 (No number) Stone axe of light greenish-grey greenstone of medium grain. A report of the Stone Axe Sub-Committee of the South-West Group of Museums and Art Galleries states that it consists of a background of decomposed felspar with much hornblende. Kernels of augite surrounded by hornblende and large patches of green hornblende are present. Much iron ore is seen in the section. No provenance.

259 (5348) Leaf-shaped flint arrowhead, plano-convex in section. Inner fort ditch. 0–2 ft. down.

260 (4407) Barbed and tanged arrowhead. Part of the flake surface has been retained on each side. Area XVII. Iron Age gully north of Monument.

261 (5677) Blade struck from deep brown translucent flint with dark cortex. Unstratified.

262 (3648) Tanged lance-head of iron with prominent midrib. Outer ditch. North side, filling.

263 (4040) Iron lance-head with split socket. Surface find. In the south-west corner of the fort.

264 (4243) Tanged iron arrowhead. Surface find. In the south-west corner of the fort.

265 (4611) Tanged iron arrowhead of triangular section. Cf. *Newstead*, pl. xxxviii, 1–7; *O.R.L.*, Abt. A, Bd. III, 40, Stockstadt, Abb. 7, 16. Unstratified.

266 (No number) Iron tip of catapult bolt. Cf. *Hod Hill*, pl. vi, B.181. South of site IV. Above the level of the oolite chippings.

267 (4598) Tanged iron knife with the single-edged curved blade much worn or corroded. Surface find.

268 (No number) Tanged iron knife with straight single-edged blade. No provenance.

269 (4127) Tanged knife of iron. Cf. *Richborough II*, pl. xxiv, 74. Surface find. In the south-west corner of the fort.

270 (2928) Metal worker's hammer in iron. On the berm in front of the south wall.

271 (3957) Iron candlestick. Cf. *Lydney*, fig. 23, 191; others are known from Cirencester, Silchester, and Caerwent. Surface find. In the south-west corner of the fort.

272 (5676) Iron lamp holder, probably once suspended by an iron rod from the heel like one from Newstead (*Newstead*, pl. lxxix, 6). Area XXI. Below pebbles at mixing floor level.

273 (No number) Iron hipposandal with the ends of the hook at the back and of the side-pieces broken off. No provenance.

274 (No number) Iron key of medieval pattern. Cf. London Museum *Mediaeval Catalogue* (1940), fig. 43, 6. No provenance.

275 (4041) Iron slide-key. Surface find. In the south-west corner of the fort.

276 (4205) Iron stylus. Trial trench III. Above fort at east end of trench.

277 (No number) small iron slide-key. No provenance.

278 (No number) Iron tie or hook with P-shaped head, perhaps used as a rough hinge or gudgeon-pin, perhaps as a linch-pin. Cf. *Aislingen*, Taf. xxx, 20. No provenance.

279 (5658) Split pin of iron. Such pins were used as hinges for doors as at Brading (H. F. Cleere, *Bulletin of the Institute of Archaeology* (London), I (1958), 59) or for attaching ring handles (*Newstead*, pl. lxvii). Site IV. Unstratified.

280 (4997) T-shaped slide-key. Cf. Wheeler, *London in Roman Times*, pl. xxx, *a*, 1. Area XVII. Surface find.

281, 282 (No numbers) Iron ferrules or sheaths of poles or spears. Cf. *Newstead*, pl. lviii, 6. No provenance.

283 (No number) Iron pin with looped head: perhaps a linch-pin. No provenance.

284 (No number) Large iron nail. No provenance.

285 (No number) Iron shield or door fitting. Cf. *Newstead*, pl. xxxiv, 2 and 4; *Hofheim*, Taf. xviii, 1. No provenance.

286 (No number) Iron pruning hook with riveted socket curved half round the wooden handle, and a square projecting boss at the tip of the blade. No provenance.

287 (No number) Iron link suitable for joining lengths of chain (part of one arm missing). Once connected, the end of the rivet would be bent over to secure it. No provenance.

288 (No number) Flat iron tie with two arms, each with two perforations: perhaps from a cart. No provenance.

289 (No number) Iron fitting with rectangular perforation and flattened shank at right angles to the plane of the head. Cf. *Newstead*, pl. LXVII, 14; *O.R.L.*, Abt. B, Bd. VII, Weissenburg, Taf. XI, 49; *Aislingen*, Taf. XXVII, 26. No provenance.

290 (No number) Iron nail. No provenance.

THE STONE MORTARS

By G. C. DUNNING, F.S.A.

(Pls. LXV–LXVII)

IN the course of the excavations at Richborough a number of stone mortars have been found which deserve publication. For several reasons the eleven mortars are a valuable addition to the study of these rather neglected objects. Some of them are from dated deposits; they show interesting features; and they are made of five different stones, of which four are from sources in Britain and one is foreign—a range of materials wider than at any other site in Roman Britain. The mortars have therefore been collected for a general study, and a few remarks are added on other stone objects from Richborough.

Stone mortars are a minor product of quarrying for building materials. This can be shown for three of the stones of the Richborough mortars, namely Purbeck marble, oolite, and Kentish rag-stone.

(*a*) Two mortars are of Purbeck marble. The Roman quarries in the eastern part of the Isle of Purbeck[1] had a considerable output of building materials from the mid-first century until the middle or late second century. For the most part wall-veneering and moulded cornices were made, and to a lesser extent columns, bases and capitals. Large slabs were used for inscriptions, for instance the Cogidubnus inscription at Chichester, measuring about 5 ft. 2 in. by 2 ft. 8½ in., fragments of several inscriptions from the site of the Forum at Verulamium, and inscriptions on smaller slabs from Silchester and Colchester.[2]

Mortars of Purbeck marble are widely distributed in Britain. In the south they have been found at London, Silchester, Colchester, Verulamium, Caerwent, and Caerleon; at villas, including Brading, Carisbrooke, and Lullingstone; and at the villages of Rotherley and

[1] *PDNHAS*, 81 (1959), 121. [2] *R.I.B.* i (1965), *passim*.

Woodcuts. In the north single examples are at Wroxeter and Corbridge. In date the majority of the mortars belong to the late first and second centuries, after which production appears to have ceased until the industry was revived on a small scale in the second half of the fourth century. In shape the earlier mortars usually have a curved profile, like Richborough no. 1, and four angular lugs on the rim, one of which has a runnel or groove on the top. The late mortars are small and straight-sided (*Maiden Castle*, 251).

As well as mortars of Purbeck marble, three fragments of veneer or wall-panelling of this stone have been found at Richborough. One piece (pl. LXV, 1) was found in the inner ditch of the Claudian camp in area XII (*Richborough IV*, 11–18), and is valuable evidence confirming the exploitation of this material soon after the conquest. Part of another slab, with rabbeted edges and a right-angled corner (pl. LXV, 2), was in the lower occupation layer in area XIX, dated before *c.* A.D. 85 (p. 11). The third find was of two small slabs, one polished (pl. LXV, 3), in the lowest filling of pit 54, filled in in the fourth century (*Richborough III*, 70). It is possible that these broken slabs found in late Roman deposits were, like the broken pieces of marble casing found in many deposits of different dates (*Richborough IV*, 47), originally derived from the superstructure on the Great Masonry Foundation. Elsewhere in this Report (p. 40 ff.) is recorded the finding in the 1865 excavations near the south-east corner of the Great Foundation of several slabs of polished Purbeck marble, which almost certainly formed part of the facing of this monument. The record is confirmed by the finding in 1952 of a piece of Purbeck marble slab embedded in the surface of the flange of the Great Foundation on the south-west side; the slab measures 6½ in. by 6 in. by 2 in. thick.

(*b*) Three mortars are of oolite, probably from the Bristol district. Oolitic limestone was quarried extensively in the Roman period, and used for columns, capitals and bases, also for sculpture and inscriptions, such as the magnificent series at Bath, which bear ample witness to the working of these limestones on a large scale. The megalithic blocks 5 ft. long which formed part of the monument of Classicianus, Procurator of Britain, are of oolite from the Cotswolds, and attest the opening up of other quarries by the sixties of the first century (*Ant. Journ.* xvi, 4).

(*c*) Another Richborough mortar (no. 6) is of interest for the attractive coral limestone of which it is made (pl. LXVI, no. 6), and probably this rock was selected for its decorative value. The most probable source is the Bristol–Mendip area.

(*d*) Two mortars are of Kentish rag-stone, the first record of the use of this stone for making mortars. Rag was used freely in the town walls of London, Canterbury and Rochester, and later in the period in the construction of the Saxon stone forts of Richborough and

Lympne (*V.C.H. Kent*, iii, 127). The stone was obtained from the Hythe beds of the Lower Greensand, but the material of the mortars cannot be located exactly within the belt of Kentish Rag. One of the rag-stone mortars (no. 8) is exceptionally large; its splayed shape and small base suggest that it was not stood on a table but probably set in a hole in the ground.

(*e*) Three mortars are made of white marble of good quality, possibly Italian in origin. These imported mortars are representative of the prototypes on which the mortars of local British rocks are closely modelled. Mortars of white marble have been found at only three other sites—London (Guildhall Museum), Colchester and Cirencester. The marble mortars have features which were copied on one or other of the Richborough mortars. Thus the London mortar has a curved ledge-handle like those on nos. 2 and 7. The Colchester mortar has a plain triangular spur on the side, resembling the panel on no. 9. This feature is known on another mortar, from Well, NW. Yorkshire, which is of foreign type and has a group of four leaves in relief supporting one of the lugs.[1] Decoration on the side is therefore uncommon and restricted to imported mortars, since it has not been noted on any mortar made of a British stone. The Cirencester mortar has an angular lug of the shape which normally occurs on mortars of Purbeck marble and other British rocks, as on Richborough nos. 3, 4, and 7.

Pestles

Elbow-shaped pestles were used in conjunction with the mortars for grinding and mixing coloured pigments.[2] At Silchester are several pestles of various sizes in Purbeck marble, and single pestles of this rock have been found at a few other Roman sites in Britain. At Wroxeter is a small marble pestle in the shape of a bent thumb (*Wroxeter I*, 28, fig. 10, 12). At Richborough is a large pestle of white marble (pl. LXV, 4) roughly made out of a slab of casing 2 in. thick. A number of other objects have been found which are made from re-used pieces of marble casing, including two draught-boards (*Richborough II*, 13, pl. XIV, fig. 1).

Description of Mortars

With reports on the stones of the mortars by Professor K. C. Dunham, F.R.S., of King's College, Durham, formerly Chief Petrographer to the Geological Survey (Geological Survey, enquiries 890–900).

1 Fragment of curved side of mortar with polished surface. Part of one lug remains. Stone fort ditch. Middle layer.

[1] R. Gilyard-Beer, *The Romano-British Baths at Well* (Yorks. Arch. Soc. Research Report No. 1, 1951), 59, fig. 19, 4.

[2] *Ibid.* 59, 61.

898. Purbeck marble.

2 Half of shallow mortar with polished surface, underside of base roughly tooled. On the rim are two curved ledge-handles and part of a large lug with runnel. Chalk House, under opus signinum. Dated down to A.D. 160–80.

891. Grey Purbeck marble.

The only other mortar of this type appears to be from the villa at Carisbrooke, Isle of Wight (Carisbrooke Castle Museum), which has a large lug with runnel.

3 Complete mortar with curved side and foot-stand. Three lugs are semicircular with grooves on the tops and sides. The fourth lug is angular with a shallow runnel. Area XVI. Below burnt layer of wattle-and-daub huts burnt down *c.* A.D. 85 (*Richborough IV*, 37).

892. Yellow 'iron-shot' oolite, discoloured grey by fire.

4 Mortar similar to no. 3, with one angular lug with runnel.

897. Oolite or pellet-rock rich in fossil fragments.

5 Part of mortar with tooled surface. The remaining lug is angular, without a runnel. Pit 72, below 4 ft. Probably first century (*Richborough III*, 73).

896. Oolite or pellet-rock, cream coloured.

6 Fragment of shallow mortar. Curved side with polished surface. Pit 244. First half of second century.

900. Pink coral limestone. The coral is *Lithostrotion affine*, Martin, in a matrix of calcite mudstone. Most probable source the Bristol–Mendip area.

7 Part of thick-sided mortar. Outside-tooled round rim, pecked over lower part. Half of a curved ledge-handle remains and a complete angular lug without runnel. Foot-stand, stepped at centre.

890. Glauconitic sandy limestone, from the Kentish Rag. The rock is composed of pellets of fresh glauconite, angular quartz grains, and a matrix of clear calcite with some cloudy patches. Kentish Rag occurs in a belt through Sevenoaks, Maidstone, and Ashford. The present specimen is quite distinctive, but an exact locality within the belt cannot be selected, as the rock varies little.

8 Large conical mortar with small flat base. One lug remains. Unstratified.

894. Grey glauconitic limestone with foraminifera. This contains fragments of fresh glauconite, some rounded, some subangular,

enclosed with a few quartz grains in a calcite matrix of variable grain size. Probably from the Kentish Rag, but the identification is not so certain as in 890.

9 Fragment of shallow mortar with curved side. On the rim is a small spout and beneath it a raised shield-shaped panel, the border of which is emphasized by two incised lines. Area XVII. West of Claudian ditches, depth 4–5 ft. Second century, down to A.D. 160–80.

893. White marble of good quality, composed of interlocked calcite crystals showing little variation in grain size.

10 Part of small mortar with one angular lug. Area south of the fort. Surface find. (*Richborough IV*, 77.)

895. White marble, as 893.

11 Fragment of large shallow mortar, shape similar to no. 10. Area west of site I. Unstratified. (*Richborough IV*, 37.)

899. White marble, as 893.

To complete the list mention may be made of a large mortar found in a pit in the railway cutting south of the fort (C. Roach Smith, *Richborough, Reculver and Lymne* (1850), 104). The mortar measured 21 in. in diameter and 7½ in. high, and had two raised handles on opposite sides below the rim. The stone is described as 'mica-slate resembling granite'. Evidently the mortar is an import, possibly from Italy or Egypt. The mortar is believed to have passed into the Mayer collection in Liverpool Museum, but enquiries have failed to trace it.

The Saxon Sword

By Miss V. I. Evison, F.S.A.

(Pls. LXVII and LXVIII)

(Inventory no. 4397, south-west area, surface find)

Description. The tip of the blade is lost, but the total length of the sword as found was 65·5 cm., the tang being 11·2 cm. long. The blade was covered with the remains of the scabbard, and was 5·2 cm. wide near the hilt.[1] Very rigorous cleaning methods have been used, and the sword is now 64 cm. long, and the blade 4·3 cm. wide.

The blade shows two parallel zones of twisted pattern-welding, with cutting edges welded on separately. The combination of a core of pattern-welding with edges of a different metal continues into the

[1] Measurements of the sword in the state in which it was found are taken from a draughtsman's drawing made before cleaning, and are supported by a photograph taken at that time.

tang. The surface, as at present exposed, is deeply etched, and shows both the curvilinear and the herring-bone patterns which are present at different depths in a twisted bundle of welded iron strips used to form one bar of the core of a sword. The pattern on the present cleaned and eroded surface probably bears no relation to that on the original surface.[1]

An upper and lower guard remain, both consisting of a single straight, flat bar of iron doubled over and welded together at the end. In cross-section the lower guard swells slightly in the middle, so approaching an oval shape, and the ends narrow slightly. The upper guard is similar in construction and shape, and the end of the sword tang is beaten flat to prevent the guard slipping off. Two large holes in the upper guard show that a pommel was originally fastened on top, and this was no doubt by means of a rod bent round in an arc.[2] Before cleaning, the guards were 11·3 cm. and 7·5 cm. long respectively: they are now 10·5 cm. and 6·9 cm. long respectively, and the width of the lower guard has decreased from 1·5 cm. to 1 cm. There is no evidence of ornamentation on the guards, and none was noticed before cleaning.

Discussion. No information regarding dating can be deduced from the pattern-welded blade, for this method of manufacture was used from Roman to Viking times. The fact that the cross-guards are made of iron places the sword in the post-pagan period. The lower guards of pagan period swords tend to be about 7 to 9 cm. long, and 9 cm. is the approximate length of many of the eighth-century sword guards.[3] Lower guards become 11 cm. or more long by the ninth century, e.g. Petersen's Type K,[4] which usually has straight guards and a five-lobed pommel, and the more numerous Type M,[5] which has straight guards and no pommel. As the Richborough sword was once fitted with a pommel, it must have been similar to Petersen's Type K or its tenth-century development, Type O. Both types usually have a five-lobed pommel and are decorated, but Petersen quotes some special types of K which are unornamented, e.g. his figs. 92 and 93. Fig. 93 is from Store-Finstad, Løiten, Hedemarken; it has straight guards with rounded ends, the lower guard being about 11·6 cm. long, comparing closely with the Richborough original guard length of 11·3 cm.; the pommel is rather square in shape. The

[1] For recent work on pattern-welding, see H. Maryon, 'Pattern-welding and damascening of sword blades', *Studies in Conservation*, v (1960), 25–37, 52–60; G. C. Dunning and V. I. Evison, 'The Palace of Westminster sword', *Arch.* xcviii (1961), 126–8; J. Ypey, 'Een aantal vroegmiddeleeuwse zwaarden uit Nederlandse musea', *Berichten van de Rijksdienst voor het oudheidkundig bodemonderzoek*, 10–11 (1960–1), 385–94; H. R. Ellis Davidson, *The Sword in Anglo-Saxon England* (1962), Ch. I; J. W. Anstee and L. Biek, 'A study in pattern-welding', *Med. Arch.* v, 1961 (1963), 71–93.

[2] cf. J. Petersen, *De Norske Vikingesverd*, 1919, fig. 135.

[3] E.g. Dunning and Evison, *op. cit.*, fig. 3.

[4] J. Petersen, *op. cit.*, figs. 89–93.

[5] *Ibid.*, figs. 98–99.

Types K and O were not of Norwegian origin, however, and are thought to be of continental, probably Rhenish, production in the first place. The Richborough sword could have been imported complete directly from a Rhineland manufacturing centre, in the ninth century, but it could equally well have been produced by an Anglo-Saxon smith.

POTTERY

The Iron Age Pottery

By Barry Cunliffe, F.S.A.

(Pl. LXIX)

A small quantity of Iron Age pottery was recovered from the excavations. The scattered sherds, some of which have already been published (*Richborough IV*, 160 and pl. LXIX, 383–6), have been brought together in pl. LXIX for the sake of convenience.

1 (Also *Richborough IV*, no. 384.) Jar with a slightly out-bent rim decorated below the top with a row of fingertip impressions. Brown ware with fine flint grit tempering.

Area XVI, filling of the large Iron Age ditch to the east of the Claudian entrance.

2 (Also *Richborough IV*, no. 383.) Jar with out-bent rim, thickened at the top and decorated with a row of fingertip impressions. The shoulder is rounded and is ornamented with a horizontal zone of diagonal slashings. Fine, dark grey-brown ware.

Unstratified.

3 Flowerpot-shaped vessel with a plain undifferentiated rim, very irregular at the top. The ware is coarse, black, and tempered with large flint grits. The inside surface is smoother than the outside and is an even black in colour. The outside colour varies from dark grey-black at the top to light red lower down.

Site III, below room 14 of first house.

4 Simple base from an almost straight-sided vessel. Coarse, laminated, dark-grey ware with large flint grits.

Site III, below room 14 of first house.

5 Bag-shaped vessel with flat-topped rim, thickened slightly inward. Hard coarse dark grey ware, thickly tempered with flint grits. The outside varies in colour from grey at the top to light red-buff lower down.

'Inner and outer ditches, top layer.'

6 Sherds of a large jar with fingertip impressions on the shoulder. Slope approximate, diameter about 16 in. Coarse black ware with much fine flint grit tempering.
Area XVII, north-east of pit 281.

7 (Also *Richborough IV*, no. 385.) Rim of a vessel similar to 5. Coarse dark-brown ware with fine flint gritting.
Area XVI, filling of large Iron Age ditch, east of Claudian entrance.

8 (Also *Richborough IV*, no. 386.) Sherd of a vessel with fingertip impressions on the shoulder. Dark grey ware with flint grits.
Area XVI, filling of large Iron Age ditch, east of Claudian entrance.

9 Lid with central perforation, decorated with grooves arranged radially from the centre. Dark flint-gritted ware. It is possible that the decorated surface is, in fact, the underside of the lid as it is in the case of a similar example from Coet-à-Touse, now in the Carnac Museum (see *Bulletin de la Société Polymathique du Morbihan* (1881), 62).
Area XIX, occupation site.

Relatively little comparative material has been recovered from this part of England, but in general terms the affinities of the Richborough pottery lie in the 'A' tradition, which appears to have remained dominant in the area until perhaps as late as the first century B.C. At Worth[1] vessels with finger-impressed decoration and oblique slashings were found with (but were not necessarily contemporary with) pottery in the so-called 'Marnian' and 'Belgic' traditions. Further afield, the straight-sided, wide-mouthed 'flowerpot', no. 3, is represented in the assemblage from Eastbourne,[2] currently considered to date to about the fifth century B.C. The relative commonness of the type in late-Bronze Age, as well as in Iron Age, contexts leaves little doubt that it belonged to an indigenous pottery tradition and is therefore of little dating significance.

In summary, the Richborough Iron Age pottery belongs to a widespread, unspecific class of ware which can be loosely dated to the period 500–200 B.C. A more precise statement is not possible at this stage.

Roman Coarse Ware

By B. W. Pearce, F.S.A.

(Pls. LXX–LXXVIII)

In previous volumes it was the policy to publish only a limited number of coarse-ware vessels and to present them as a type series which could be referred to in the text. Although not entirely satisfactory by modern standards, the principle has been adhered to in this final

[1] *Ant. Journ.* viii, pl. xxi. [2] *P.P.S.* xxviii, 144, fig. 2.

volume for the sake of continuity and because the task of re-assembling the pottery in stratified groups would have been enormous. The following section is a slightly edited version of Mr. Pearce's report.

Amphora burial found in 518–522. Diagonal trench I.

518 Amphora—red ware with white slip. The neck and some of the body had been broken away to receive the cremated remains.

519 Samian form 31. Poor glaze; somewhat decayed.

520 Narrow-necked jar. Polished dark-grey ware.

521 Beaker in coarse brown ware. Decorated with a terracotta slip and about a dozen girth grooves.

522 Castor ware beaker depicting hounds hunting stag. Cf. *Rich.* 455–7.

523 Large heavy store jar. (The whole body is covered with shallow striations, only a few of which are shown on the plate.)

This was discovered in pit 141 and should have been published in *Richborough IV*.

524 Beaker of Castor ware depicting two hounds chasing a hare. Light-brown ware with a darker slip. A similar cup to *Rich.* 185, but practically complete.

Pit 308, late third century.

525 Three-handled bowl. The general shape is that of *Rich.* 129, but it has three handles instead of one. Two of the handles were found intact and part of the third. Two strips, a little over $\frac{1}{4}$ in., encircled the body having between them a series of stamped indentations, and two rows of rosettes. There are two bands of rouletting below the ridge. The rim is flat. The base was missing and is copied from a somewhat similar bowl. Reddish-brown colour.

Pit 296, mid- or late fourth century.

526 Flat-sided circular jug (for shape see Déchelette 63 and cf. Oswald and Pryce, pl. LXXXV, fig. 5). White ware covered with a light buff slip but not glazed. No decoration.

Déchelette, i, 63, appears to refer to jugs of this shape. He says 'Ils sont *souvent* recouverts de la glaçure jaune . . .', which suggests that he has also seen some without glaze like this one. They seem to have been made at St. Rémy, Vichy and elsewhere, and to have imitated Italian models. According to Oswald and Pryce they have been found at Vichy only and with green glaze. A decorated vessel of somewhat similar shape in the Museum of St. Germain is described in Déchelette, ii, 307–8, cf. pl. IV. It shows on one side the musical contest of Apollo and Marsyas, on the other a drinking bout of Bacchus and Hercules. It is stated that the gourd-shaped vessel appears early in ceramic history, notably in Egypt.

Pit 256, late first–early second century.

527 Amphora in coarse dirty-white ware, somewhat like *Rich.* 196. Short round handles.
Area XIX, in sand between occupation layers, late first century.

528 Jug with multiple ring neck, in hard light-buff ware.
Pit 255, *c.* A.D. 90–140.

529 Jug. Black ware. A variation of *Rich.* 194. Two handles.
Pit 266, above 7 ft. 6 in., *c.* A.D. 90–120.

530 Jug. Smooth grey ware with indications of white paint on surface.
Pit 272, below gulleys. Filled in A.D. 80–90 but contained much pre-Flavian ware.

531 Base of jug. Drab ware with black polished surface.
Area XIX, upper occupation layer.

532 Base of jug. Red ware with black shiny surface.
Area XVII/32, south of west wall. Trial trench IV, in refuse layer.

533 Base of jug, reddish-grey ware with black shiny surface.
South of trial trench IV, in sand.

534 Jug. Light-buff clay with smooth surface. Two bands of rouletting.
Area XVII/32, surface south of Chalk House.

535 Jug in pinkish-buff ware. Cf. *Rich.* 70.
Pit 270, A.D. 80–95.

536 Jug. Four-reeded handle, oblique moulded lip.
Pit 258, lower part, late first to early second century.

537 Jug, roughly made, slightly moulded inside, plain handle and narrow neck.
West of pit 256. Unstratified.

538 Jar, grey to black ware with a rather rough surface. Cordon on neck, straight rim.
Outer Claudian ditch, black filling.

539 Jar, dark-grey ware.
Area XVII/32, outer Claudian ditch, black filling.

540 Imitation Belgic butt beaker. Native technique. Dark-grey to brown ware with a smooth surface.
Inner Claudian ditch, bottom.

541 Imitation Belgic butt beaker in brown ware painted black. Burnished neck with traces of faint combing in zones.
Inner Claudian ditch.

542 Jar in grey ware with grey to light-brown surface.
Outer Claudian ditch, 15–20 ft. north of entrance.

543 Jar, light-grey ware, burnished inside rim.
Outer Claudian ditch, black filling.

544 Jar, hard grey surface with horizontal burnished bands.
Outer Claudian ditch, top.

545 Cooking pot, brownish ware, delicately latticed; burnished zone at top and bottom.
Area XVII/32, A.D. 60–120.

546 Dish, dark-grey ware, smooth surface.
Area XXIII, second layer under cobbles.

547 Beaker in soft grey ware, painted black; smooth surface.
Area XVII/32, Gulley 25.

548 Jar in soft grey ware with smooth surface.
Area XIX, ditch of north–south road.

549 Jar, rough grey ware.
Area XVII, west end, second layer.

550 Dish, coarse ware with hard baked black core, grey outside, blackened surface, baked brown in parts. Two incised circles on bottom of base. Broad polished cross on bottom inside.
Area XIX, lower occupation layer.

551 Lid, hard brown sandy ware, blackened at edges.
Area XIX.

552 Jar, hard dark-grey ware.
Area XVIII. In earth on mixing floor north of chapel.

553 Jar, black native ware, polished neck and rim; slight combing on shoulder.
Bottom of north ditch of early road, east of platform.

554 Fragment of flanged bowl of Alice Holt Forest ware, cf. A. G. Wade, *Alice Holt Forest*, 43–44 and fig. 8, 3–4. This example seems to be of an early type. The flange is short and there is a deep channel between it and the lip. Blackish-grey ware, polished outside, ornamented inside with a band of trellis pattern.
South-west area, surface.

555 Shallow grey dish with curved side. The plain incurved outer surface is a medium grey with a groove about ½ in. from the top. From the upper lip of the groove to the top there is a black band which is continued on the inside for the same width. The interior is decorated with a combed lattice pattern on the side and a herring-bone design on the base. This bowl may have come from the Alice Holt Potteries, cf. A. G. Wade, *op. cit.*, 42–43, fig. 7, B, E. In B there is only one band of decoration, in this example the whole interior. The date appears to be late third or fourth century.
Pit 281, a fourth-century pit with some Antonine pottery in the mouth.

556 Jar, native ware, coarse grey clay with blackened surfaces.
Bottom of road ditch, east of platform.

557 Jar, native ware, coarse grey clay, blackened surface, polished neck.
Bottom of road ditch, east of platform.

558 Jar, coarse grey ware, black polished band on neck; incised lines on shoulder.
Bottom of road ditch, east of platform.

559 Jar, light-red clay, smooth grey surface; burnished neck and band.
West drain of north–south road, south section.

560 Marbled ware bowl. Found in the outer south ditch, south section. The date of the filling of the ditch, *c.* A.D. 290, does not give the date of the bowl as the ditch was deliberately filled with material brought from other areas unknown. The inventory report notes that the filling of this section is more uniform than usual, as if all from the same source. With the fragments from which this bowl was built up were pieces of three samian bowls, form 37, all of which were dated late second or early third century, presumably by the late Dr. Davies Pryce, to whom all Richborough decorated samian was submitted for examination. The shape is derived from that of the samian vessel Curle 19 but with a plain rim and an exaggerated flange. Fragments of similar bowls have been found at Richborough and at Clausentum (*Ant. Journ.* xxvii, 171). The potsherd from this last is beaded on the inside of the flange and is probably later than the Richborough bowl.

561 Poppy head beaker, brown ware with two bands of rouletting.
At bottom of outer earth fort ditch, south of entrance. *c.* A.D. 290.

562 Beaker. Cf. *Rich.* 120 but with wider base.
Pit 236, mostly between A.D. 275 and 325.

563 Jar, hard light grey ware with dark grey polished surface.
Pit 255, A.D. 90–140.

564 Bowl in brown ware with reddish-brown colour coat, stamped decoration.
Pit 254, fourth century.

565 Carinated cooking pot with a cordon on shoulder and a plain outbent rim; black surface. Cf. *Rich.* 273, 290.
Pit 279, last quarter of first century.

566 Beaker in white ware with a dark grey colour coat and rough cast surface.
Pit 255, A.D. 90–140.

567 Small beaker with a long neck. Red ware with rouletted decoration.
Pit 293, second quarter of fourth century.

568 Hemispherical Marne bowl, three rows of rectangular decorations with diagonal hatching. Cf. *Déchelette*, ii, pl. xi.
Pit 302, fourth century.

569 Medium-sized jar, nearly conical; smooth plain reddish surface.
Pit 303, fourth century.

570 Jar with a smooth sandy-brown surface.
Black deposit north-east of pit 300.

571 Cooking pot decorated with a burnished lattice.
Pit 308, probably late third century.

572 Large black cooking pot.
Pit 305, A.D. 350–400.

573 Large jar, light buff ware, rilled surface.
Pit 304.

574 Large jar. Rough hard grey ware with depressions on neck at intervals, and row of diagonal incisions below. Hollow lug handles.
Pit 153. Cf. *Richborough IV*, *c.* A.D. 65–70.

575 Large jar with brown to black surface. Bands of curved combing and slight cordons on the upper part of the body.
Pit 266, *c.* A.D. 65–70.

576 Large jar, light-grey ware; rough surface, painted black. Burnished band on neck and inside rim.
Pit 279, last quarter of first century.

577 Bowl with legs and handles. Pale-grey ware with blue-grey surface.
Pit 253, mostly A.D. 80–160 but with some fourth-century material at the mouth.

578 Three-footed dish. Rough grey ware with light brown glaze. Unstratified.

579 Jar in black ware with white slip.
Pit 236, mostly A.D. 275–325.

580 Flanged bowl, light grey ware. Burnished; flange and inside dark grey.
Pit 254, fourth century.

581 Bowl, dark grey ware, with a black slip and girth grooves on the body.
Pit 268, pre-Flavian.

582 Bead rimmed jar, rough grey ware, with burnished band on lip and lug handles.
Pit 259, with first- and second-century samian.

583 Bowl, hard grey ware; smooth surface with incised and rouletted bands of decoration.
Pit 267.

584 Carinated beaker; cf. *Rich.* 289. Smooth dark grey ware; black paint and black band inside rim.
Pit 279, last quarter of first century.

585 Indented beaker, white ware with rich brown colour coat, mottled to black inside and out.
Area XXIII, above house.

586 Jar, coarse black ware with roughly burnished surface.
South-west area of fort, surface.

587 Jar, drab ware with light brown slip and a slightly burnished surface.
South-west area, surface.

588 Jar, coarse black ware with roughly burnished surface.
South-west area, surface.

589 Jar, rough grey ware, burnished on the lip and neck.
Area XVII/32, unstratified.

590 Jar with irregular black band below rim and above base. Rough shallow lattice pattern of triple lines. The urn contained two small plain Castor ware cups, 590 A, and one coin each of Antoninus Pius and Faustina I. Urn burial.
South-west area, diagonal trench I.

590A Small plain Castor ware cups. One complete, the other badly broken.

591 Bowl, hard brown ware, smooth reddish-brown surface.
South-west area, surface.

592 Jar, very hard drab ware. The inner surface polished yellow and similar traces on neck outside.
South-west area, in deposit of lumps of stone.

593 Jar, black native ware.
South-west area, surface.

594 Strainer, hard buff ware.
Area XVII/32, west, south of wall trench IV. In road below upper pebble layer.

595 Jar, cf. *Rich.* 467.
South-west area, surface.

596 Dish, dark grey ware with burnished surface.
Area XVII/32, south of Chalk House, in 3 ft. of mixed soil.

597 Bowl, soft red ware, decorated with white paint.
Area XVII/32, west of north–south road in a deposit, late first or second century.

598 Dish, dark grey ware with burnished surface.
Area XVII/32, south of Chalk House in 3 ft. of mixed soil.

599 Jar, native ware, fired brown to black.
South-west area, surface.

600 Jar, black ware.
South-west area, surface.

601 Bowl, pink ware with glazed surface.
Area XVII/32, pit 256.

602 Dish, hard grey ware with lattice pattern.
Area XVII/32, in a deposit of late first or early second century.

603 Beaker, soft red ware, glazed.
Area XVII/32, west of north–south road in a deposit of late first to early second century.

604 Dish, brown ware, burnished on outside.
Area XVII/32, west of Claudian ditches.

605 Bowl with horizontal grooved rim. Black ware.
Pit 253, fourth-century top filling.

606 Jar, rough red ware, burnished rim.
Unstratified.

607 Heavy cooking pot, black ware decorated with an irregular lattice pattern.
Unstratified.

608 Small jar, brownish-buff ware, burnt black in places.
Unstratified.

609 Bead-rimmed jar, black ware.
Unstratified.

610 Small jar, smooth pinkish ware.
Area south of fort, unstratified.

611 Small stump-footed cup, black ware.
Unstratified.

612 Small jar, black ware.
Unstratified.

613 Cup, hard smooth pale buff ware, thin wall.
Area XVII/32, west of Claudian ditches.

614 Dish, dull-grey ware, black burnished surface.
South-west area, surface.

615 Jar, drab ware with cream speckled surface.
South-west area, surface.

616 Jar, black ware.
South-west area, surface.

617 Jar, coarse black ware, slightly burnished outside.
South-west area, surface.

618 Jar, red native ware.
South-west area, surface.

619 Bowl, light-grey ware, black slip outside and inside on lip.
Unstratified.

620 Jar, light-grey clay with darker slip.
South-west area, surface.

621 Cover, Castor ware, dark brown to black metallic surface. Hole in the centre of the grip. (Drawn upside down.)
South-west area, surface.

622 Jar, coarse black ware, rilled horizontal rim.
Unstratified.

623 Jar, black ware.
Unstratified.

Makers' Stamps on Plain Samian

By Brenda Dickinson, B. R. Hartley, and Felicity Pearce

With the new material recorded below, Richborough now has a total of over 1,400 identified stamps on samian ware. It is, accordingly, worth attempting a general summary of the evidence, for the bearing that it has on the density of occupation of the site at different periods and on its trade connexions (see p. 146, below).

It should be explained that the last-named writer was responsible, when Research Assistant in Romano-British Archaeology in the University of Leeds, for recording all the Richborough stamps that could be found on the site, and for most of the identification of the dies in question. The other writers compiled the notes below from these identifications.

Evidence accruing from the collection of material for a new index of stamps on samian ware has been used to add more precision than has usually been possible before in the identification of fragmentary stamps, and in the assignment of stamps to particular potteries and date-ranges. This inevitably means much modification of solutions proposed by Dr. Felix Oswald in his magisterial *Index of Potters' Stamps on Terra Sigillata*. But the necessarily laconic correction of former opinions stated below should not be taken to imply any lack of respect for a remarkable man and his work. Much has been learned since Dr. Oswald's pioneer work, often indeed as a result of it.

Under each entry in the following list an attempt is made to note any modifications needed to the published material from Richborough, but it is impossible to take into account amendments needed for the potters not listed under the new finds. A brief statement of the total of stamps from the site is added for each potter under his appropriate entry when there are securely identified stamps from the earlier excavations. No new stamps on decorated ware are included below, since most of the pieces noted in Dr. Pryce's manuscript list were not available when the recording was done. However, all the earlier stamps on decorated samian are taken into account in the summary.

In the lists below stamps of different potters of the same name are under separate entries. The different dies involved for each entry are distinguished by the capital letters in brackets.

1 (A) [A]BITVSF. Form doubtful. No no.

All the evidence points to a pre-Flavian date for this La Graufesenque potter, F. Oswald, *Index of Potters' Stamps on Terra Sigillata*, p. 1 (cited below as Oswald), though it is less certain that the stamps HABITVS, HABITI, and HABIT belonged to him.

2 (A) ACVRIO·F. 33. No. 1466.

Examples of this stamp on forms 38 and 80 found at Lezoux give

the origin and date. He also produced form 37 bowls with typical Antonine decoration (Stanfield and Simpson, 278).

3 (A) [ADVO]CISI O. 33. No. 1960.
Evidence from dated military sites shows that ADVOCISVS worked within the period A.D. 160–90. This die has been recorded twice before, and there is a stamp from another die.

4 (A) AESTIV[IM]. 31. No. 1779.
Several stamps from Pudding Pan Rock and from Period I b of Hadrian's Wall establish a late-Antonine date for this Lezoux potter. Two other examples and one from another die.

(B) AISIM. 33. No. 1595.
This stamp, and a similar one reading AISII·M, recorded from Charterhouse-on-Mendip and Corbridge, may also belong to AESTIVVS. At least there is no doubt that they belong to an Antonine potter of Lezoux.

5 (A) OFALBANI. 27. No. 1732.

(B) OFALBANI. 27 (twice). Nos. 1467 and 1730.

(C) ALBANVS (retro.). 18R and 18. Nos 1561 and 1886.
All these stamps belong to the South Gaulish potter, for whom stamps from dated sites suggest Neronian and early-Flavian activity. Four others from several dies.

6 (A) [OF]ALBI. 18. No. 1718.
A stamp of the South Gaulish ALBVS, whose activity extended down to the Flavian period. His stamps in the genitive with *officina* are probably the latest. Another example from this die and one from an earlier (Claudian?) die.

7 (A) ANEIXLS. 33. No. 1505.
This is the third example of the stamp on form 33 from Richborough. Although the reading is reasonably clear, its interpretation is in doubt. However, this die appears regularly on second-century vessels in Central Gaulish fabric, and the potter can no longer be assigned to the first century (*Richborough I*, 61).

8 (A) OFAPRO. 27 and uncertain form. Nos. 1808 and 1788.

(B) oFAPRO. 27. No. 1823.
These stamps are taken by Oswald (Oswald, 20) to belong to L. APRONIVS of Montans. This is less than certain, but there is no doubt that they are South Gaulish and Flavian–Trajanic.

9 (A) ACVIT[A]. 27. No. 1588.
This die occurred in one of the Colchester Pottery Shops (Hull, *Roman Colchester*, fig. 97, 1), and so should be Neronian. Two others.

(B) [AQ]VITAN. 27. No. 1669.
This die is not otherwise known, but it must be assigned to AQVITANVS, who used several others, reading AQVITAN.
There are now fifteen stamps from several dies.

10 (A) [A]RDA[. Uncertain form. No. 1894.
This is undoubtedly a stamp of the pre-Flavian South Gaulish potter ARDACVS. Eight examples from other dies.

11 (A) ARNCIMA. 33. No. 1671.
This stamp is known from Pudding Pan Rock and several other late-Antonine contexts. Many of the stamps recorded by Oswald (Oswald, 23) under ARICIMA are from the same die.

12 (A) ASIATI[CI·OF]. 33. No. 1800.
An Antonine potter of Lezoux, ASIATICVS evidently also made colour-coated folded beakers with barbotine decoration (*Bull. Soc. Ant. France*, 1883, 9). There is now no reason to think with Oswald (Oswald, 24) that he began work under Hadrian. Three previous records.

13 (A) ATICA. 27. No. 1817.
Otherwise only known from Leicester, also on form 27. Both cups are South Gaulish and probably Flavian or Trajanic.

14 (A) [AT]ILIANI·O. 31. No. 1617.
Stamps from this die occur in late-Antonine groups at the workshops at Ligonne on the outskirts of Lezoux, together with many other stamps of his. His work is also plentiful in the Pudding Pan Rock wreck. Two other stamps from different dies.

15 (A) ATTICI·M. 18/31. No. 1789.
This die was used by a Hadrianic–Antonine or early-Antonine potter of Lezoux. It should be observed that Oswald (Oswald, 28) included some East Gaulish stamps under the Lezoux heading.

16 (A) AVEV. 27. No. 1652.
The die, which is also on a form 27 from Cirencester, is certainly South Gaulish, but neither the date nor the potter's name is clear, though the reading is certain.

17 (A) AV.NEDOS. 32 or 79. No. 1568.
AVNEDOS was undoubtedly an East Gaulish potter, probably of the Argonne, to judge by the distribution of his stamps. There does not appear to be any independent dating evidence, but the forms used suggest Antonine activity. There is one other stamp from the site.

[50] BALBINUS. See ENIBINVS.

18 (A) OFBASSI and OFBAS[. Both form 18. Nos 1774 and 1683.
Three former records at Richborough and a recent one at La Graufesenque.

(B) OFBASSI. 27. No. 1882.
Known from Claudian contexts at Valkenburg.

(C) OFBASSI. 24. No. 1845.
Otherwise unrecorded.

(D) OFBAS. 27. No. 1498.

(E) BASSI. 18. No. 1918.
Noted from La Graufesenque and Sels.

(F) BASSVS. 18. No. 1699.
This die occurs both at Sels and Camulodunum and is clearly pre-Flavian.

(G) OFBA[. 18. No. 1883.
Die uncertain.

The total of Richborough stamps is now twenty-four. Most, including all the present stamps, are pre-Flavian, but a few may be Vespasianic.

19 (A) OFBASSIC. Uncertain form. No. 1859.
Same die as the cups of the BASSVS-COELVS firm recorded in the Third Report and which also appeared in the Colchester Pottery Shop of A.D. 60 (Hull, *Roman Colchester*, fig. 76, 5). Four other stamps of the partnership.

20 (A) BEL[INICIM] (retro.). 33. No. 1563.
A die of the Lezoux potter recorded several times previously at Richborough and elsewhere in Antonine layers, sometimes later than A.D. 160.

(B) BELINICI. 33. No. 1490.
Another die of the same Antonine potter, who must be distinguished from BELINICCVS of Les Martres-de-Veyre, who usually stamped BELINICCVSF and worked under Trajan.

21 (A) BISSVNI. 27. No. 1755.
From the same die as four earlier records. BISSVNVS was a South Gaulish potter whose Flavian date is suggested by a stamp from the timber levels of the fortress at Caerleon.

22 (A) BORILLIOF (twice). 18/31R and 79R. Nos. 1551 and 1492.

(B) BORILLIOF (twice). 33 and 38? Nos. 1867 and 1851.
BORILLVS of Lezoux certainly worked in the Antonine period, probably for a long time, since he used many different dies, stamped on pots with a wide typological range. His latest products are presumably later than A.D. 176, since Plicque records a coin of that date under the structure of a kiln assigned to him (*Compte-Rendu du Congrès archéologique*, 1885, 286).
There are seven other stamps, and he was therefore one of the more prominent Central Gaulish suppliers of the site.

23 (A) BVCCIO. 15/17. No. 1648.
Although not recognized by Oswald, there is now no doubt about the existence of a South Gaulish BVCCVS or BVCCIVS. Added to the evidence of *Richborough I*, 63, stamps from Period I of Valkenburg clinch the matter and suggest a Claudian date.

24 (A) CALVINI. 18? No. 1539.
Oswald (Oswald, 55) only recognized a South Gaulish CALVINVS, to whom this stamp belongs. Recent discoveries at Lezoux, however, confirm the existence of a second-century potter, as suggested in *Richborough IV*, 197–8.

25 (A) OFIↃALVI. 33. No. 1756.
(B) OFCALVI (twice). Both 18. Nos. 1684 and 1862.
(C) OFCALV[I]. 33. No. 1629.
(D) OF CALVI. 18R. No. 1906.
(E) [OFC]ΛLVI. 18. No. 1857.
(F) OFCΛLVI (twice). Both 18. Nos. 1770 and 1829.
(G) [O]FCALVI. 18. No. 1806.
(H) O F CALV. 33. No. 1616.
(I) OFCALV[. 27. No. 1766.
(J) OFCAL[. 18. No. 1501.
(K) OFCAΓV[. 18. No. 1692.
Thirteen stamps of CALVVS from eleven different dies now bring the total for Richborough to at least forty-two identified stamps, almost all Flavian. Recent records from Broxtowe, Camulodunum, Burghöfe, and Valkenburg confirm Oswald's belief that he began work under Nero, probably about A.D. 65, but only two of the Richborough dies are likely to be so early. Despite the enormous production, involving at least thirty-seven dies reading OFCALVI alone, it seems clear that only one workshop is in question.

26 (A) [C]ΛNΛIM. 33? No. 1871.
This particular die has only been recorded otherwise at Corbridge on form 33, but a very similar one occurs at Vichy on form 80, thus suggesting an Antonine date for the potter, whose name is usually taken to be CANAVVS.

27 (A) CARΛN͡TIF. 15/17. No. 1752.
A die of the South Gaulish CARANTVS, who worked in the Flavian period. The three earlier Richborough stamps (*Richborough II*, 75; *Richborough IV*, 225) from this die must now be reassigned.

28 (A) CARATILLI. 33. No. 1687.
The only stamp of CARATILLVS of Lezoux from the site, this belongs to the late-Antonine period, judging by the presence of his

work at Pudding Pan Rock and in the destruction deposit of the Antonine II fort at Corbridge.

29 (A) CARILLI. 18. No. 1557.
South Gaulish. His decorated ware and the site-evidence suggest Flavian date.

30 (A) CARVSSA. 38? No. 1463.
(B) C.·.A[RVSSA]. 38. No. 1916.
Both the forms used and the site record suggest late-Antonine date for this Lezoux potter. Two others.

31 (A) [O]FCASTI. Uncertain form. No. 1838.
A stamp of the pre-Flavian South Gaulish potter. Two others.

32 (A) CATIANI[·M]. 33. No. 1514.
This die is present in the Wroxeter Gutter Group (after A.D. 160), and the site-record as a whole demands late-Antonine dating, and origin at Lezoux. However, it seems almost certain that there must also have been a first-century CATIANVS, since it would be difficult otherwise to account for records on form 24 at Autun and Tours and on form 15 at Cuijk.

33 (A) CELƧI (retro.). 24/25 (twice). Nos 1579 and 1875.
Stamps of the South Gaulish potter, the site-evidence suggesting Neronian or early Flavian date. The other potter of this name represented at Richborough worked at Lezoux in the Antonine period (*Richborough II*, 88 and *Richborough III*, 150, evidently taken to belong to the first-century potter).

34 (A) OF·C·N[·CEL]. 18. No. 1529.
The site-record for this South Gaulish potter, including Heronbridge, Holt and Wilderspool, seems to require Flavian–Trajanic dating. Four more stamps.

35 (A) OFCE[NS]. 18. No. 1532.
(B) OFC·EN (thrice). All 18. Nos. 1620, 1768, and 1769.
(C) OF·CEN. 18. No. 1740.
(D) CENSSORFEC (retro.). 18R. No. 1769.
These are all stamps of the South Gaulish, Flavian potter. Six others from several dies.

36 (A) CERIALI·M͡A. 27. No. 1720.
This stamp certainly belongs to a second-century Lezoux potter, though it is perhaps not quite certain that he is to be equated with the CERIALIS who signed moulds for form 37, once at least a mould stamped with the small early CINNAMI (retro.) stamp. The connexion is particularly interesting, because it is now known that CERIALIS and CINNAMVS, in his early phase, both used the ovolo with beaded tongue

that the second writer has discussed in connexion with the PAVLLVS Group (*P.S.A. Scot.* xciv, 103 and *Derbyshire Arch. J.* lxxxi, 97). Most important, the ovolo occurs on bowls from the Ligonne site at Lezoux in large groups of *c.* A.D. 125–45, and these bowls are probably to be assigned to CERIALIS. These facts tend to suggest that the Richborough stamp probably does belong to the same potter, since the die is common on form 27 cups of Hadrianic–Antonine type.

37 (A) CETV[S·FE] in an ansate panel. 18/31. No. 1596.
It is unlikely that this stamp belongs to CETTVS, who worked at Les Martres-de-Veyre in the Antonine period and made form 37. The Richborough dish is in Lezoux fabric, and the die used to stamp it is particularly interesting, because it began as a normal label stamp, was chipped and then recut in ansate form with the C and final E in the *ansae*. The date is mid-second century, since stamps with the single T appear in Scotland, but are also common on form 27.

38 (A) CINTVSMIM, twice. 18/31 and 18/31R. Nos. 1592 and 1772.
The Antonine potter of Lezoux, who sometimes made decorated bowls from CINNAMVS moulds. Two other stamps.

39 (A) COC[VR]OF. 18/31R. No. 1833.
COCVRO can scarcely have been as early as Oswald thought (Oswald, 83), since he made form 80, though admittedly an early variety typologically. His stamp is also known from the Verulamium Second Fire of *c.* A.D. 150–60. On the whole, a Hadrianic–Antonine date seems likely, both for this die and the only other one from Richborough.

40 (A) COMP[. 18/31. No. 1567.
This stamp presumably belongs to COMPRINNVS of Central Gaul, whose work is rare and unsatisfactorily dated, though more likely to be Antonine than earlier.

41 (A) COSI·RVFI[N]. 18? No. 1804.
The die has not hitherto been recorded from Richborough, though there are eleven other stamps. South Gaulish and Flavian–Trajanic.

42 (A) COSIVS·V͡RA͡P. Uncertain form. No. 1584.
South Gaulish. Despite the peculiarity of the first S, it is unlikely that a ligature of SP is involved as was formerly suggested (*Richborough IV*, 201). The die is also known from Camulodunum, where it is presumably Neronian rather than later.

43 (A) OFCRESTI (retro.). 33. No no.
There are two overlapping impressions of the same stamp.

(B) OFCREST. 27. No. 1486.
The only example at Richborough of one of the latest dies used by CRESTIO. There are four examples at Corbridge, and it is therefore likely to be Vespasianic.

(c)]RESTIO. 27. No. 1741.

This stamp has not been noted elsewhere and its complete form is therefore unknown.

Nineteen stamps of CRESTIO from twelve different dies have now been recorded. Most are pre-Flavian.

44 (A) L·S·CRE. 36 or Curle 15. No no.

A stamp of CHRESIMVS of Montans only otherwise known on forms 36 and Curle 15 in France. The dating of such late products of Montans, which are not common in Britain, has never been satisfactorily established, though most are likely to be Flavian–Trajanic or even slightly later, rather than Flavian. There are three other stamps.

45 (A) CRISP. 27. No. 1707.

There was probably more than one South Gaulish CRISPVS, and this example is likely to be Flavian, though the other Richborough one (CRISPI·MA: *Richborough IV*, 201) is almost certainly Claudian.

46 (A) DONATVSF. Uncertain form. No. 1765.

The rim of the vessel is missing, but the wall and base are very like Stanfield's unusual form 50 (*Arch. Journ.* lxxxvi, 142 with fig. 10). Oswald (Oswald, 109, 382) records three DONATI working respectively in South Gaul, at Lezoux, and at Rheinzabern. This stamp is not known elsewhere and could belong to either of the first two potters.

47 (A) DONTIOIIICI (thrice). All 27. Nos. 1573, 1645, and no no.

Judging by his distribution, DONTIO appears to have worked in Central Gaul, but his cups of form 27 always have a groove around their footrings and his 33's have domed bases, internal fluting at the junctions of bases and walls, and usually external grooves at the tops and bottoms of the walls. These are all typical South Gaulish features. The solution may be that he worked at Les Martres-de-Veyre, where these traits were sometimes retained in early-second century products. There is no warrant for believing, with Oswald (Oswald, 110), in any Antonine activity. That belief was evidently based on a record on form 32 at Neuss, but as it is now known that the form was never made in Central Gaul, the identification of the Neuss piece must be rejected. Trajanic-Hadrianic date seems reasonably certain. Three other stamps.

48 (A) DVRIИX. 18. No. 1760.

South Gaulish fabric. Oswald (Oswald, 113, 254) preferred to read PVRINX, but the D is clear on this example. DARINX, retrograde, may be a more acceptable solution. Probably Flavian.

49 (A) ELVILLI. 79. No. 1866.

This die, recorded twice before from the site, is the only one used by ELVILLVS. His late-Antonine date is attested by examples in the

Wroxeter Gutter, and recent records at Lezoux show that there is no question of origin at Colchester, as Mr. M. R. Hull has conjectured (*Colchester Kilns*, 87).

50 (A) IIИIBINI•M. 18/31. No. 1506.

This well-known, if enigmatic, stamp has been recorded twice previously on the site. Oswald assigned it to an AINIBINVS or ENIBINVS of South Gaul, and one of the earlier Richborough stamps (from Pit 216: *Richborough IV*, 203) was dated *c.* A.D. 70–90. None of this makes good sense, since the potter certainly worked at Les Martres-de-Veyre (*Germania* 32, 172, no. 97), and his dishes turn up regularly in early-second century contexts, including the London Second Fire (seven examples: *Antiq. Journ.* xxv, 75). He was clearly a Trajanic–Hadrianic potter. As for the name, some impressions from Les Martres-de-Veyre seem to read BAIBINI•M, with slightly disjointed B's and a faint intrusive diagonal stroke in lower relief between the first B and A. This stroke becomes more prominent in later impressions, as if the flaw in the die was widening, and gives rise to the suggestion of reversed N as the second letter.

51 (A) FELICIONS. 18. No. 1587.

FELICIO͡NIS was presumably intended. FELICIO was a Montans potter, whose work is common in second-century contexts, though he may have begun work before the end of the first century. It seems likely to us, though the case cannot be fully argued here, that he was still exporting to Britain as late as Hadrian's reign, if not up to A.D. 140, that the recorded stamps from Old Kilpatrick and Camelon belong to the Antonine occupation, and that the earlier Richborough ones (*Richborough IV*, 204) belong to this potter too, and not to an East Gaulish potter, as was suggested.

52 (A) OF FEICIS. 18. No. 1660.

(B) OFFEI[. 18. No. 1583.

(C) FELICISO. 18. No. 1575.

(D) FELICI[. 18. No. 1679.

All are South Gaulish dies, and probably all pre-Flavian. There are six more stamps.

53 (A) O•FIRMONS (twice). 18R and 18? Nos. 1658 and 1677.

(B) OFIRMON. 27. No. 1495.

FIRMO seems to have worked in South Gaul in both Neronian and Flavian times, since there are records both from Camulodunum and from sites first occupied under Agricola. Seven others.

54 (A) OFF͡L•GER. 18. No. 1500.

This, and similar stamps, is usually assigned to a partnership, of a FLAVIVS and a GERMANVS, but it seems more probable that a single

man is involved, as Flavius is a regular *nomen*. The site-evidence points to the Flavian–Trajanic period, and one example is recorded from a site not occupied before Hadrian, namely Stanwix (Oswald, 124) but the stamp cannot now be traced.

55 (A) OFFRONTINI (twice). 18 and 18R. Nos. 1697 and 1917.

(B) FRONTIN. 27. No no.

The prolific South Gaulish potter, working primarily under Vespasian and Domitian, has fifteen more stamps from the site.

56 (A) OFGAI (retro.). 27. No. 1900.

This die occurred in the Burghöfe Geschirrdepot (Ulbert, *Aislingen und Burghöfe*, Limesforschungen I, 41—assigned to CALVVS), and so is likely to be Neronian and early-Flavian.

57 (A) GALLICAN[. 18. No. 1508.

The only example of the pre-Flavian South Gaulish potter GALLICANVS from Richborough.

58 (A) GALL[. Uncertain form. No. 1459.

Probably a stamp of GALLVS and perhaps from one of the two dies of this South Gaulish potter previously recorded. The dating suggested (*Richborough IV*, 204) needs modifying in view of two stamps from Period II of Valkenburg.

59 (A) GEMINIF. 33. No. 1742.

This die was assigned by Oswald to a first-century potter of Lezoux (Oswald, 132), but is now known to be Antonine, since it is found on form 79 and other typically Antonine vessels.

(B) GEMI[NIM]. 33. No. 1849.

Presumably the same potter, this die is known on form 45, and so must be late-Antonine. Another from the site.

60 (A) GEMENI·M. 33. Nos 1454 and 1531, joining.

An Antonine potter of Lezoux, attested there by recent records on forms 79R and 79/80.

61 (A) GERMA (twice). 24 and 27. Nos. 1815 and 1778.

(B) GERMA (twice). 27 and 33. Nos. 1452 and 1922.

(C) GER[MANI]. 18. No. 1785.

All are stamps of the well-known Neronian–Vespasianic potter of La Graufesenque, now with fifteen stamps from the site.

62 (A) GERMAND. 27. No. 1518.

This die is not known to Oswald, but another example has recently been found on form 29 at La Graufesenque. It probably denotes a partnership of the man who was also connected with Niger (Oswald, 220), whose name is usually expanded to Andecarus, though only the

first three letters ever appear. The partnership of NIGER and AND-- seems to have lasted down to Vespasian, and the same is likely to apply to the association with GERMANVS.

63 (A) GIRO FE. 18. No. 1884.
Oswald (Oswald, 137) assigns GIRO tentatively to Lezoux and the Neronian–Vespasianic period. Lezoux was probably suggested because of a record of a stamp on form 33 at Cirencester, but that proves to be a broken stamp of CRICIRO of Lezoux reading]C•IR•O•OFI. Once that is disposed of, the records suggest South Gaulish origin and Neronian date.

64 (A) GNATIV[S]. 33. No. 1721.
GNATIVS worked in Central Gaul rather than La Madeleine, as Oswald suggested (Oswald, 138), probably at Les Martres-de-Veyre, to judge by his fabrics. Examples from Newstead and Camelon suggest Antonine activity, but his frequent use of form 27 may mean that he began under Hadrian.

65 (A) HABILISM. 31. No. 1662.
HABILIS was an early- to mid-Antonine potter of Lezoux. One other stamp.

66 (A) IANVARIS. 33. No. 1505.
A die of the Antonine potter of Lezoux, who was closely connected with PATERNVS in his early phase when he was using the small PATERNIM plain-ware stamp impressed in the moulds of his decorated bowls. This die of IANVARIS is also known on form 79 from Lezoux.

67 (A) IAVE. 27. No. 1924.
This and the only other stamp known from this die (at Catterick) are both on South Gaulish cups. They are Flavian or Flavian–Trajanic, and the potter's name was perhaps IAVENVS (Oswald, 143 for a potter, or potters, of this name).

68 (A) IVLLIN (twice). 15/17 and 18. Nos. 1538 and 1814.
The dies of the various IVLLINI are hopelessly confused by Oswald (Oswald, 152). This particular one definitely belongs to the South Gaulish potter, since it has been found in the recent excavations at La Graufesenque. The site record points to Flavian date.

(B) IVLLINI. 15/17. No. 1828.
Recorded only at Richborough, the form and fabric suggest the same potter as the last, who has two more stamps from the site.

69 (A) OF•LABE. 18. No. 1667.
This stamp, now recorded three times from Richborough, is often read OF LABI, but on clear impressions the final letter is seen definitely to be an E. This was no doubt one of the latest dies of LABIO,

since it is recorded from York, but there is no reason to suppose that it is much, or at all, later than A.D. 70.

70 (A) LARTIVS. 18. No. 1812.
Although assigned to Lezoux by Oswald (Oswald, 158), this and the former Richborough example from the same die (*Richborough III*, 137), as well as another die on form 15/17 from Period IV at Camulodunum, show conclusively that he was South Gaulish and pre-Flavian to early Flavian.

71 (A) LATT•OI. 18/31. No. 1630.
Stamps of LATTO are known otherwise only from Reims, where four different dies are recorded (Habert, *La Poterie antique parlante*, pl. XVII), so he was probably an Argonne potter. The forms suggest Hadrianic–Antonine or Antonine date.

72 (A) OFLICINI[ANA]. 18. No. 1623.
The commonest stamp of the *officina Liciniana*, not previously recorded from Richborough, however. All the dated examples are pre-Flavian. Three different stamps of the workshop have already been noted from the site.

73 (A) OF•LIC[. 27. No. 1890.
Probably a personal stamp of LICINVS rather than another of the LICINIANA stamps. Sixteen more stamps.

74 (A) LOGIRNM. 18. No. 1661.
LOGIRNVS now has thirteen stamps at Richborough. In view of the consistently Flavian site-records elsewhere, including several examples in the stores abandoned at Inchtuthil about A.D. 87, the previous record from Pit 47 (*Richborough III*, 151) is perhaps dated too early.

75 (A) LVPINI•M. 31. No. 1743.
Oswald (Oswald, 171) assigned LVPINVS to Lubié and Domitian's principate. In fact he worked at Lezoux, where this die occurs on form 38. The suggestion of Antonine date is confirmed by a typologically early example of form 79 from the Verulamium Second Fire. The stamp recorded for the Bregenz Cellar must have been intrusive.

76 (A) LVPPA (twice). Both form 18/31. Nos. 1656 and 1892.
LVPPA worked in Central Gaul, probably in the mid-second century. A record on form 32 from Ladenburg (Oswald, 170) must be erroneous, if it is the same potter, for the form was certainly never made in Central Gaul.

77 (A) LVPVS. 27. No. 1892.
This die of LVPVS of South Gaul appears definitely to be pre-Flavian, since it is often stamped on forms 24, Ritterling 8 and Ritterling 9, including examples from La Graufesenque. Two others.

78 (A) OF•MACCA. 27? No. 1591.
A stamp of MACCARVS of South Gaul, whose work seems to be entirely pre-Flavian. Nine other stamps.

79 (A) MAC•RI•MA. 27. No. 1824.
MACER of La Graufesenque, where this die has been noted, seems to be dated rather late by Oswald (Oswald, 175) in view of a record from Period II at Valkenburg. There is certainly nothing in the site-record or decorated ware to suggest Flavian date so far. Two more stamps.

80 (A) MACRIANIA. 31. No. 1593.
The only stamp of MACRIANVS of Central Gaul from Richborough. A record at Pudding Pan Rock confirms the late-Antonine date suggested by the forms for this die.

81 (A) [M]ACRINIOF. 33. No. 1649.
This die was included under MACRINVS of La Graufesenque by Oswald (Oswald, 176), but it belongs to the Lezoux potter, as its presence in the Astwick Group on form 31 shows (VCH Beds., vol. 2, 4). It also occurred in a second-century burial at Baldock (*Arch. Journ.* lxxxviii, 263). Finally, this and another record of the same die (*Richborough III*, 158) are on Central Gaulish vessels. The site-record favours a mid- to late-Antonine date.

82 (A) MALLEDO•F. 18/31. No. 1625.
Antonine date is affirmed by the use of this die on form 80 at Lezoux.

83 (A) MAM[MI•OF]. 80. No. 1572.
The only stamp from the site belonging to this Antonine potter of Lezoux, who was closely connected with CENSORINVS, to judge by their decorated bowls.

84 (A) MANDVIL[MA]. 18. No. 1544.
The die is known from a deposit of Period III at Valkenburg (*c.* A.D. 48–70 according to van Giffen), and also occurs at Chester. Unless the latter comes from the hypothetical early fort, the date is likely to be Neronian and early Flavian.

85 (A) MARCIILLIMA. 33. No. 1839.
A record for this die on a standard form 31 of Hadrianic–Antonine or Antonine date in Peterborough Museum suggests that it belongs to the Lezoux potter of the middle of the second century.

86 (A) OFMAPOMII. 18 to 18/31. No. 1825.
A die only recorded once before, on a form 18 in marbled ware at Leicester. In view of this, a pre-Flavian date seems most likely, though it should be observed that marbled ware was certainly made, if rarely,

as late as A.D. 80 or 85 in South Gaul as a form 37 of *c.* A.D. 80–110 at Germa (Libya), communicated by Mr. John Hayes, shows.

87 (A) MASCLI BALBVS. 18. No. 1725.
A die recorded once before at Richborough (*Richborough IV*, 210). Neronian to early-Flavian dating is to be preferred to Oswald's Flavian one.

88 (A) [MA]TERNI. 79/80. No. 1576.
This stamp is also known on form 27 at Lezoux, and it is likely to be earlier than the ones from unligatured dies reading MATERNI known from Pudding Pan Rock.

89 (A) MEMORISM (twice). Both 27. Nos. 1690 and 1708.
This is the commonest die of MEMOR of La Graufesenque, and is usually found with the M's at the beginning and end only half impressed, as here. Frequently from Flavian contexts, this is likely to be his latest die. Six more stamps from this die.

90 (A) MIC[CIVSF]. 18/31. No. 1540.
It is not certain that the stamps in this form belong to the potter who stamped MICCIO etc., but this die appears always to be on standard Central Gaulish ware of Antonine date.

91 (A) [OF•]MODE[STI]. 18. No. 1682.
(B) OFMODES. 27. No. 1745.
(C) OFMOD (twice). Both 27. Nos. 1550 and 1663.
All stamps of the South Gaulish pre-Flavian potter, twelve of which have been recorded previously.

92 (A) OFMOM. 18. No. 1626.
(B) OFMOM. 18. No. 1842.
(C) OFMO. 27. No. 1901.
(D) MOM.. 24. No. 1830.
All are stamps of the Neronian–Flavian South Gaulish potter MOMMO, and they bring his Richborough total to fourteen.

93 (A) [OFM]ONTICI. 27. No. 1759.
(B)]NTC. 18. No. 1864.
Both stamps of the South Gaulish potter MONTICVS, whose activity was mainly early-Flavian. Four more stamps.

94 (A) MOSSI•M. 33. No. 1556.
Whether MOSSIVS and MOXIVS were the same potter or not, there is no doubt that this die belonged to an Antonine Central Gaulish worker, as it has previously been recorded at Richborough on form 80, and also at Lezoux. Three stamps altogether.

95 (A) OFMV͡RRA (twice). 18 and uncertain form. Nos. 1668 and 1600.
(B) OF MVRR[A]. 18. No. 1738.
All stamps of the well-known South Gaulish potter. Most of his work is pre-Flavian, though a few records suggest that he may have worked down to about A.D. 75. Fifteen other stamps.

96 (A) [NA]MILIAN[I]. 33. No. 1703.
The site records for this and other dies suggest that NAMILIANVS worked at Lezoux mainly after A.D. 160.

97 (A) OFNICI. 33. No. 1462.
Almost certainly a stamp of NICIVS of South Gaul, whose work is not well-dated, but likely, as Oswald suggested, to be Neronian and early-Flavian.

98 (A) OFNGRI. Uncertain form. No. 1574.
(B) OFNGRI (thrice). 18 (twice) and 27. Nos. 1545, 1878, and 1820.
(C) OFNIGR (twice). Both 18. Nos. 1509 and 1762.
All are stamps of NIGER of La Graufesenque, who worked predominantly, and perhaps entirely, in pre-Flavian times. Richborough now has twenty-seven stamps from five dies.

99 (A) OCI[. 27. No. 1582.
Probably from a die of OCELLVS of South Gaul and reading OCIIL in full. Dating-evidence is meagre, but consistent with the Neronian or early-Flavian periods.

100 (A) OFPASSE (twice). 18 and uncertain form. Nos. 1775 and 1837.
(B) PASSENM[A]. 18. No. 1533.
(C) PASSEN. 27. No. 1586.
(D) PASSEN. 27. No. 1571.
(E) OPASE͡N. 27. No. 1881.
(F) P[ASSIE]NI. 18. No. 1719.
(G) PASSIE. Ritterling 9. No. 1835.
(H)]SSIEN. 18. No. 1708.
It seems certain that all these dies belong to the same potter, who was predominantly pre-Flavian but may have been active as late as A.D. 75. Altogether there are thirty-two stamps from seventeen dies.

101 (A) •PATERATIOF (twice). 18/31 and 81. Nos. 1487 and 1810.
PATERATVS is not well-dated, though two stamps from this die were found in 1964 at Lezoux in a large mid-Antonine group.

102 (A) [PAT] ERCLOSFE. 18/31. No. 1496.
(B) [PAT]ERCLO. 18/31. No. 1818.
(C) PATERCLVSF. 18/31. No. 1734.

All three dies seem to belong to the early second-century potter of Les Martres-de-Veyre, and the first and last have been recorded at that site (*Germania* 32, 172, nos 64 and 65).

103 (A) [P]ATERNI•M. 18/31. No. 1488.

(B) PATERNVSF. 33. No no.

These are stamps of the early second-century potter, whose work occurred in the burnt deposits of the Second Fire of London (*Antiq. Journ.* xxv, 76). The stamps are usually on vessels in the fabric of Les Martres-de-Veyre, but this potter may also have worked at Lezoux, where a stamp from die B has recently been noted.

104 (A) OFPATRC (twice). Both 18. Nos. 1465 and 1728.

(B) PATRICI. 27. No. 1782.

(C) PATRI[. 18. No. 1712.

Stamps of PATRICIVS of South Gaul. Flavian and perhaps early-Trajanic. There are seventeen more stamps of this potter.

105 (A) PATRICI•M. 18/31. No. 1543.

The Lezoux potter. Antonine.

106 (A) PAVLLVSF. Uncertain form. No. 1605.

South Gaulish. There may have been two South Gaulish PAVLLI, but this die must be Claudio–Neronian, as it was found in Period II at Valkenburg and in the First Colchester Pottery Shop (*Roman Colchester*, fig. 76, 3, where it is misread as AVITVSF).

107 (A) [PE]REGRIИ. 18. No. 1764.

Stamps from the same die are sometimes read PEREGRIV, sometimes as above, which seems more likely. Oswald (Oswald, 238) lists them under both PEREGRINVS and PEREGRIVS. There is no doubt of their Flavian date, and they appear commonly on Agricolan sites. There are five more stamps from the same die.

108 (A) PERRIMN. 27. No. 1622.

South Gaulish. Neronian or early-Flavian.

109 (A) PICVS (retro.). No. 1669.

There is no other record of this die, which presumably belongs to the South Gaulish potter who stamps OPIC and OFPI. The recorded forms suggest pre-Flavian date.

110 (A) PISTILLI. 33. No. 1513.

This stamp is found on form 80 at Lezoux, and another die is represented in the Wroxeter Gutter, so there is no doubt of the late-Antonine date. One other example.

111 (A) OFPOИTEI. 18. No. 1855.

A South Gaulish potter, with records on pre-Flavian forms and in

a pre-Flavian layer at Richborough (*Richborough IV*, 232); he also worked under the Flavians, as the site-records show. Six more stamps.

112 (A) [O]FPONTI. 18. No. 1854.
Oswald dated PONTVS to the Flavian–Trajanic period, and his work is certainly common on Flavian sites, but his stamps also appear on Ritterling 8 and on marbled ware, so a Neronian beginning is likely. On the other hand, there does not seem to be any evidence for work under Trajan. Three more stamps.

113 (A) PRIMA[NI]. Uncertain form. No. 1920.
The work of PRIMANVS is entirely Antonine, and there are examples in the Wroxeter Gutter and at Pudding Pan Rock. Five more stamps.

114 (A) PRIW[VLI]. 18. No. 1722.
South Gaulish fabric. Site-records strongly suggest that this potter continued to work in the Flavian period, but this die cannot be dated closely. Three more stamps.

115 (A) PRIMVL•PATER. 18. No. 1891.
(B) [P]RIMI•PATER. 18. No. 1901.
Close examination establishes that both these stamps are from the same die and that the stroke between M and L, as well as the tail of the L, do not always register, probably because the die was partly blocked with clay. This means that all the stamps previously assigned to a partnership of PRIMVS and PATER (Oswald, 250) and a pre-Flavian dish from Camulodunum (Periods IV–VI) must now be listed under PRIMVLVS and PATER, and the date for that partnership (Oswald, 248) changed to Neronian–Flavian. All the examples noted so far are on forms 18 and 18R.

116 (A) [OF•P]RIMI•SCO. 18. No. 1878.
The partnership of PRIMVS and SCOTTIVS is dated firmly to the pre-Flavian period by a stamp in the Second Colchester Pottery Shop (*Roman Colchester*, 198, no. 16).

117 (A) PRIMI•[MA]. Uncertain form. No. 1880.
(B) OFPRIM[. 27. No. 1514.
The first stamp is usually read PRM•MA, but there are two I's ligatured to the M. It has been found twice before. The second is from a die probably reading OFPRIMI in full. Both belong to the pre-Flavian South Gaulish potter, now with thirty-three stamps from the site.

118 (A) OFPVDEN. 33. No. 1749.
This South Gaulish stamp occurs in the Agricolan fort at Ilkley and also at Rottweil on a form 29 with decoration of about A.D. 75–85 (Knorr, 1919, Taf. 68). Oswald's dating (Oswald, 253) therefore needs to be altered. Three other stamps from the site.

119 (A) [R]EGENVS. Uncertain form. No. 1885.
This die is on pre-Flavian bowls of form 29 at La Graufesenque and Colchester. Two other stamps from the site.

120 (A) RITOGENI. 33. No. 1559.
A well known mid-Antonine potter of Lezoux. Two more stamps.

121 (A) R•O•M•A•N[IF]. 18/31R. No. 1665.
ROMANVS is assigned to South Gaul by Oswald (Oswald, 226), but this piece and a form 33 at Cirencester with the same stamp both look like Central Gaulish ware. There is no independent dating evidence.

122 (A) ROPPVƧ•FEC. 15/17. No. 1594.
This die is known at La Graufesenque and also from Period III of Valkenburg, so there is no doubt of the origin and of a pre-Flavian beginning, but it is not always easy to separate his stamps from a Central Gaulish homonym. Four of the Richborough stamps, all from this die, are certainly South Gaulish. The fifth is probably South Gaulish too.

123 (A) ROPPI•RVT•M. 18/31. No. 1489.
Stamps of this potter or potters have been found at Les Martres-de-Veyre. They are frequent in early second-century contexts in Britain.

124 (A) OFRVFIN (thrice). 27 (twice) and 33. Nos. 1483, 1603, and 1711.
(B) [O]FRVFIN[. 27? No. 1631.
All stamps of RVFINVS of South Gaul, and Flavian-Trajanic. There are eighteen more from the site.

125 (A) OFSAB. 27. No. 1836.
The reading of this stamp is rather dubious, but it is South Gaulish and probably Flavian. There are eleven stamps certainly by SABINVS.

126 (A) [S]ACRAPV. 18/31. No. 1869.
The entry SACIRAPVS or SACRAPVS in Oswald (Oswald, 276) may include the work of two potters. This die is found on vessels in the fabric of Les Martres-de-Veyre and is likely to be pre-Antonine.

127 (A) SANVILLI[. 38. No. 1805.
SANVILLVS of Central Gaul, for whom there is no satisfactory dating yet, though in view of the form this bowl is no doubt Antonine.

128 (A) SATVRN̂NI. 33. No. 1774.
A stamp of SATVRNINVS of Lezoux, late-Antonine and common at Pudding Pan Rock. Three more stamps from the site.

129 (A) SCOTNS. Uncertain form. No. 1856.
This stamp is certainly pre-Flavian, as it is found in the Boudiccan burning at Colchester and at Waddon Hill. One other example.

130 (A) [OFSEC]VND. Uncertain form. No. 1921.

(B) [OFSE]CVND. 18. No. 1485.

(C) OFSECV. 27. No. 1507.

(D) SECVNDMA (twice). Both 27. Nos. 1640 and 1654.

(E) SECVNDI. 27. No. 1695.

(F)]CVND (retro.). 18. No. 1853.

(G) SECVN[. 24. No. 1887.

(H) SECVND[. 18. No. 1877.

It is extremely difficult to separate the stamps of the various SECVNDI. Oswald (Oswald, 287 ff.) recognizes only one South Gaulish and one Central Gaulish potter, and the stamps recorded for them are mixed. There was certainly more than one SECVNDVS in each of the areas named. However, all the stamps listed above are South Gaulish, and they seem to be mainly Neronian and early-Flavian, when it is possible to date them at all. There are thirty-six stamps of South Gaulish SECVNDI from the site.

131 (A) SENICIO. 24/25. No. 1713.

This die is found in the large deposit of unused pots dumped in the ditch of the Cirencester fort *c.* A.D. 55–65. As it is also recorded from Period Ia at Valkenburg, it is evidently Claudio–Neronian.

(B) SENICIO[•F]. No. 1519.

There are no records of this die on other sites, though the Richborough total is seven.

132 (A) SENILIS. 27. No. 1826.

A die of the little-known South Gaulish potter which also occurs at Camulodunum and so is probably primarily pre-Flavian.

133 (A) [S]ENNIVSF. 33. No. 1580.

This stamp is certainly Antonine, as it is sometimes found on the rims of bowls of form 37 with typically Antonine decoration (Stanfield and Simpson, pl. 166, 4 with an incorrect restoration as ANNIVSF). Three others from the site.

134 (A) SENTRVS•FE (twice). 18 and 18R. Nos. 1560 and 1585.

The site-records for this South Gaulish potter are consistently pre-Flavian to early-Flavian. There is another stamp from the same die.

135 (A) OISEVEI. 27? No. 1623.

(B) SEVERI. 18. No. 1628.

(C) OFSEVE[R]. 27. No. 1919.

(D) OFSEVERI. 27. No. 1494.

(E) OFSEVER. 27. No. 1735.

(F) SEVERIM. 18. No. 1914.

All are stamps of the South Gaulish potter, whose work is chiefly

Flavian, though some examples from the Burghöfe Geschirrdepot should be late-Neronian. There are twenty-six stamps of this potter.

136 (A) OFSILVINI (four times). All 27. Nos. 1464, 1549, 1619, and 1786.

(B) SILVINI•M. 33. No. 1547.

(C) ƨILVINI. 18R. No. 1913.

(D) SILVINII. 18. No. 1517.

All are stamps of the South Gaulish potter, who may have begun work under Nero, but whose main production was Flavian, as the site-record shows. Twelve stamps altogether.

137 (A) [SIL]VIPA⁀TRICI. 18. No. 1521.

(B) SILVIPATR. 18. No. 1906A.

As stamps beginning in C. are known, these evidently belong to a potter with the *tria nomina* of citizenship rather than a partnership as Oswald suggested. It is not impossible that they are early stamps of the well-known PATRICIVS, who generally stamped with *cognomen* alone. They are recorded from many Flavian sites.

138 (A) [SI]NTVRO•FII. 18/31. No. 1893.

SINTVRO worked in Central Gaul, perhaps at Les Martres-de-Veyre, in Antonine times, as records on form 44 and at Camelon (twice) suggest.

139 (A) SVLPICIV. 18/31. No. 1771.

(B) SVLPICI (twice). Both 27. Nos. 1751 and 1754.

(C) SVLP[ICI]. 18. No. 1461.

These are all South Gaulish and Flavian. Two more stamps.

140 (A) SVOBNI⁂[M]. 27. No. 1848.

This die is known from Les Martres-de-Veyre, and other stamps are common in Antonine contexts in Scotland, though they are likely to be early-Antonine in view of the prevalence of form 27. There is one other stamp from the site.

141 (A) OI:ƨVRIL (thrice). All 27. Nos. 1904, 1912, and 1915.

The stamp is usually interpreted as OFSVRII, but the final letter is almost certainly an L, thus suggesting SVRILLVS. There is confusion with some dies of SABINVS, and Atkinson favoured the reading OFSABII, retrograde. This difficulty is reflected in Oswald (Oswald, pp. 279, 304), where some of the stamps are recorded under SABINVS, others under SVRVS or SVRIVS. However, there is no doubt about the date, as several examples are known from Flavian–Trajanic contexts. There are six more stamps from the site.

142 (A) TERTI[•MA]. Uncertain form. No. 1813.

(B) TERTIV[. 18. No. 1674.

The site evidence is strongly in favour of pre-Flavian date for this South Gaulish potter. An earlier TERTIVS stamp from Richborough (*Richborough IV*, 189) is interesting because it is on a form 29 from Lezoux. It is in fact the only stamped first-century Central Gaulish pot from the site. There are also two more South Gaulish stamps.

143 (A) TITVRONIS (twice). Both 33. Nos. 1473 and 1895.

TITVRO of Lezoux probably worked in the mid- and late-Antonine period, as there were several of his stamps in the Wroxeter Gutter. Five stamps from Richborough are from the same die, and there are three from another die.

144 (A) VERECVNDI. 33. No. 1555.

A stamp of the Central Gaulish VERECVNDVS, probably Antonine. There is one other from the site, from a Hadrianic–Antonine context.

145 (A) OFVIRIL[I]. 18. No. 1853.

(B) [OF•V]IRILI. 18. No. 1852.

(C) [OIVI]RIL. 18. No. 1827.

All are South Gaulish and Flavian or Flavian–Trajanic. Thirteen other stamps from the site.

146 (A) OFVIT̂A (twice). Both 27. Nos. 1761 and 1902.

(B) OFVIT̂ALIS. 18. No. 1846.

These dies with ligatured TA are undoubtedly pre-Flavian and are commonly on early forms, such as 24/25 and Ritterling 8. The second also occurred in the ditch of the fort at Cirencester (*c.* A.D. 55–65). There is one other stamp from Richborough.

147 (A) OFVITALI (twice). Both 18. Nos. 1565 and 1847.

(B) OF.VITA. 18. No. 1685.

(C) OFVITA (thrice). All 27. Nos. 1468, 1557, and 1698.

(D) OFVITA. 27. No. 1471.

(E) VITAL. 27. No. 1793.

(F) VITAI. 18. No. 1606.

In addition to the stamps listed above, there are many fragmentary stamps which probably belong to this potter. It is not clear whether he is the same as the man noted under 146, but there is no need for equation, since VITALIS was one of the very commonest names in the western provinces. All the dies listed above are attested from Flavian or early-Trajanic contexts. The minimum total of fifty-three from the site is probably far below the true total.

No attempt is made here to list the many fragmentary unidentified dies. Many of them will be identified ultimately, and they will be included in the new index of stamps when it is published.

SUMMARY

Although Richborough now has over 1,400 identified samian stamps, the first and most obvious point that must be made is that these are on pots reaching the site over a period of at least 150 years. In other words, at an average of ten stamped pots discarded each year, we are dealing with a minute proportion of the samian used and broken on

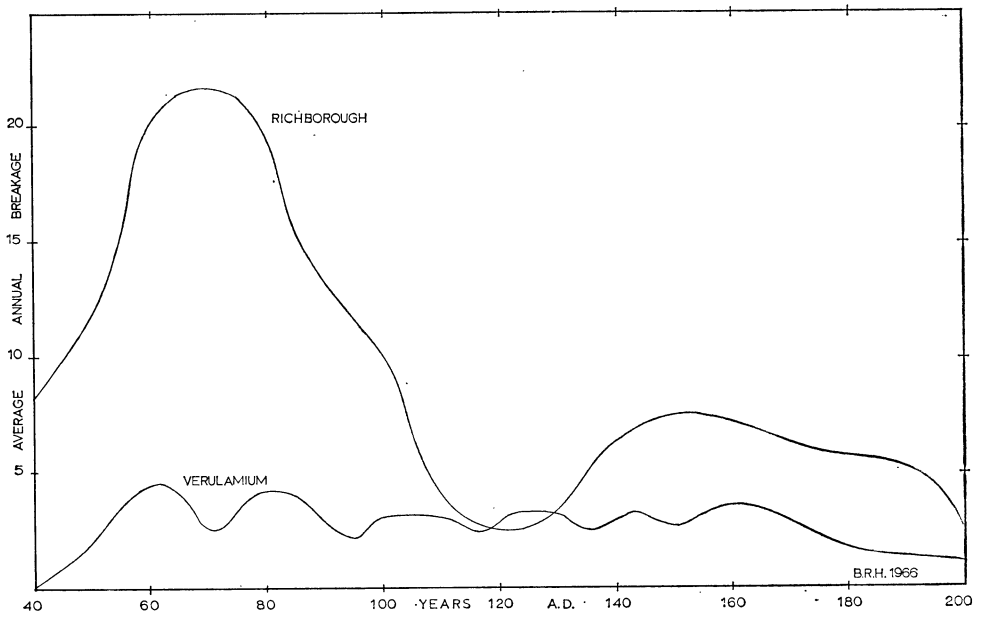


FIG. 20. Histogram showing the quantities of samian potters stamps

the site. Obviously, the bulk of the broken pottery was cleared away. Even so, the Richborough collection is one of the largest in Britain, and the surviving material should be reasonably representative of the density of occupation at various periods.

An attempt has been made at pictorial representation of the dating evidence. A graph was produced by taking the total number of stamps assignable to a given period of years and then, dividing by the number of years involved, to give the average annual loss of stamped samian on the site within that period. The result was then plotted against a horizontal time-scale. By repeating the process over the whole time-range, a stepped graph for the period A.D. 40–200 was produced. The result was then smoothed out into a curve, for the steps originally obtained were due primarily to the method of dating used, which inevitably relates to periods of manufacture rather than breakage. By smoothing the graph to a continuous profile a result approximating more closely to the date of loss on the site is obtained. For comparison a similar curve has been produced for the samian stamps from Verulamium, and both graphs are presented together (fig. 20). Although

based on a much smaller total of stamps, and therefore not to be regarded as having the same order of validity as the Richborough one, it nevertheless is a useful guide to the pattern to be expected from a prosperous site with occupation interrupted only by the Boudiccan rebellion.

For Richborough the graph stresses remarkably well the dense pre-Flavian and Flavian occupation, and shows dramatically how use of samian on the site, and hence by inference the general occupation, fell greatly in the early second century. Thereafter, more intense activity is indicated by the results for the late-Hadrianic and Antonine periods, though it was not at the same level as in the first century. The Verulamium curve was produced primarily to check the validity of the dating of the early second-century material, and it seems to suggest that no systematic error in dating is in question. The minor fluctuations for Verulamium after A.D. 90 are unlikely to be significant. It is, however, not impossible that the peaks in the region of A.D. 60 and A.D. 80 relate to the Boudiccan episode and the Flavian recovery from it.

The other general matter requiring discussion is the sources of the samian used at Richborough. In the first century supply was almost exclusively from South Gaul, as might be expected, and Central Gaul is only represented by a single stamp (TERTIVS F on form 29). What is more striking is the proportion of the South Gaulish trade which fell to comparatively few large firms. Between them, seventeen firms supplied almost precisely half the stamped samian—474 out of a total of 944 identified South Gaulish pieces. The firms in question were those of: Aquitanus (15 stamps), Bassus (24), Calvus (42), Crestio (19), Frontinus (18), Germanus (15), Liciniana and Licinus (21), Modestus (16), Murranus (18), Niger (27), Passenus (32), Patricius (22), Primus (33), Rufinus (22), Secundus (36), Severus (26), Virilis (15), and Vitalis (53).

It should also be noted that late Montans products (see nos. 44 and 51 above) are relatively common at Richborough compared with most sites. Attillus, L. S. Chresimus, Felicio, Florus, L·I·F, and Malcio are all represented.

For the second century, vessels from Les Martres-de-Veyre are not as prominent as usual, but this is mainly because there was less intense occupation early in the century, when that centre was exporting most to Britain. Nevertheless, the Antonine potters of Les Martres, such as Cettus or Suobnus, are represented.

The bulk of the second-century material came, as usual, from Lezoux, and that needs little comment. Only Borillus (11 stamps), Cinnamus (12), Doeccus (8), Paternus (6), Paullus (5), and, somewhat surprisingly, Tituro (8) bulk at all large.

Rare visitors to Britain, from the kilns at Toulon-sur-Allier, are Albinus (*Richborough III*, 122) and Elius (*Richborough III*, 128: not a stamp of Elenius as was suggested) both on the rims of bowls of form 37.

What is most striking and significant is the extreme rarity of Rheinzabern products (Cobnertus, Ianus, and Venicarus stand almost alone). Other East Gaulish centres fared better, and though they are not heavily represented, there are many more stamps from them (the Argonne primarily, with single examples from Chémery-Faulquemont and Heiligenburg) than from Rheinzabern. The lack of Rheinzabern stamps is surprising even for the second century, when most sites in eastern Britain yield up to five per cent. It is even more significant for the third century, and it is suggested that had there been much activity on the site in the first half of the third century, there would have been a much higher proportion of pots from Rheinzabern.

The Decorated Samian Pottery

By Grace Simpson, F.S.A.

(Pls. LXXIX–LXXXV)

The late Dr. T. Davies Pryce wrote several of the following notes which are reproduced unaltered as nos. 27, 28, 29, 46, 48. I have tried to follow the arrangement and method employed by him in the earlier reports in this series.[1]

1 Pl. LXXIX, no. 1. Dr. 29. Position unknown.

Small portions from two volutes and a large beaded border from below the central moulding. Dr. Felix Oswald in his study of the volute (*Ant. Journ.* XXXI, 149–52) wrote that 'The influence of the volutes on late Arretine ware was very marked on the South Gaulish potters in the Tiberius–Claudius period, and therefore their presence in the lower frieze of form 29 is of great chronological significance even when no stamp of the potter is present, and they can all be dated to the years A.D. 25–40.' The presence of these designs in Britain indicates that such vessels must have been brought over by the earliest Roman invaders.

Period: Tiberian–Claudian.

2 Pl. LXXIX, no. 2. Dr. 29. Area XVII. South of Chalk House, first layer west of outer ditch.

The serrated spade-shaped leaf which appears in the upper frieze and also in the straight wreath below the central moulding occurs on a signed Dr. 29 by BASSVS, Knorr, 1919, Taf. 12 D and 5 from Hofheim. A similar bowl is in the London Museum. The 'tendril-unions' in the upper frieze consist of five small beads. Several new ornaments are in the lower frieze which closes in small festoons with

[1] My thanks are due to Professor Eric Birley for his advice in the preparation of these notes which were written in 1953 in the Department of Archaeology, Durham University, and revised in 1964. The drawings were made by C. O. Waterhouse with the exception of five by Wilfred Dodds, four by A. P. Detsicas and two by H. W. Pengelly.

corded tassels hanging between them. The junctions of the festoons are masked by large five-beaded 'tendril-unions', and within each festoon is a four-petalled flower with central dot or pistil. Cf. Knorr, 1952, Taf. 2, and 80, D, in the style of ALBVS who used both the large five-beaded 'tendril-union' and the corded tassel, but not the festoon and the four-petalled flower.

Period: Claudian.

3 Pl. LXXIX, no. 3. Dr. 29. Area XXIII. Building B, gully 17.

The lower frieze and central moulding only. The decoration is so like that illustrated in *Richborough III*, 97 and pl. XXIII, 2, but without duplicating it, that, were it not for the different number of beads in the 'tendril-unions' (five here as against four), the two pieces could be the upper and lower concavities respectively on a winding scroll from the same bowl or mould. It may be said at least that they are certainly by the same potter.

Dr. Davies Pryce noted that SCOTTIVS used a somewhat similar large leaf with a wedge-shaped point.

Period: Claudian–early Neronian.

4 Pl. LXXIX, no. 4. Dr. 29. South of section 19. Second layer.

The stamp OFBASSICOEL is within the centre base. The upper frieze consists of leaf-tips in series, alternating with small metopes containing eight-petalled rosettes within medallions, with four tiny rosettes in the corners. This is a new design for BASSVS and COELIVS; though BASSVS himself used the leaf-tips as a straight wreath on a bowl found at Mainz (Knorr, 1952, Taf. 7 A).

On the lower frieze, pairs of large palmate leaves and six-lobed buds, and bifid 'tendril-unions' with three basal beads, fill the upper concavities. The leaves and buds may be compared with *Richborough III*, 97 and pl. XXIII, 3 and 4, there described by Dr. Davies Pryce as 'characteristic of early work' and, though a different 'tendril-union' with only two basal beads was used, both are early types. The lower concavities contain alternately: small leaf-tips (cf. *Richborough III*, 9, where also the same 'tendril-union' appears, the bowl being assigned to BASSVS COELIVS or MVRRANVS); and a branched plant motif in which the lowest pair of leaves seem to be the whole leaves from which the leaf-tips in the upper frieze were made.

Period: Claudian–Neronian.

5 Pl. LXXIX, no. 5. Dr. 29. Area XIX. Lower occupation layer.

Part of the lower frieze only; the design had been divided into panels by a small beaded border. Each panel contained a festoon bounded by hanging tendrils. Cf. LABIO (Knorr, 1919, Taf. 44) for the festoon.

Period: Claudian–early Neronian.

6 Pl. LXXIX, no. 6. Dr. 29. Area XIX. Lower occupation layer.

A lower frieze divided into panels by wavy-line borders ending in large many-petalled rosettes. The panels hold alternately a leafy

festoon containing large leaves twined together, and a St. Andrew's Cross motif. A similar design, though differing in some details, was made by SENICIO (Knorr, 1919, Taf. 75, A).

Period: Claudian–early Neronian.

7 Pl. LXXX, no. 7. Hermet Form 15. Position unknown.

A tiny fragment from a decorated jug (see *J.R.S.* xxvii (1937), 168, 'Roman-Gaulish decorated jugs, and the work of the potter SABINVS' by J. A. Stanfield). The ornament in the centre of the sherd, which is repeated three times, was not recorded by Stanfield as the work of SABINVS, but he used similar poppy-heads (*ibid.*, fig. 11, no. 73).

Period: Claudian–Neronian.

8 Pl. LXXX, no. 8. Dr. 30. Area XVII. West of Claudian ditches, 5–6 ft. down.

The signature can be reconstructed with confidence to read MA] SCLVS although the decoration upon the vessel is unlike his delicate designs. The whole pattern including the leaf and 'tendril-union' has been drawn free-hand with a stylus: a most unusual procedure. As the hand that drew them was very shaky the result is comical, and one can only wonder how it could possibly have been the hand of MASCLVS. He used this ovolo with a wavy-line above it on other occasions, for example on a Dr. 30 found in London (Walters, fig. 114, M. 406, signed MASCLVS·F).

Period: Neronian.

9 Pl. LXXX, no. 9. Dr. 30. Position unknown.

The fragmentary signature is again that of MASC]LVS, but this time the work shows his usual skilful craftsmanship. Although so little of the design remains, it is very like an elaborately decorated Dr. 30 in his style in the London Museum (no. 30, 9/4), with the same dog O. 1992.

Period: Neronian.

10 Pl. LXXX, no. 10. Dr. 29. Position unknown.

AQVITANVS used a similar arrangement of poppy-heads and rosettes on a bowl found in London (Knorr, 1952, Taf. 5 G) and the same design was found at Southampton see *Clausentumi* fig. 15, 5.
See also, Hermet, pl. 46, 7 and 12.

Period: Neronian.

11 Pl. LXXX, no. 11. Dr. 29. Area XIX. Lower occupation layer.

Small plain triple festoons hang between corded tassels surmounted by a bifid ornament. There is a rosette within a spiral inside the festoon. No exactly similar design is known, but cf. no. 2 above and the two bowls of ALBVS referred to there; and Knorr, 1919, Taf. 14 D by BILLICATVS. The very large beaded border indicates early South Gaulish manufacture.

Period: Claudian.

12 Pl. LXXX, no. 12. Dr. 30. Area XVII. West of Claudian ditches, 2–3 ft. down.

The rather angular letter S ends the signature of [MASCLV]S (see nos. 8 and 9 above), and the decoration is reminiscent of the Dr. 30 in the British Museum (M. 406) already referred to, especially the winding wreath of pinnate leaves. The figure-types were noted as being the work of MASCLVS by Knorr, 1919, Taf. 52: nos. 2, bird; 10, bird; 36, lion attacking a gazelle, D. 779 = O. 1489; small hare to right, O. 2076; and Nile goose, O. 2286.

Period: Neronian.

13 Pl. LXXX, no. 13. Dr. 29. Position unknown.

Festoons of rounded pinnate leaves fastened by tiny eight-petalled rosettes, alternate with a St. Andrew's Cross ornament with a ten-petalled rosette. The two different triple leaflets may be compared with Knorr, 1919, Taf. 32, 14 and 16, by FELICIS.

Period: ? Neronian.

14 Pl. LXXX, no. 14. Dr. 29. Position unknown.

The chevron was employed by SENICIO on a Dr. 29 found at Asberg, Knorr, 1919, Taf. 75 A and 22, and the small double circles occur on the signed bowl. The dog is very like Knorr, 1919, Taf. 13, 1 by BASSVS and COELIVS.

Period: Claudian–Neronian.

15 Pl. LXXX, no. 15. Dr. 37. Area XIX. Lower occupation layer.

An early example of this form. Cf. Atkinson, *J.R.S.* iv, 48, 'A Hoard of Samian Ware from Pompeii'.

Period: *c.* A.D. 75–85.

16 Pl. LXXX, no. 16. Dr. 29. Area XIX. Lower occupation layer.

A broken stamp in the centre base reads]RM̂ANIOI. Cf. the small stamp of GERMANVS on a Dr. 29 from Bonn with the same pointed and serrated leaves (Knorr, 1919, Taf. 37 F).

Period: Neronian–Vespasianic.

17 Pl. LXXX, no. 17. Dr. 37. Position unknown.

An early example of this form. The gladiator to right is like a larger and more detailed example of D. 608 = O. 1021. The Oswald figure-type is more like it than Déchelette's; but even closer is Knorr, 1919, Taf. 16, by BIRAGILLVS, though this potter is rather late to be the maker of such a delicate vessel. The boxer to left may be a prototype of D. 649 and 650 = O. 1174, 1175 = 1174 A.

Both figure-types occur with probably the same ovolo on an early Dr. 37 from Riegel (Knorr 1952 Taf. 52 F). Knorr suggested it was either the early work of M. CRESTIO or the work of VALERI. For the gladiator and possibly the ovolo, cf. *Jewry Wall*, fig. 16, 9 and p. 69. See also Atkinson, *ibid.*, the Potter of the Large Rosette, 52, and 44–46. See *Richborough III*, pl. XXVI, 3 for a similar frieze with the stamp of FRONTINVS.

Period: *c.* A.D. 75–85.

18 Pl. LXXX, no. 18. Dr. 37. South of Chalk House. Continuation of the west road ditch.

A small fragment bearing a tiny label stamped XII—presumably the numeral 12. Cf. Knorr, *Rottenburg*, 1910, Taf. v, 4 with a label stamped IIXXI and a gladiator D. 606 = O. 1052. It is possible that the legs here are from the same gladiator.

Period: *c.* A.D. 80–100.

19 Pl. LXXX, no. 19. Dr. 37. South-west area. Surface.

The name-stamp of MERCATO retrograde is below the head of Minerva D. 659 = O. 1208, and there is a conventional grass-tuft below the name-stamp; and on the left a St. Andrew's Cross ornament. A similar bowl with a complete MERCATO stamp is in the Guildhall Museum, London (R. xi, 422); and see *Richborough II*, pl. XXVII, 11.

Period *c.* A.D. 85–100.

20 Pl. LXXXI, no. 20. Dr. 29. Area XIX. Lower occupation layer.

Two different straight wreaths bound a free-style zone showing a dog, O. 1924 but smaller, and a hare probably O. 2072. Both animals are on a signed Dr. 29 from Bregenz by VITALIS (Knorr, 1919, Taf. 81 A); and on another signed by CRVCVRO (Hermet: pl. 84, 1) with the same single blades of grass in the field. SEVERVS also used single blades of grass (Knorr, 1952, Taf. 83 from Rottweil).

Period: *c.* A.D. 75–85.

21 Pl. LXXXI, no. 21. Dr. 37. Area XXIII. Top layer.

The stamp MCRESTIO appears in the decoration. The dog is O. 1920, the bear O. 1586 and the hare is O. 2072. Numerous decorative details have been combined in the design to make an arrangement of greater interest and originality than is usual at this period. A vessel by MCRESTIO in *Richborough IV*, LXXXI, 48 has the same dog and hare; and see Knorr, 1919, Text-Bild 17.

Period *c.* A.D. 80–100.

22 Pl. LXXXI, no. 22. Dr. 37. Pit 281. 3 ft. 5 in. down.

A small label in the decoration reads C.VAL·B retrograde. For another Dr. 37 see Atkinson, *Wroxeter*, p. 252 and pl. 68, 51 A, and see Knorr, 1919, Taf. 87 D for a Dr. 29, each with a similar stamp. The hind D. 881 = O. 1755 was also used by GERMANVS and FRONTINVS. See *Richborough II*, pl. XXVII, 7 and notes on p. 67 for a similar straight wreath and name-stamp.

Period: *c.* A.D. 80–100.

23 Pl. LXXXI, no. 23. Dr. 37. Pit 286.

Two fragments, one bearing the stamp F]RONTINI. The eagle is D. 982 = O. 2181. The ovolo is larger than pl. LXXX no. 17 and has a smaller rosette. Numerous small spade-shaped leaves fill in the corners of the design which is bounded at the top by a chevron-wreath and below by small gadroons.

Period: *c.* A.D. 70–90.

24 Pl. LXXXII, no. 24. Dr. 29. Area XVII. South of Chalk House. Second layer, 12–22 in. below datum.

A very late example in very thick ware. The everted rim has none of the rouletting characteristic of this form and its mouldings are rudimentary. Plain medallions, irregularly spaced between corded borders, contain a variety of somewhat damaged little birds. The bird on the right is a reduced copy of D. 1039 = O. 2310 with one foot broken off.

The borders on either side of the flattened central moulding are unusual in being corded, and the lower one is as coarse as the similar borders on no. 25 below. The lower frieze is too fragmentary for further comment than that it is curious, and should be compared with no. 25 again. Both were probably made by the same potter.

Period: very late in the first century or early second century.

25 Pl. LXXXII, no. 25. Dr. 29. Area XVII. South of Chalk House. Second layer, 12–22 in. below datum.

Another very late example of this form. It is thick like no. 24 and the fabric is yellowish-buff in colour with very fine particles of brown grit. This is not a genuine samian fabric. The gloss is thin and badly worn, and may in fact be a colour-coating rather than a genuine samian gloss.

There are coarse-corded borders on either side of the flattened central moulding. A plain medallion contains a pinnate leaf flanked by narrow corded borders. A large plain dot on either side of a narrow corded border is unfortunately all that remains of the lower frieze.

Period: very late in the first century or early second century.

26 Pl. LXXXII, no. 26. Dr. 29. Area XIX. Lower occupation layer.

No exact parallel to this design was illustrated by Professor Knorr but compare the late Dr. 29 in Knorr, 1919, Taf. 94 C; a Dr. 30, *ibid.* Taf. 99 B; and a Dr. 29 signed by COSIRV, *ibid.*, Taf. 24 B. See no. 34, below.

Period: Flavian.

Pl. LXXXII, nos. 27, 28, 29:

These are examples of Dr. 37 stamped on the interior base. In *Richborough III*, 115–19, attention was drawn to the occasional occurrence of stamps on the interior base of form Dr. 37 and two examples, by MALCIO and ATTILLVS, were illustrated there on pls. XXIX, 1, XXX, 1. In addition to this feature they carried other characteristics of the earlier vessel, form 29, notably the plastic ring and 'step' on the basal exterior. Three more potters who practised this method may now be added to the list given in the above Report, viz. L·S·CRE, FESTVS and FLORVS. All these potters worked in South Gaul and almost all were at Montans. The decoration of the FESTVS bowl (no. 28) although somewhat coarse, belongs in style to the late first century, but that of ATTILLVS (*Richborough III*, pl. XXX, 1), although it employs the motifs

of the Flavian period, is chaotic and represents the later and final products of South Gaul.

27 Form 37 with the stamp L·S·CRE, in Roman capitals, on the interior base, after the manner of form Dr. 29. Found south of trial trench 4, 4 ft. 4 in. from top.

Poor light red gloss; yellow in the fracture. Note the plastic ring and 'step' of the exterior base.

Period. *c.* A.D. 80–110?

The stamp L·S·CRE occurs on a Curle 15 at Le Mas d'Agenais; that of L·CRE at Montans (Déchelette, I, 280, misread as L·CRF), and on un-named forms at Bordeaux and Le Langon; those of L·CHRESI·M and L·CRES have also been found at Le Langon. All these stamps appear to be variants of the signature of L·S·CHRESIMVS of Montans who worked chiefly in the Domitianic period but whose activity may have been prolonged into the principate of Trajan. He also made forms 18, 18/31, 33, and 29. The distribution of his stamps is almost exclusively confined to the south of France and to Britain.

28 Form 37 with the stamp of FESTVS on the basal interior. Found above the north–south road second layer.

Dull red blotchy gloss as on the MALCIO and ATTILLVS bowls. Note the plastic ring and 'step' of the external base. The decoration, of which a small portion remains, consists of heavy vertical and oblique wavy lines and coarse 'arrow-heads' or leaf-tips.

Period: late Domitianic.

There is a Dr. 27 stamped FESTI·O at Vienne. His output was small and confined almost exclusively to the south of France and a few Rhenish sites such as Xanten. This bowl appears to be the only example of his signed work in Britain. He should be distinguished from FESTVS of Lezoux.

29 Form 37 with the stamp FLOR on the basal interior. Area XVII. Mixed soil at level of north–south road west of the road. It is further stated that it was found in the road metal of north–south road.

Poor light red gloss; the fabric is thick with a yellow fracture. Plastic ring and 'step' on external base like a Dr. 29.

Period: *c.* A.D. 90–110.

Besides the basal stamp in Roman capitals, FLORVS occasionally signed his name in cursive script on the interior base of his decorated vases (Déchelette, I, 272 and see no. 30 below). His figure-types are South Gaulish. His stamped bowls are mainly found in the south of France and only occasionally in Spain and Britain. He made forms 15/17, 18, 18/31, 27, 29, 33, and 37. He should be distinguished from potters of the same name who worked at Lezoux and Rheinzabern. For further particulars see Oswald, pp. 126, 387.

30 Pl. LXXXII, no. 30. Dr. 37. Area X, west extension. Below 3 ft. level.
Three fragments from the same vessel; one of these has a potter's name written in capital letters reading FLORI. The fabric is thinner than no. 29 and is probably from a different vessel, but it is probably the work of the same potter, FLORVS of Montans. The bowl was made in a worn mould. The very poor ovolo is almost featureless. The gladiator to left is D. 589 = O. 1008; and the blurred dog is probably D. 916 = O. 1944 with a broken tail.
Period: *c.* A.D. 90–110.

31 Pl. LXXXII, no. 31. Dr. 29. Position unknown.
In the style of NAMVS: cf. Knorr, 1919, Text-Bild 26 for a signed Dr. 29 with the same rosette and 'tendril-union' in the upper frieze, and the same seed-pod ornament in the lower frieze, found at Mainz.
Period: Neronian.

32, 33 Pl. LXXXII nos. 32 and 33. Dr. 29. Area XIX. Lower occupation layer.
Two small fragments. No. 32 has square beaded borders flanking the central moulding, and the two small ornaments were used by several potters, cf. Knorr, 1919, Taf. 62, 44 by PASSIENVS; and Taf. 40 A, and 14 by INGENVVS. See also *Richborough IV*, pl. LXXIV, 3.

34 Pl. LXXXIII, no. 34. Dr. 37. Area XIX. Lower occupation layer.
Two zones of decoration are separated by a wavy border. The hanging ornament just visible on the right in the upper frieze is like one used by MEDDILLVS (Knorr, 1952, Taf. 40 A and B from Nijmegen and London). The lower hanging ornament is slightly different, cf. *Richborough I*, pl. XVIII, 12, and Curle, 207, 2 and 209, 1. The plain triple festoons were neatly made and the whole design shows careful workmanship. The foot-stand recess on the basal exterior is characteristic of Dr. 29.
Period: Flavian.

35 Pl. LXXXIII, no. 35. Dr. 37. Area XVII. West of Claudian ditches, 2–3 ft. down.
This vessel should be compared to *Richborough III*, pl. XXX, 1, and p. 117–18 with the stamp of ATTILLVS, and described there with the comment that 'the decoration, although unusual, derives its inspiration from South Gaulish sources'. The two vessels were probably made by the same potter, and have one ornament in common, the 'centrally constricted plant ornament' with double bifid leaves. Groups of three tiny bifid leaves cover the junctions of the scrolls, and large four-petalled rosettes fill in small spaces. In place of an ovolo there is a triple-leaved straight wreath. Wavy borders limit the design. See also no. 37 below.
Period: *c.* A.D. 90–110.

36 Pl. LXXXIII, no. 36. Dr. 37. Position unknown.
A large vessel rather thick, and with interior groovings just below the rim like a Dr. 30 and the footstand has a recess in the basal exterior

like no. 34. Large squares take the place of an ovolo and are so carelessly arranged that two overlap. A scroll design with large leaves and thick stems has groups of four leaf-tips acting as 'tendril-unions'. A coarse roped border completes this most unusual decoration.

Period: probably *c.* A.D. 90–120.

37 Pl. LXXXIII, no. 37. Dr. 37. Area XIX. From surface of post sand layer.

A rough ovolo, square and with a projecting tongue on the right side. Below it is a plain horizontal line and then an upper zone containing very large S-shaped scrolls, with a bell-shaped ornament over the end of each scroll and with others scattered about in both the upper and lower zones which are separated by a corded line. A stag to left, type uncertain, is leaping over some stout-looking tufts of grass.

Period: probably *c.* A.D. 90–110.

38 Pl. LXXXIV, no. 38. Dr. 37. Position unknown.

A tiny sherd in the distinctive style of Potter X-3 or the 'Anchor' potter of Central Gaul. One of the 'anchor' motifs appears in the very centre of the sherd. The untidy beaded borders and the winding scroll between them are characteristic of him alone. His large output makes it possible to suppose that, as he is represented only once in Scotland (Curle, 213, 6) and on Hadrian's Wall, at Birdoswald (Pryce and Birley, *J.R.S.* XXV, pl. XIX, 2), his working period was between the first withdrawal from Scotland and the building of the Wall (Stanfield and Simpson, 11–17 and pls. 10–16).

Period: Trajanic.

39 Pl. LXXXIV, no. 39. Dr. 37. Position unknown.

An example of the decorative style of Central Gaulish ware transitional between the Trajanic and Hadrianic periods. The ovolo, wavy-line borders, seven-beaded rosettes, astragali, peltae, and several of the other small details are reminiscent of the Trajanic group of Central Gaulish potters. On the other hand, the arrangement cannot be very closely paralleled among them, and none used the basal wreath with its central corded bud. This basal wreath was used by the small group of Hadrianic potters which included QVINTILIANVS to whom the sherd is attributed, although the ovolo is not the one that was usually used by him and in fact it is not yet recorded on any of his signed work. The sherd may be an early example of his work before he had fully developed his own highly individual style. The sitting hare is not in Oswald's *Index of Figure-Types*. The running hare is D. 952 = O. 2124, used by IOENALIS on a bowl at Colchester, and by CATVSSA and ILLIXO.

Period: Hadrianic.

40 Pl. LXXXIV, no. 40. Dr. 37. Position unknown.

The oval 'ovolo' was used by LIBERTVS, BVTRIO, and AVSTRVS among the Central Gaulish potters, and of these three the piece may

be assigned with confidence to BVTRIO. The leaf hanging from a wavy-line border appears on many of his bowls. See *J.R.S.* xx (1930), 71–77, 'The decorated work of the Potter BVTRIO' by Felix Oswald, and Stanfield and Simpson, pls. 57–60.

Period: Hadrianic.

41 Pl. LXXXIV, no. 41, Dr. 37. South-west area, inside fort. Surface.

One of the three or four different stamps that bear the name of SACER of Lezoux may be reconstructed with certainty from this small fragment. The letters extant read]FIƧ[which may be expanded to O]FIƧ[ACRI. It may be noted that on examples of this stamp the letter 'I' is often blurred, as on this Richborough stamp. Cf. *Silchester*, (1916), pl. XXII and pl. XXV, 4.

It is uncertain whether the same potter made the sherd signed below the decoration OFIƧACRIM (*Richborough I*, pl. XIX, 3 and p. 60) for that piece is quite unlike the many styles originated by the particular SACER who is being discussed here. This SACER greatly influenced the later Lezoux potters and is one of the most interesting of the Central Gaulish group. He worked in the first half of the second century as both Davies Pryce and Knorr noted, *ibid.*, p. 60; and see Stanfield and Simpson, 161–5, and pls. 82–84.

Period: Hadrianic–early Antonine.

42 Pl. LXXXIV, no. 42. Dr. 37. Grave 2. Level 2. West wall.

The large ꝺD monogram (partly obscured by lozenges) appears twice on the sherd which may therefore be attributed to DOECCVS of Lezoux. He had three ovolos, similar in form but of varying size, and this is an example of the medium size. The design is typical of his neat but heavy style with its abundance of small decorative details, enclosed between large square beaded borders. The cupid is D. 251 = O. 442 a. DOECCVS had a large output and his products are widely distributed in this country. See *Richborough II*, pl. XXVIII, 1, 2, 2 *a*, and pp. 68–69, and Stanfield and Simpson, 251–6.

Period: *c.* A.D. 160–95.

43 Pl. LXXXIV, no. 43. Dr. 37. Position unknown.

Thick with a fairly good gloss. The neat double-bordered ovolo with stellate rosette with central dot indicates the work of DONNAVCVS, SACER, or ATTIANVS of Lezoux. The bear, D. 808 = O. 1588 was used by BVTRIO, DOCCIVS, DOCILIS, OFIƧACRI and CINNAMVS. As SACER is known to have used the bear, then probably he, rather than DONNAVCVS or ATTIANVS, made this sherd. The design appears to have been a bold winding scroll with large vine leaves alternating with an animal figure. This particular version, with its variations of the ever-popular winding scroll design may have been originated by SACER, as is indicated by a bowl bearing his stamp (cf. no. 41 above) found at Corbridge and showing a winding scroll made entirely from large vine leaves (Stanfield and Simpson, pl. 83, 8): a version which

became very popular in the second half of the second century when CINNAMVS, PATERNVS, and LAXTVCISSA were its chief exponents.

Period: Hadrianic–early Antonine.

44 Pl. LXXXIV, no. 44. Dr. 37. Pit 253, 6 ft. to 7 ft. 2 in. down.

The broken stamp may be completed by the addition of a 'T' to read TITTIVS retrograde with the S reversed. Such a stamp, used continuously as a border, appears on a bowl from Alchester, in the Ashmolean Museum, Oxford (Stanfield and Simpson, 251 and pl. 146, 1). It is not possible to reconstruct the standing figure with certainty. TITTIVS of Lezoux seems to have worked with CASSIA·OF for both names occur on a sherd in the Guildhall Museum, London, and a fourth decorated fragment has been found at Wels (*ibid.*, pl. 146, 2, and Karnitsch, *Ovilava*, Taf. 40, 7.). His style suggests that he worked in the late second century.

Period: *c.* A.D. 160–95.

45 Pl. LXXXIV, no. 45. Dr. 37. Position unknown.

The stamp of PAVLI M in a plain festoon. A more complete festoon with a slightly different stamp is illustrated in *Richborough IV*, pl. LXXXIII, 61 and pp. 180–1. Below a beaded border are three lozenges such as were used by CINNAMVS of Lezoux with whom PAVLLVS was closely associated (Stanfield and Simpson, 267, text-fig. 47, and pp. 276–7).

Period: *c.* A.D. 150–90.

46 Pl. LXXXIV, no. 46. Form 37, with the badly impressed stamp of LAXTVCISSA amongst the decoration. Found 2 ft. from surface, south of pit 281.

Good yellowish-red gloss; fair workmanship. Panel decoration, demarcated by a vertical row of conjoined astragali and a horizontal row of small beads. The following types are depicted: (1) Venus standing on a mask, closely approximating to Déchelette's type 199. This type occurs also in the work of BVTRIO, CATVSSA and SABINVS of Lezoux. (2) Cupid with a box (D. 272, ADVOCISVS, LIBERTVS). (3) Satyr carrying an amphora (D. 365, ALBVCIVS, BANVVS, LIBERTVS, PVTRIV). Conventional leaf and annular ornaments in the field. The orange-red gloss and the figure-types are all frequently found in the work of the Trajan-Hadrian potters BVTRIO and LIBERTVS.

LAXTVCISSA worked at Lezoux, chiefly in the Antonine period. Many of his figure-types are characteristic of the work of the Trajan–Hadrian potters BVTRIO and LIBERTVS; a few were also used by later Antonine potters. He made forms 18/31, 31, 33, 79, 80, and 37. For further details see Stanfield and Simpson, 184–8, pls. 97–100, and Oswald, 160, 395, 427.

Period: Antonine.

47 Pl. LXXXIV, no. 47. Dr. 37. Area XIX. Trial trench, south extension.

A cursive signature reading DRVSVS F written in the mould below

the decoration. It is curious that the surviving fragments of DRVSVS's work consist mainly of signatures below the decoration on small fragments of pottery, which means that little is known about his ovolos and the range of his style. The Richborough example scarcely adds to our knowledge in this respect. DRVSVS's work has some affinity, firstly, with that of SACER and ATTIANVS, and, later, with CRICIRO and DIVIXTVS, see Stanfield and Simpson, 169–71, pls. 88–89.

Period: *c.* A.D. 130–50.

48 Pl. LXXXIV, no. 48. Surface layers above the north–south road south of Watling Street.

Form 37 with the name ACAVNISSA, in cursive script, on the plain band beneath the decoration. Fair gloss and workmanship and a neat footstand which differs from the heavier, Antonine type. The following decorative details are depicted: (1) Part of the 'cog-wheel' bordering a medallion or demi-medallion frequently seen in the work of this potter (Stanfield and Simpson, 158–61 and pls. 79–81). (2) D. 442, also used by the Hadrianic potter VALENS and the Antonine potter MAMMIVS. This pigmy occurs on a bowl signed by ACAVNISSA found in the alley-way of a Hadrianic barrack block at Birdoswald, by Professor E. Birley (*J.R.S.* xix, IV, 1, 2). (3) The legs of a gladiator are probably Déchelette's type 583. This figure occurs on another bowl signed by ACAVNISSA, found at Corbridge (*J.R.S.* xxi, fig. 26, nos. 1, 2, p. 253.)

Period: Hadrianic.

49 Pl. LXXXV, no. 49. Dr. 37. Area XII. South of site IV. Above fort level.

A red gloss on rather thick ware. The figures were impressed roughly into the mould. Blickweiler ware; cf. Knorr und Sprater.[1]

Among fragments found at Blickweiler, Taf. 57, 7 almost certainly, and 57, 6 and 8 very likely, come from the same mould, and Knorr assigned them (p. 40) to the AVITVS group. Taf. 87, 3 illustrates a piece from Cannstatt with the same sea-pony to right and sea-horse to left. The same bold bead-rows below and above the decoration occur on a bowl from Corbridge which shows lumbering gladiators, and they seem to be typical of this Blickweiler potter's work.

The figure-types were all recorded by Knorr as follows: Taf. 71, 12 = the galley, here with neither man nor sail; 16 and 17 = tritons; 18 = sea-horses; 19 and 21 = sea-ponies. The galley was a Lezoux type originated by LIBERTVS, and the same ship (still complete) was used at Blickweiler, Taf. 13, 5 (mould) and 33, 2 (bowl). The damage that the ship has suffered, together with the rough style and workmanship suggest that this vessel was one of the later products of Blickweiler.

Period: late second to early third century.

[1] *Die westpfälzischen Sigillata-Töpfereien von Blickweiler und Eschweiler Hof*, 1927.

50 Pl. LXXXV, no. 50. Dr. 37. Unstratified.
The stamp of BELSVS of Rheinzabern, BELSVSF retrograde. The figure appears to be a dog upside down but it has been damaged. The stamp, however, is very clear and may be compared with Ricken *Die Bilderschüsseln der Römischen Töpfer von Rheinzabern* (1948), Taf. 255, BELSVS a.
Period: second half of second century to early third century.

51 Pl. LXXXV, no. 51. Dr. 37. Position unknown.
Slightly orange ware. The coarse and careless style is indicative of the latest work from the Rheinzabern potteries, but there are no close parallels to it in Ricken, *ibid.*, nor in Fischer, *ibid.*, Textband (1963).
Period: late second to early third century.

52 Pl. LXXXV, no. 52. Dr. 37. Position unknown.
Light orange in colour. Several motifs used by the Trier group of potters occur on this small piece though it is not possible to say to which of them it may be assigned. Fölzer, *Östgallische Sigillata* (1913), Taf. xiv, 17, has the fleur-de-lis and the basal wreath; 20 has the bead rows, circle, spiral, and basal wreath; and 6 and 23 the basal wreath.
Period: probably early third century.

53 Pl. LXXXV, no. 53. Dr. 37. Position unknown.
Light orange in colour. A curious design of broad corded borders crossing each other, with four-petalled rosettes covering the junctions, and with a very large beaded border closing the design. A closely similar but more complete design was illustrated by Knorr (*Cannstatt* (1905), Taf. XVI, 8 and S. 29) where in his first samian report, he noted that 'pottery with this decoration is rare in Cannstatt'. Fifty years later it is possible to add that the piece is also rare elsewhere.
Period: late second or early third century.

Notes on Potters' Stamps in Volumes I–IV illustrated here for the first time

54 Pl. LXXXV, no. 54. SER. (*Richborough IV*, 191.) Dr. 37, not Dr. 30. The name-stamp is below an ovolo which was used by the two potters of South Gaul whose name-stamps appear together on a sherd from Rottweil (see Knorr, 1952, Taf. 30 H) as GERMANIF. SER. On that fragment the stamp of GERMANVS has smaller letters than that of SERVVS. Knorr noted that it is latest bowls of GERMANVS, which are associated with SERVVS, and he dated them to *c.* A.D. 80–90. The sherd is a glossy red, and the bead rim has been broken away.

55 Pl. LXXXV, no. 55. MERCATO retrograde. (*Richborough I*, 57, no. 5 A.) Dr. 37. The little dog is O. 2035, used by SEVERVS and PATRICIVS. There is a leafy ornament to left, and a band of S-shaped gadroons below. In *Richborough I*, pl. 18, 17, has the same dog and gadroons but is from a different bowl. See also *Richborough IV* pl. 81, 46 and 47, by the same potter, with different designs.
Period: Flavian.

56 Pl. LXXXV, no. 56. G]IIMINVS retrograde. (*Richborough I*, 56, no. 3 A.) Dr. 37. Two sherds in the style of the Hadrianic potters G.I.VIBIVS and GELENVS, see Stanfield and Simpson, 137–40 and pls. 65–66. The signatures illustrated there, especially Dr. H. Ricken's reading of the example at Berghausen, suggest that GELENVS was the potter's name. But the cursive letters on the Richborough sherd are very clear, and complete except for the missing first letter, and the reading here is G]EMINVS. This signature corresponds to the damaged one from York, *ibid.*, pl. 65, 1. It is also similar to Déchelette, I, 273, on a mould at Lezoux, except that the fourth letter there is an 'E' not an 'I'. The small Siren is D. 500 = O. 863. This potter GEMINVS should be distinguished from the Antonine potter whose plain wares have been found in Scotland and at Corbridge.

The third sherd mentioned in *Richborough I*, no. 3 A, is from a different bowl, lighter in colour and thicker, with a much coarser wavy line and an ovolo which was not used by GELENVS and G.I.VIBIVS.

57 Pl. LXXXV, no. 57. SECVNDINIM retrograde. (*Richborough I*, 59, no. 8 A.) Dr. 37. There are several Central Gaulish potters with this name, and this potter, who is a bowl-finisher, whose name-stamp is recorded on a bowl at Southampton Museum in a very different style from this small sherd, may have worked for several mould-makers. On the Southampton bowl the same name-stamp appears, but it is not in the decoration, as here, but across the base within the footring. Rogers and Laing, 1966, Fig. III, no. 59.)

The potter may be called SECVNDINVS II in order to distinguish him from the earlier associate of LIBERTVS, see Stanfield and Simpson, pl. 55, 646. The trophy ornament is D. 1117, and the resting hind is D. 879 = O. 1752 A. The style of this fragment is not attributable to any mould-maker.

58 Pl. LXXXV, no. 58.]NIOF retrograde. (*Richborough I*, 60, no. 10 A.]OF joins *Richborough IV*, 191,]INIO). This incomplete name-stamp belongs to a potter who seems to have worked at Vichy. It is larger than the stamp Q. I. BALBINIOF (Déchelette, I, 253). Presumably the letter before the 'N' was an 'I' but that is not necessarily the case. The ovolo is like the ovolo 3 A of CINNAMVS which has a damaged central projection. The figure is D. 94 = O. 151 and on various bowls this figure holds different objects in his right hand. Here there is a large pine-cone, on the mould from Vichy (Déchelette, II, 24, no. 94), a spear, and on two sherds at Vichy a V-shaped cup; see M. and P. Vauthey, *Ogam*, ix (1957), pl. 70, fig. 12, and A. Morlet, *Vichy Gallo-Romain* (1957), 259, fig. 175. The two sherds at Vichy are similar in many respects and both show a wide plain single arcade as also on the Richborough sherd, and the same large regular beaded borders, but their ovolos have a rosette on the end of the tassel and are not a variety known on the work of the CINNAMVS group.

Period: Antonine.

References to the Decorated Samian Pottery in Richborough I–IV

I. Text, pp. 49–60. Plates XVII–XIX.
II. Text, pp. 53–72. Plates XXVI–XXVIII.
III. Text, pp. 94–128. Plates XXII–XXXI.
IV. Text, pp. 160–91. Plates LXXIII–LXXXIV.

THE AMPHORA STAMPS[1]

By M. H. CALLENDER, F.S.A.

INTRODUCTION

A GENERAL discussion of amphorae and their stamps, with particular reference to their origins, will be found in the writer's *Roman Amphorae* (Oxford 1965).[2] The main thesis of that discussion is that the globular form can be assigned to Baetica, and especially to the area between Cordova and Seville. The argument is clinched by a study of the stamps found on globular vessels. In the first place some amphorae were found on the Monte Testaccio with both a painted inscription which included the name of a South Spanish town and a stamp, and wherever such stamps have been found elsewhere in the West—within the writer's experience—they have always been on globular vessels. Secondly, whenever a stamp, which has itself been found in South Spain, occurs on sites outside that area, it has always been—again within the writer's experience—on a globular vessel (see below nos. 96, 98, 120, 101, 106, 119, 109).

The following group illustrates two aspects of this Spanish trade which have hardly been noted hitherto. One is the overwhelming position which it attained in the British market—and according to the evidence throughout the West—to the almost complete exclusion of amphora-borne products from other areas, notably Italy and South Gaul. Thus out of the thirty-six examples only one is not from a globular vessel (99, Q.C.H). One stamp is now missing (107, BRQ.OD) and so cannot be commented upon, but all other examples of this stamp known to me have been on the handles from globular amphorae. The other is the comparatively early spread and growth of this monopoly, beginning in the early first century A.D., gathering momentum by the second half of that century and completely dominating the scene by the beginning of the second century. These conclusions have been reached only after the study of hundreds of stamps, and this relatively small group is merely used as a reasonable illustration of them.

[1] Superscript figures denote the series. The block-numbers of three volumes of the *C.I.L* have been omitted in the text and are given here: *C.I.L.* vii = 1331; xii = 5683; xiii = 10002.

[2] *Roman Amphorae* was published after this article went to press.

67 

D ÂT Z COL (D. AT( ) Z( ), COL(egii) ?)
On the surface in the south-west area.

The same stamp occurs at Ardoch (*P.S.A. Scot.* (1898), 459), Cadder (*J.R.S.* xxxiv, 77), Wroxeter (*Wroxeter III*, 58, n. 27), Rome (many exs.) (*C.I.L.* xv, 2715 a, b), Hofheim (*O.R.L.* 29, Taf. VI, fig. 50), St-. Romain (*C.I.L.* xii, 75), arva-Axati area (Baetica) (*C.I.L.* ii, 4968, 26).

Arva and Axati (Peña de la Sal and Lora del Rio respectively) were important centres for the Spanish amphora-borne produce trade (see *Arch. Ael.*[4] xxvii, 63 and 81–82). The abbreviation, COL, occurs fairly frequently on Spanish stamps as in COL SIC ET ASI, COL EARINI, COL LEOPAR (*ibid.*, 75, n. 2) and it is suggested that its expansion should be to *collegium*.

Vessels with this stamp found on the Monte Testaccio are dated by *tituli picti* to A.D. 149 and 153, whilst the inscription giving the latter date also included the name of the city of Corduba = Cordova (*C.I.L.* xv, 2715). Presumably then the estate, corporation or guild represented by this stamp was situated in the *conventus* of Corduba and the vessels had to pass through the customs clearing house of that city.

The Monte Testaccio examples were found in positions which suggest that the *floruit* of the estate came before the end of the reign of Antoninus Pius (A.D. 138–61).

68 

(A) H E R M E S F(*ecit*)
Unstratified: area VI (1936). On a fragment of a buff, globular amphora.

For a distribution list see *Arch. Ael*[4]. xxvii, 91, n. 2 and map, p. 63. Since that account was published, I have noted another example from Avenches (unp.). It should be pointed out that it is unusual among amphora stamps to find a name written out in full and in the nominative case, and that in such circumstances it is not easy to decide whether it refers to the maker of the vessel or the producer of the contents; it is possible that Hermes made the amphora and that there was another stamp on the other handle of the same vessel giving a name in the genitive or ablative case and advertising the producer of the wine, oil, fish-sauce or whatever it contained.

South Spanish. A.D. 150–98?

69 

(A) H L Q (*or* O)C ([ex] H( ), L.Q( ) C( ) ?)
Over the outer Claudian ditch (area VI).
Cf. ĤL Q from London (Guildhall Mus.; unp.).

South Spanish.

70 

(A) I(?)LIB
From area XVII/32.

The nearest parallel is LIB(?)VI from Les Bolards (Nuits-Saint-Georges, Côte d'Or (unp.: information from M. E. Thevenot, who is not certain that the third letter is B)); this stamp, like the Richborough one, is on a South Spanish vessel.

71 

(A) L. (?) AR.ER. (L.AR( ) ER(otis?))
Found on the surface in the south-west area inside the fort. No known parallel.

South Spanish.

72 

(A) L.C.ÂE *or* ÂEL (L. C( ) AEL( ) ?)
From the black silt west of the outer Claudian ditch.

Other examples from: Rome (*C.I.L.* xv, 2741), Avenches, Clermont Museum, Trion (*C.I.L.* xiii, 135 *a–c*), Windisch (Schutthügel) (*A.S.A.* x, Taf. xvii, 17), Geneva (2 exs.) (one L. C. ÂEL) (*A.S.A.* xxx, p. 20, 3 and fig. 2, 6), Ste- Colombe (*C.I.L.* xii, 49).

South Spanish. Second half of the first century?

73 

(A) t.I.T (stamped twice, the second impression at an angle to, and partly across, the first).
From the south section across the line of Gulley 1.

For distribution list see *Arch. Ael*[4]. xxvii, 96, n. 28.

South Spanish. A.D. 150–98?

74 

(A) LQS (L. Q( ) S( ) ?)
Found on the surface.

(B) L.Q.S
In black soil west of hearth between ditch sections 20–43. For a distribution list see *Arch. Ael*[4]. xxvii, 105, 49; to this must now be added these two examples from Richborough and one from each of the following sites: Augst (unp.), Cannstatt (Knorr, p. 74 and pl. xi), Windisch (Schutthügel) (unp.).

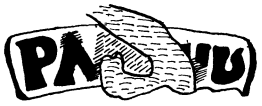
Opportunity is taken here to revise the period of operation given in *Arch. Ael.* (*supra*, p. 106) to *c.* A.D. 80–130.

75 

(A) L ⌢VP I
South of Chalk House, west road ditch, area XVII/32.

A broken stamp, upside down on the handle of a globular amphora. Also found at Baden (Switzerland) (unp.), Turgi (Zürich Museum) (unp.), Vienne (*C.I.L.* xii, 167). Cf. in addition LVP XII. from Rome (*C.I.L.* xv, 2991), II LVPL and LVPL also from Rome (*C.I.L.* xv, 2992 *a*, *b*) and LVPLV from Windisch (Schutthügel) (unp.).

South Spanish and probably late first to early second century.

76 

(A) PM///V(?) P(?) (P. M(anili)[s]VP (erstitis) ?)
From Chalk House, third layer.

On the handle from a globular amphora, as were the examples from London and Avenches (see below).

Also found at: London (PMSV) (unp.), Trion (P.MANL SVR), Solothurn (MANILI. SVPER) (*C.I.L.* xiii, 337 *a*, *b*), Avenches (2 exs.) (unp.), Hofheim (Ritt. 303), Nîmes (*C.I.L.* xii, 182), Andancette, Ste-Colombe, Vienne (*C.I.L.* xii, 192 *a–c*).

South Spanish. First half of the first century?

77 

(A) POL

There is no direct parallel but compare: (*a*) POLL from Vienne (*C.I.L.* xii, 222) and (*b*) POLYCLITI from Rome (*C.I.L.* xv, 3092), Port-sur-Saône (*C.I.L.* xiii, 400), Vetera (*B.J.* 135, p. 193) and Geneva (*C.I.L.* xii, 223 = *A.S.A.* xxx, p. 208, 31 and fig. 2, 19).

South Spanish.

78 

(A) QAT. R (Q. A[n]T(oni) R(ugi)) (It is likely that the N was not omitted, but that the ligature between the A and T has disappeared.)

From the inner Claudian ditch.

This is the third specimen of this stamp from Richborough (see *IV*, 243, n. 36).

It has also been found at Chester (*Rom. Inscriptions found at Chester*, Williams (1886), 77), London (unp.), Wroxeter (1914, 56, n. 21), Palermo (Sicily) (*C.I.L.* x, 8051, 5), Avenches (2 exs.), Trion (3 exs.) (*C.I.L.* xiii, 101 *a–c*), Olten (Switzerland) (unp.), Windisch (Schutthügel) (unp.), Ste-Colombe (*C.I.L.* xii, 30), Vienne (2 exs.): (*C.I.L.* xii, 34 *a*, *b*), Carthage (*C.I.L.* viii, 22637, 10). This stamp, like that of P. S. Avitius (*supra*, n. 109), affords excellent evidence for the early and widespread trade from Baetica.

Mid to late first century.

79 

(A) Q.C.H (Q. C( ) H( ) ?)
Area XIX stone fort layer. Neat lettering on a fragment from a buff-coloured handle with a central rill (see cross-section).

I know of only one other example of this stamp, and that was on exactly the same type of thin, small handle of very fine buff clay; it was found at Vidy-Lausanne (Switzerland). There was only one minor difference in that the latter lacked the triangular stops. It is quite certain that neither came from globular, South Spanish amphorae, and it is possible that they are extremely rare instances of South Gaulish stamps.

80  (A) QIARFSS (Q. I( ) AR( ), F [e]S(tus) S(ervvs) ?)

Found on the surface.

This belongs to a group of South Spanish stamps in which the initial letters QIA form a common factor, e.g. Q.I.A., Q.I.AL, QIAB, QIADI, QIAFS, Q.I.A.S. For the distribution and discussion of the group see *Arch. Ael*[4]. xxvii, 96, n. 29.

A.D. 140–98?

81  (A) QN. *or* N̂I.

On the surface, south-west area inside the fort.

The stamp, QNI, in hollow letters has been found at Rome (*C.I.L.* xv, 3040).

82  (A) QSP (Q. S( ) P( ))

South of section 46 on working surface and one foot down. On a fragment of a globular amphora handle of ordinary buff ware. Some examples from elsewhere have stops and palm branches.

Also occurs at Chester (2 exs.) (*CNWSoc.* xxvi, 38; one ex. unp.), London (*C.I.L.* vii, 98*a*), Rome (*C.I.L.* xv, 3156 *a*, *b*), Trion (4 exs.)' Autun (2 exs.), Avenches (*C.I.L.* xiii, 445 *a–f*), Bregenz (unp.), Mainz (*M.Z.* vii, Abb. 4, 7), Windisch (Schutthügel) 4 (unp.).

South Spanish. Second half of the first century?

83  (A) QVIN̂T (i)

From the east road ditch of the north–south road over Claudian ditch (area VI).

Also from Colchester (*Mus. Rep.*, 1930–1, 25 = *Cam.*, fig. 45, 14), Rome (on the belly), (*C.I.L.* xv, 3112), Augst (unp.), Vienne (*C.I.L.* xii, 241).

South Spanish.

The Colchester stamp was assigned to period VI, i.e. A.D. 61–*c.* 65, and this example from Richborough was found in a first-century level.

84  (A) SÂNIA? (SA[e] NIA(nenses) [figlinae]?)

From area XVII/32, north of section 33, third layer.

 (B) SÂÊNIÂNÊS (SAENIAN[ens]ES [figlinae]?)

South of area X, west extension, and south of the road under the lowest pebble layer in dark, sandy earth.

Also from: London (*C.I.L.* vii, 102), Rome (*C.I.L.* xv, 3518), Augst (unp.), Avenches (4 exs.) (*C.I.L.* xiii, 36 *e–h*), nr. Bern (unp.), Grimmlinghausen (*C.I.L.* xiii, 619), Mainz (*C.I.L.* xiii, 361 = *M.Z.* viii–ix, p. 83 and Abb. 20, 1), Metz (Els-Lothr., *Jahrb.* xxii, p. 535),

Neuss (*B.J.* 111/112, Taf. 36, 13), Nijmegen (*C.I.L.* xiii, 39), Trion (4 exs.) (*C.I.L.* xiii, 36 *a–d*), Windisch (2 exs. unp.), Geneva (*A.S.A.* xxx, 210, 40 and fig. 2, 22), Ste-Colombe (2 exs.) (*C.I.L.* xii, 276 *d*, *e*), Las Huertas del Rio (2 exs.) (*E.E.* ix, 424, 6 *a*, *c*).

There are many variations of this stamp, e.g. A.SAEN, CASAE or CA.SAENT, CENSAENIANES, CENHISPSAE, III ENNIORVM IVLIORVM SAE, FIRMI.SAENIANE. HISPAN.SAENI, MA.SAENIANI STA. They all appear to indicate the name of a *figlina* which was situated between Arva = Peña de la Sal and Axati = Lora del Rio (see Map, *Arch. Ael*[4]. xxvii, 63), possibly at Las Huertas del Rio which lies between these two sites.

A.D. *c.* 80/90–130/40.

85 

(A) TAA[pa (T. A(tili) A(siatici), [de]P(ortu) A( ) ?)
On the handle from a globular amphora.

(B) T.A.A.P.A.
On the handle from a globular amphora in clear, well-executed lettering; found when clearing up the west side of the outer Claudian ditch (area VI).

Also from Colchester (May, 242, n. 2), Rome (many exs., including exactly the same stamp as (B) above, as well as T ATILI ASIATICI, T.A.ASIATICI and palm branch, and T.A.ASIATICI PC...) (*C.I.L.* xv, 2717 *a–e*), Lectoure, Périgueux, Poitiers (3 exs.), Trion (2exs.), Dammartin (Jura), Bas-Oha (Lüttich), Dietikon (Zürich), Heddernheim (*C.I.L.* xiii, 113 *a–k*), Augst (2 exs. unp.), Bregenz (unp.), Windisch (Schutthügel) (2 exs.) (*A.S.A.* x, Taf. xvii, 28; one ex. unp.), Fins-d'Annecy (Marteaux and Le Roux, 156), Narbonne (2 exs.), Vienne (*C.I.L.* xii, 36 *a–c*).

South Spanish. Second half of the first century?

86 

(A) TAB (or Q?) PO (r) ([de] POR(tu), T. A( ) B( ) ?)

Unstratified.

One of an extremely numerous group of South Spanish stamps, all of which include the abbreviation, POR: the most apt translation of this seems to be 'from the warehouse of'. Compare C.P.RPOR (*Richborough I*, 86, 8) and PAHPOR (*I*, 86, 9).

It is unlikely that the reading should be TAB rather than TAQ since there is a parallel—the reading of which is almost certain—from Ilkley (unp.: with the letter B *retro*.).

Possibly late second century.

1 

(A) g.a]NT QVIETI (G.ANT(oni) QVIETI)
Found on the surface in the south-west area, inside the fort.

(B) g.] ANTON.QVIET.
Found amoung pebbles near section 46.

The main variations of this stamp are: C.ANT.Q, G.ANT. QVIETI (and without stops), G ANTONI QVIETI, C ANTON Q, C ANTO Q, C AN ⊙VIET, C AN ⊙V,G.AEL.Q.VAL.

Seven examples have occurred at Richborough (*I*, 84, n. 1; *II*, 94, n. 1 *b*), whilst altogether over ninety from forty-eight different sites have been noted by the writer.

It has been suggested that G. Antonius Quietus produced his amphorae and their contents 'probablement des environs de Vienne' (Marteaux and Le Roux, 222). There are, however, at least two facts which militate against this theory. In the first place, in all instances known to the writer the stamps are on globular, i.e. South Spanish vessels: secondly, the stamp occurs in Baetica. It is more than probable that he lived and worked somewhere in the valley of the R. Baetis = Guadalquivir, where he must have occupied a position of extreme importance in the amphora trade from that area, since his vessels have a wider distribution and a greater frequency than those of any other single-name stamped ones.

His period of operation is fairly well defined. An example from Newstead was considered by Curle to belong to the first period of occupation, i.e. *c.* A.D. 80–*c.* 100 (pp. 268 seq.); one stamp from Mainz has been assigned to the reigns of Domitian–Trajan and another to those of Trajan–Hadrian (*M.Z.* viii–ix, p. 83). The find at Caerwent was associated with Domitianic–Hadrianic pottery types (*Arch.*, 80, 230), one of the two examples from Brecon Gaer was found together with the samian stamp, ROPPIRVTI.M (Domitian–Trajan) (*Brecon*, 246), a Pompeian amphora from his estate must have arrived there before A.D. 79 (*C.I.L.* x, 8049, 1), whilst finally those from the Schutthügel[1] (Windisch) were of late first-century date (unp.).

A.D. *c.* 70–*c*, 120 with a late first-century *floruit*.

3  (A) Q C R

3  (B) Q C RA (Q.C( ) RA( ))

(A) Unstratified; (B) south section across line of gully.

Two other examples of this stamp have occurred at Richborough (*I*, 85, 3; *III*, 160, 22). It is a fairly widely distributed South Spanish stamp as is revealed by the following full list of sites on which it has been found: London (unp.), Wroxeter (2 exs.) (*Wroxeter III*, 57,

[1] The Schutthügel is the former rubbish-tip of the Legionary fortress of Vindonissa, the whole of which can be dated with confidence to A.D. *c.* 30–100, whilst its upper strata can be assigned almost certainly to the years A.D. 80–100.

fig. 3, 22; *Trans. Birm. Arch. Soc.* (1923–7), 282, 2), Verulamium (unp.), Rome (*C.I.L.* xv, 2763 *a*, *b*), Nice (*C.I.L.* v, 8112, 21), Poitiers, Clermont, Trion, Joublains, Trier, Heddernheim (*C.I.L.* xiii, 153 *a–f*), Augst (2 exs.) (unp.), Bern (Engehalbinsel) (*Jahrb. des Bern.-hist. Museums*, ix (1925), 68), Vetera (*B.J.* cxxii, 384), Vidy-Lausanne (unp.), Windisch (Schutthügel) 10 (*A.S.A.* x, Taf. xvii, 26; 9 exs. unp.) Fins d'Annecy (Marteaux and Le Roux, 466), Geneva (*A.S.A.* xxx, 209, 35 and fig. 3, 15), Ste- Colombe (13 exs.), Vienne (2 exs.) (*C.I.L.* xii, 56 *a–d*).

A.D. 60–110?

5  (A) III E N N I V L (III ENNI(orum) IVL(iorum)).

A widely distributed stamp, a previous example of which has been found at Richborough (*I*, 85, 5). For a site-list and discussion see *Arch. Ael*[4]., xxvii, 86, 17.

South Spanish. A.D. 90–140.

11 (A) B R Q. O D (BR[o]Q( ) OD(vciense) ?)

Found in pit 255. Now missing.

Previously found at Richborough (*II*, 93, 11; BRQ.OD in very small letters and with a triangular stop). In examples from elsewhere it is frequently BROC.ODV. The distribution of this stamp is as follows: Silchester (*Silchester*, 282, n. 49), Rome (several exs.) (*C.I.L.* xv, 2736 *a–c*), Agen, Vichy, Autun, Nyon, Au Bois de Vaud (Lausanne Museum), Solothurn, Wiesbaden, Grimmlinghausen, Rossem (2 exs.) (*C.I.L.* xiii, 12 *a–k*), Neuss (*B.J.* cxi–cxii, Taf. 36, 2), Ste- Germain Museum (unp.), Vidy-Lausanne (2 exs. unp.), Windisch (Schutthügel) (4 exs.) (*A.S.A.* x, Taf. xvii, 15; 3 exs. unp.), Fins d'Annecy (Marteaux and Le Roux, 466), Orange (*Z.A.K.* (1946), 197), South Gaul (provenance not known) (*C.I.L.* xii, 44).

Cf. also BROC (or Q_) P.ATA from Nyon (*Z.A.K.* (1946), 197, 55 where an incorrect reading is given), and Q.STERTIN(i) BROC from Hengistbury Head (*Hengistbury*, 53, 3), Avallon or its neighbourhood (*C.I.L.* xiii, 13 *a*), Solothurn (*C.I.L.* xiii, 13 *b*), Worms (*C.I.L.* xiii, 13 *c*).

There can be little doubt that ODV was an abbreviation of the town-name ODVCIA = Villartilla i.e. a town in the *conventus Hispalensis* (*C.I.L.* ii, p. 137: 1056 and 1182). The same abbreviation was used in conjunction with POR(tus) = warehouse or customs shed (*C.I.L.* xv, 3058 *a–c*), and this evokes comparison with the stamp, P.ARVA (*C.I.L.* vii, 17–19), the latter being another city of the same *conventus*. It may be that BROC (or BROQ_) referred to an estate in the neighbourhood of Oducia or perhaps a suburb or particular quarter of that town.

Oducia itself must have been one of the chief centres of the amphora trade from Baetica; the *lintrarii* or lightermen of the town are mentioned on an inscription from there (*C.I.L.* ii, 1182); these were

presumably the men who ferried *amphorae* downstream to the sea-going ships of Ilipa or Hispalis.

Almost certainly second half of the first century.

33  (D) A C I R C I I (Palm-branch?)

From the south-west diagonal trench, 63 ft. from the south-west angle. Normally ACIRGI or ACIRCI and palm-branch.

For a full discussion and distribution list see *Arch. Ael*[4]. xxvii, 70, 1 *a*, *b*.

39  (A) P. S. A (with triangular stops) (P. S( ) A(viti) ?)

From the area south of Chalk House.

This is the third, and possibly the fourth example of this stamp from Richborough (see *IV*, 243, nos. 38–39).

The distribution of the amphorae from the estates of P. S. Avitius is interesting in that it reveals the extent to which South Spanish producers had captured the markets of the West by the second half of the first century, and it is therefore given here in full.

Colchester (2 exs.) (*Cam.*, fig. 45, 11 and 12), London (*C.I.L.* vii, 96), Silchester (May, p. 281, n. 39), Wroxeter (*Birm. Arch. Soc. Trans.* (1923–7), 282), Rome (several exs., including P.S.AVI on one handle and MAR on the other, i.e. presumably MAR(tialis) [servus], one of the *vilici* in charge of the estate) (*C.I.L.* xv, 3143 *a–c*), Clermont, Ainay, Lyons Museum (P.S.AVI on one handle and MAR on the other), Autun, Amiens, Boulogne, Windisch (2 exs., one unp.), Langres, Cologne (*C.I.L.* xiii, 434 *a–i*), Bonn (*B.J.* cxxxiv, 174), River Allier Valley (provenance not known) (*Coll. antiq.* vi, 72), Forum Iulii, Arles, Arles M., Fins d'Annecy, Trinquetaille on the Rhône (P.S.AVI and below SVAVI, i.e. presumably Suavis [servus], another *vilicus* on the estate) (*C.I.L.* xii, 251 *a–d*), Barcelona (2 exs., *C.I.L.* ii supp., 6254, 38 *a*, *b*, including P.S.AV and SVAV(is)), Italica (3 exs., *ibid.* 37 *a–c*).

South Spanish, possibly operating in or near Italica. Second half of the first century.

47  (B) Q M R (Q. M( ) R( ) ?)

From the disturbance east of the Claudian road, area VI (1936). Previously found at Richborough (see *Richborough IV*, 244, 47).

A fairly common mid- to late second-century stamp with the following distribution (amended from that given in *Arch. Ael*[4]. xxvii, 101, n. 41); Ambleside (*C. and W. Trans.* xv, 57, fig. 26), Balmuildy (Miller, 78 and pl. xl, fig. 4), Chester (*C.N.W. Soc.* xxix, p. 14), Corbridge (3 exs.) (*Arch. Ael*[4]. xxvii, 101, n. 41), London (unp.), Papcastle (*C. and W. Trans.* xiii, 137, fig. 2), Shropshire (*V.C.H. Salop*, i, 251), Rome (several exs.) (*C.I.L.* xv, 3010 *a–c*), Forêt de Compiègne (*C.I.L.* xiii, 328 *a–f*), Lunnern (Zürich M.) (*ibid.*), Mandeure (*ibid.*), Mainz (*ibid.*), Heddernheim (*ibid.*), Arentsburg (2 exs.) (Holwerda, pl. lxiv,

fig. 22), Dépt. de l'Oise (*Rev. arch. de France*, xxxix[3], 254, 98), Laufen (Berner Jura) (*A.S.A.* xxv, 202), Strasbourg (*Argentorate*, ii, 608), Wimpfen (*O.R.L.* 54/55, Taf. III, fig. 15), Windisch (Vindonissa) (unp.), Zugmantel (2 exs.) (*O.R.L.* 8, p. 169 and Abb. 35, 14; p. 198, n. 25), nr. Arausio, Vienne (*C.I.L.* xii, 175 *a*, *b*).

One of the Corbridge examples was found in a deposit dated *post* A.D. 160, whilst the Papcastle handle was associated with late second-century pottery. On the other hand the Monte Testaccio positions suggest a date before A.D. 180.

South Spanish. *c.* A.D. 140–80.

Doubtful Stamps

114  S.A (with triangular stop).
Found in area XVII/32.
Compare ASA from Compiègne (*Coll. antiq.* vii, 26), L.S.A from Corbridge (with triangular stops) (*Arch. Ael*[4]. xxvii, 110, n. 57), Besançon (*C.I.L.* xiii, 451) and elsewhere, and P.S.A (*supra*, n. 109).
South Spanish.

118  CER
Unstratified from the north of section 44.
Possibly a broken example of Q.M.M.CER (early second century?) as at Arentsburg (Holwerda, pl. LXIV, fig. 21), Paisy-Condon (Aube) (*C.I.L.* xiii, 15) and Wimpfen (*O.R.L.* 54/55, Taf. III, fig. 14 *a*).

127  M R(?) I(?)
Found in the pebbles of the Domitianic road, area VI (1936).
MRI (sometimes with stops and palm branch) occurs on at least eight continental sites, including Avenches (unp.), Bregenz (unp.), Vienne and Ste- Colombe (*C.I.L.* xii, 242 *a–e*).
South Spanish.

 R.I On the surface in area XXI.
The last two letters seem reasonably certain and it may be another example of MRI (*supra*, n. 127).

Makers' Stamps on Other Pottery

By Barry Cunliffe, F.S.A.

(Pl. LXXXVI)

1 Beaker, *Cam.*, form 120, with a curved stamp underneath the foot, probably reading IIVLIVS. This is to be compared with the

straight stamp, reading IIVI MI, published previously (*Richborough IV*, pl. LXXII, 1).

No provenance known.

2 Terra nigra base, *Cam.*, form 58 A. The stamp reads VIIXI or VXIVI.
Found in area XVII, to the south of Chalk House.

3 Red ware, with red colour coat. Stamped ⸸X·V~⸸X⸸.
Found in the surface levels in the south-west corner of the shore-fort.

4 Red ware, with red colour coat, bearing a stamp C.NOXTM or AOL·XCN· similar in some respects to a stamp of Cunopectus from the Colchester kilns (*Colchester Kilns*, fig. 48, nos. 14 *b*, *c*).
Found in the surface levels in the south-west corner of the shore-fort.

5 Red ware, with red colour coat. There is a trace of a stamp in the centre. (Not illustrated.) Found in the outer ditch filling.

Nos. 3–5 are very similar in ware and form, and in all three examples the stamp is central and is surrounded by two circles of rouletting. It seems probable that these vessels were imported from the late third–fourth-century kilns in the Oxford region. At Sandford, in particular, colour-coated bowls with meaningless stamps are known to have been produced, e.g. *Arch.* lxxii, 233, fig. 4.

The Mortaria and Their Origins

By Katharine Hartley

A total of 757 mortaria are known from Richborough, and of these 121 carry makers' stamps. The total has been broken down in Table 1 below, to show the various potteries which supplied the site, and fig. 21 indicates the oscillations in their importance as suppliers to Richborough compared to their economic importance in Roman Britain as a whole.

Until recently it was widely believed that mortaria were imported into Britain on a large scale until the end of the first century. Intensive production in the Flavian period is now certain for the potteries in the Verulamium region and Kent, while minor potteries in the vicinity of Colchester were certainly active. Furthermore, mortaria from Neronian contexts at Verulamium and Colchester suggest even earlier production, though on a smaller scale. There are very few mortaria in Britain which can be attributed with certainty to continental factories and it is, in fact, eminently reasonable that manufacture of such necessary but cumbersome and heavy articles would begin in the Claudian period, at least at Colchester and probably in Kent. The fabric of some of the early wall-sided mortaria from Richborough could undoubtedly have been produced in these areas.

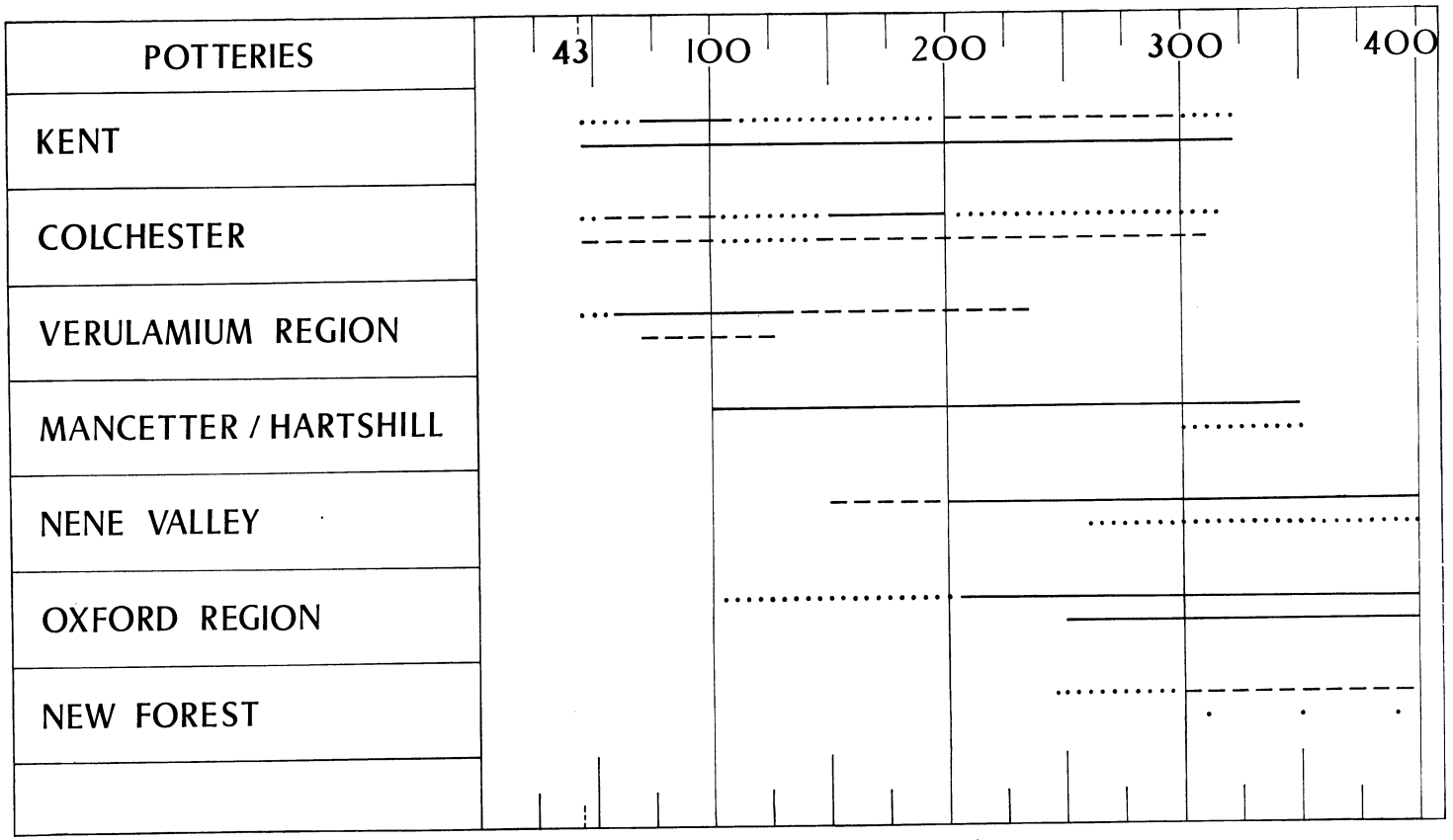


FIG. 21. Diagram showing the sources of the mortaria

The upper line represents production in terms of date, differentiating between only local (....), moderate (---), and widespread (——) distribution; the lower line represents the amount supplied to Richborough

It will be seen from Table 1 and fig. 21 that Richborough relied heavily on the local mortarium-makers in Kent and Colchester (at least 60·6 per cent. of the total). These potteries almost certainly ceased production in the late third or early fourth century. Potteries in the Oxford region began to grow in importance in the third century and undoubtedly fulfilled most of the demand at Richborough throughout the fourth century. Other major potteries for mortarium production like those in Warwickshire and the Nene Valley make little more than a token appearance; the small number from the Nene Valley is perhaps surprising, for greater coastal transport might have been expected. Even the Verulamium potteries, of prime importance for the province as a whole in the Flavian and Trajanic periods, supplied only 11·3 per cent. of the mortaria datable to A.D. 55–145. This is perhaps due to the fact that the Colchester potters had an advantage in the possibility of water transport. Similarly in the fourth century the dominance of Oxfordshire ones may be connected with use of the Thames for distribution.

Imports from the continent must have been of importance during the Claudian period, but dwindled rapidly thereafter. Richborough's important position as a port and its connexion with the *Classis Britannica* may well account for the transport of incidental items like nos. 95 and 113, from Italy and Gallia Belgica respectively, and perhaps even for the solitary New Forest mortarium.

It remains to consider the variation in numbers of mortaria used at Richborough at different periods and the sample is sufficiently large to show significant changes despite difficulties in dating the third- and fourth-century mortaria closely. Out of all the 757 mortaria considered 50·1 per cent. can be dated A.D. 43–110, 10·4 per cent. A.D. 110–200,

TABLE 1. *The sources of the mortaria found at Richborough*

Probable area of manufacture	A.D. 45–70	A.D. 55–95	A.D. 70–100	A.D. 70–110	1st cent.	A.D. 90–145	A.D. 150–200	2nd cent.	3rd cent.	A.D. 250–400	4th cent.	TOTALS
Kent, Colchester, or Gaul	53	1	..	..	..	..	..	..	..	..	..	54
Gallia Lugdunensis	..	3	..	..	..	..	..	..	..	..	..	3
Italy	..	1	..	..	..	..	..	..	..	..	..	1
Gallia Belgica	..	1	..	..	..	..	..	..	..	..	..	1
Kent	..	..	136	56	..	..	4	14	114	..	..	324
Kent or Colchester	..	71	..	..	19	..	1	42	..	..	..	133
Colchester	..	..	..	4	..	..	8	..	..	..	..	12
Verulamium region	..	9	11	14	..	7	..	..	..	..	..	41
Silchester region	..	..	..	..	..	..	3	..	..	..	..	3
Hartshill/Mancetter, Warks.	..	..	..	..	..	..	..	..	..	..	6	6
Nene Valley	..	..	..	..	..	..	..	..	..	20	..	20
New Forest	..	..	..	..	..	..	..	..	..	..	1	1
Oxford region	..	..	..	..	..	..	..	..	..	158	..	158
Totals	53	86	147	74	19	7	16	56	114	178	7	757

22·9 per cent. *c.* A.D. 200–300, and 15·3 per cent. *c.* A.D. 300–400. They indicate a markedly heavy first-century occupation followed by great reduction in the second century, and a notable increase in the third century, maintained in the fourth. The very great difference in proportion for the years A.D. 200–400 and the first century has no immediate explanation in the mortarium industry.

Mortarium Stamps from Richborough

The following list includes all the stamps known from Richborough, whether published or not.[1] All the stamps are now at the Site Museum, with the exception of two mentioned by Roach Smith, whose whereabouts are not known.

Where known, the full reading for stamps from a given die is quoted, whether the particular example is complete or not. Stamp-types not already illustrated in earlier Richborough Reports have been drawn (pls. LXXXVIII and LXXXIX), and available rim-forms have been reproduced (pl. LXXXVII). Illustrated stamps and rim-forms have the same numbers as in the list. 'NP' indicates a stamp not published but probably found during the same period as those published in *Richborough I–IV*.

In the list the letters A–F are used to indicate the fabric of the mortaria. Explanations of these letters are given on p. 183. When the rim-section of a mortarium has not been reproduced, parallels for the form are given where possible, either from others illustrated or from the series of rim-forms compiled by J. P. Bushe-Fox (*Excavations at Wroxeter*, 1912, fig. 19: these appear as 'B-F. 14/18', etc.).

[1] An additional stamp of ALBINVS (2–6), mentioned by Roach Smith (*Antiquities of Richborough, Reculver and Lymne*, (1850), p. 64), has inadvertently been omitted from the List.

No.	*Stamp*	*Die*	*Total*	*References and Remarks*	*Origin*	*Date*	*Fabric*	*Rim-Form or Parallel*
1	ALB—	A	1	*II*, p. 94, 8(A).	Kent probably.	A.D. 70–100	A	B-F. 14/18
2	LVGD.FEC[1] counterstamp of Albinus	A	1	NP. (43; iv/1). A different potter from no. 1.	Verulamium region.	A.D. 70–95	B	pl. LXXXVII, no. 6
3	ALBINVS	E	1	IV, p. 251, under 8 (B).	,, ,,	,,	B	
4	ALBINVS//F.LVGVDV	G	1	IV, p. 251, 8 (B).	,, ,,	,,	B	
5	F.LVGVDV counterstamp as above.	G	1	V, (112; area vi).	,, ,,	,,	B	
6	ALBINVS. F	H	1	V, (M. 24).	,, ,,	,,	B	
7	BVCVS.F retrograde	A	1	NP.	Probably Kent or Colchester.	A.D. 55–85	A	cf. pl. LXXXVII, no. 53
8–9	OF. CACVMATTI (See also Vassonus)	A	2	V, only one is marked, (89; area 18; in black patch just below floor of first big room E. of corner on SW. of Chalk House).	Probably Kent.	A.D. 65–100	A	pl. LXXXVII, no. 8, and B-F. 14/18
10	O]F.CACVMATTI	B	1	IV, p. 248, 19; misread.	,, ,,	,,		
11	CANDIDVS (I) retrograde	A	1	V, (area S. of Chalk House: layer 100).	Verulamium region.	A.D. 90–125	B	pl. LXXXVII, no. 11
12	CAVARIVS	A	1	IV, p. 249, 23; misinterpreted.	Probably Kent.	A.D. 70–100	A	B-F. 14/18
13	CRICIRO F	B	1	IV, p. 249, 20.	Colchester region.	A.D. 70–100	A	B-F. 34
14	CYNOPEC-- (Cunopectus)	A	1	V, (113).	Colchester.	A.D. 160–200	A	Hull, M. R., *Colchester Kilns*, fig. 66, no. 12,
15	DOCCIV (Doccius)	A	1	IV, p. 249, 24.	Verulamium region.	A.D. 80–120	B	B-F. 34

[1] The LVGD and LVGVDV counterstamps presumably refer to a Lugdunum or Lugudunum, and their use by Albinus, whose activity in Britain is now incontestable, indicates a British site of this name in the area between Verulamium and London.

C.4093

16–17	DOINVS	C	2	V, (108; area xviii/32; S. of W. gullies opp. 19–21). V, (Pit 266; 12).	Verulamium region.	A.D. 80–110 (Die C, A.D. 90–110)	B	B-F. 38
18	F] ECIT (Either a counterstamp used in place of a name, or from an unknown die of the man who stamped 'L. F ECIT'.)	–	1	V, (S. of section 19; 3rd layer xvii; 103).	Verulamium region.	A.D. 80–110	B	B-F. 38/58
19–26	GRACILIS. F	A	8	I, p. 87, 1. II, p. 95, 1. III, p. 164, 1. IV, p. 251, 1 (3 exx.). V, (N. of Section 19; 2nd layer 98). V, (94; N. of section 19; W. extension, top layer).	Probably Kent.	A.D. 70–100	A	pl. LXXXVII, no. 19, and B-F. 14/18
27–28	OF C IVL PRI	A	2	IV, p. 249, 22; misread. V, (S. of section 19; S. of red layer 95).	Probably Kent.	A.D. 70–100	A	B-F. 14/18
29	IVVE/NALI FE	A	1	I, p. 88, 6. Juvenalis also made storage vessels, see IV, p. 244, 43 (A); stamp as above.	Probably Kent.	A.D. 90–130	C	pl. LXXXVII, no. 29
30	LALLANS	A	1	V, 86 surface; S–W. area inside fort.	Verulamium region.	A.D. 90–125	B	B-F. 38/58
31–34	LITVGEN/IVGI. FIL (Litugenus II)	A	4	I, p. 87, 2. II, p. 96, 2. IV, p. 252, 2 (B). V, (92, stray).	Probably Kent.	A.D. 70–100	A	pl. LXXXVII, nos. 31 and 34

No.	*Stamp*	*Die*	*Total*	*References and Remarks*	*Origin*	*Date*	*Fabric*	*Rim-Form or Paralle*
35	LITVGENI/IVGI. FILI	B	1	IV, p. 252, 2(C).	Probably Kent.	A.D. 70–100		
36	LITVGENVS/FIVGI. FECIT	C	1	V, (area xviii, N. of Platform, pebble layer 87 and 88).	„ „	„		
37–38	MARINVS	C	2	V, (III). V, (75, along E–W. road inside wire fence; S. side).	Verulamium region.	A.D. 75–105	B	pl. LXXXVII, no. 37, and variants of B-F. 38 and 58
39–41	FECIT counterstamp used by Marinus	C	3	III, p. 164, 17. IV, p. 251, 17 (B), i and iii	„ „	„		
42–43	MARTNYS Martinus (?) (T and V malformed).	A	2	I, p. 87, 3. V, (W. wall; trial trench iv; fort level; 106).	Verulamium region.	A.D. 75–105	B	pl. LXXXVII, no. 42, and B-F. 38
44	MIILVS/FIICIT (Melus I)	A	1	II, p. 95, 11.	Brockley Hill.	A.D. 90–125	B	B-F. 46
45	MORICAM	B?	1	IV, p. 249, 26 (A).	Verulamium region.	A.D. 75–110	B	B-F. 38
46–47	MORICA͡MVLV	C	2	II, p. 95, 12(A); misread. IV, p. 249, under 26(A).	„ „	„		
48	BOLLVS. F/MOTTIVS	A	1	IV, p. 250, 27.	Probably Kent.	A.D. 70–100	A	pl. LXXXVII, no. 50
49	LVGD. F[1] counterstamp of Oa͡strius.	A	1	II, p. 95, 10.	Verulamium region.	A.D. 70–100	B	B-F. 34
50	ORBISSA F͡E	A	1	IV, p. 250, 28.	Probably Kent or Colchester, but Gaul a possibility.	*c.* A.D. 55–95	A	pl. LXXXVII, no. 50

[1] The LVGD and LVGVDV counterstamps presumably refer to a Lugdunum or Lugudunum, and their use by Albinus, whose activity in Britain is now incontestable, indicates a British site of this name in the area between Verulamium and London.

51–52	SECVNDVS F	A	2	IV, p. 250, 30. V, (90; SW. area; surface).	Verulamium region.	A.D. 70–95	B	B-F. 38
53	SVMMACVS.ARO/NTVIS.FIL.FECIT	A	1	IV, p. 250, 31.	Perhaps Kent.	*c.* A.D. 55–95	A	p.. LXXXVII, no. 53
54–56	SEX.VAL.C–	A	3	IV, p. 248, 18; misread. IV, p. 251, 32. V, (area xvii/32; S. of Chalk House; top layer in pebbles; 101).	Probably Colchester, but Kent a possibility.	A.D. 70–110	A?	pl. LXXXVII, no. 56
57	QVI.VAL.SE	A	1	IV, p. 250, 29.	Colchester, or possibly Kent.	A.D. 55–80	A	pl. LXXXVII, nos. 58–61
58	QI.VA.S	B	1	V, (104; area xvii/32; N. of section 33; 1′ 3″ below datum).	,, ,,	,,		
59	Q.VA.SE	D	1	IV, p. 252, 15 (C).	,, ,,	,,		
60	Q.VA.SE	E	1	IV, p. 252, 15 (B).	,, ,,	,,		
61	Q.VA.SE	F	1	III, p. 163, 15 (A).	,, ,,	,,		
62	Q VALER––/SVRIACV–	A	1	I, p. 87, 4.	Probably Kent.	A.D. 70–100	A	B-F. 14/18
63	Q VALER––/SVRIACV–	B	1	IV, p. 252, 4.	,, ,,	,,		
64–68	VERANI[1] (Q. Valerius Veranius)	C	5	III, p. 163, 14. IV, p. 252, 14 (B). 2 exx. NP. V, (N. of section 19:97).	Almost certainly Kent.	A.D. 70–100	A	pl. LXXXVII, nos. 84 and 87
69–	Q.VALERIVS VERAN-	D	2	I, p. 87, 5.	,, ,,	,,		

[1] Q. Valerius Veranius forms the only known link between mortarium-makers working in Gaul and Britain. Stamps of a potter of this name have been found at Bavai on mortaria made in the local brown fabric (*Fabric F*, p. 13). The mortaria found in Britain stamped with the same name differ completely in fabric, but there is sometimes proximity in form and stamp-type to the Bavai examples. Fabric, form and distribution of the British stamps point to Kent as the likeliest base for an extremely prosperous workshop with Q. Valerius Veranius at the centre of a group of potters, including Q. Valerius Suriacus and Q. Valerius Esunertus, presumably relatives or freedmen, as well as potters like Gracilis and Litugenus II. There seems to be every indication that the Veranius in question was the same man with workshops both in Britain and Gallia Belgica.

No.	*Stamp*	*Die*	*Total*	*References and Remarks*	*Origin*	*Date*	*Fabric*	*Rim-Form or Parallel*
70	IVS (*Docaeria fac* in small letters between lines)			IV, p. 252, 5q.				
71–73	Q.VAL.C.F/VERANI.F.	E	3	III, p. 163, 13. IV, p. 252, 5a and 5h.	„ „	„		
74–79	Q.VALERIVS/VERAN-IVS	F	6	III, p. 164, 5. IV, p. 252, 5d, 5g, 5l, and 5p. NP. (One example.)	„ „	„		
80–86	Q.VALERIVS/VERAN-IVS	G	7	II, p. 96, 5. IV, p. 252, 5b, 5c, 5f, 5k, and 5o. NP. (One example.)	„ „	„		
87–88	Q.VALERIVS/VERAN-IVS	H	2	V, (96; S. of section 19; S. of red layer; 2nd layer). V, (102; Pit 256, 0′–3′).	Almost certainly Kent.	A.D. 70–100		
89–91	Q.VALERIVS/VERAN-IVS	I	3	IV, p. 252, 5e, 5m, 5n.	„ „	„		
92	Q.VALERIVS/VERAN-IVS	J	1	IV, p. 252, 5j.	„ „	„		
93	VE------ (attributed)	K	1	IV, p. 252, 5(?).	„ „	„		
94	Q. Valerius Veranius, (reading given; stamp-type cannot be identified)		1	Roach-Smith, C., *Antiquities of Richborough, Reculver and Lymne*, p. 64.	„ „	„		
95	M VARIENV–/CRESCES F	A	1	NP.	Italy.	Flavian	E	pl. LXXXVII, no. 95
96	VASSONVS F	A	1	IV, p. 251, 33.	Probably Kent.	A.D. 65–100	A	B-F. 14/18
97	VASSONVS FEC Stamps from other sites show that Vassonus worked with or for Cacumattus at some time in his life	B	1	III, p. 163, 16(A); misread as VICSANVS FECI.	„ „	„		

98	VERECVNDVS.F	A	1	IV, p. 249, 25.	Perhaps near Silchester.	A.D. 150–200 probably	D	B-F. 142
99	VICT/ORO-- retrograde	A	1	IV, p. 251, 34.	Probably Verulamium region.	A.D. 100–45	B	pl. LXXXVII, no. 9
100–102	Herringbone Pattern	B	3	II, p. 96, 7. IV, p. 252, 7 (viii). Reference cannot be checked.	Colchester.	A.D. 160–200	A	pl. LXXXVII, nos. 102, 103, and 105
103	,, ,,	F	1	IV, p. 252, 7 (v).	,,	,,		
104–105	,, ,,	G	2	IV, p. 252, 7 (ii). Reference uncertain.	,,	,,		
106	Herringbone Pattern Probably all made by a small number of potters working as a unit	Z	1	IV, p. 252, 7 (vii).	Probably Colchester.	A.D. 160–200		
107	Herringbone Pattern	C	1	IV, p. 252, 7 (i).	Probably Kent.	A.D. 160–200	A	
108	Herringbone Pattern	V	1	Reference uncertain.	Probably Canterbury.	A.D. 160–200	A	pl. LXXXVII, no. 108
109	Herringbone Pattern, type unidentified		1	IV, p. 252, 7 (iii).	Kent or Colchester.	A.D. 160–200	A	
110	Herringbone Pattern, type unidentified		1	V, (93).	Probably Kent.	A.D. 160–200	A	
111	--ASSAR followed by a small z-like motif	A	1	Probably mistaken for Q. Valerius Veranius and counted in total in IV, p. 252, 5.	Probably Kent.	A.D. 65–95	A	B-F. 14/18
112	Perhaps illiterate though ARIINIF retrograde is a possible reading	A	1	IV, p. 251, 35.	Verulamium region.	A.D. 100–40	B	B-F. 34/38

No.	*Stamp*	*Die*	*Total*	*References and Remarks*	*Origin*	*Date*	*Fabric*	*Rim-Form or Parallel*
113	Illiterate potter	A	1	IV, p. 249, 21.	*Gallia Belgica*, probably in Bavai area.	*c.* A.D. 65–95	F	pl. LXXXVII, no. 113
114	Perhaps illiterate, but M . . . ./NVS.F, retrograde, can be read, beginning on the bottom line	A	1	NP.	Probably Kent.	Second-century.	C	pl. LXXXVII, no. 114
115	PEC--		1	V, (area xvii/72).	Probably Verulamium region.	Probably A.D. 100–45	B	pl. LXXXVII, no. 115
116	C----- retrograde		1	II, p. 95, 9; it is certainly not a stamp of Gratus.	Possibly Kent.	A.D. 65–100	A	B-F. 4/181
117	Q--------		1	NP.	Probably Kent.	A.D. 65–100	A	
118	Fragmentary		1	NP.	Gaul or Kent.	A.D. 65–95	A	
119	Fragmentary		1	V, (99, Area S. of Chalk House).	Verulamium region.	A.D. 100–50	B	
120	AM-----		1	V.	Unknown.	Unknown.	A	

Fabrics

A. Hard, fine-textured, cream fabric sometimes with pink core, or soft, yellowish cream fabric only occasionally with pink core; trituration grit is mainly or solely flint.

These sometimes appear as distinct fabrics, but many less extreme examples are difficult to place in one category or the other. They are, therefore, grouped together. The range may merely reflect slight differences in the clays used at a given pottery or potteries.

All the stamped mortaria at Richborough with fabric in this group were almost certainly made in potteries in Kent and Colchester. Visually and spectrographically, clays used at kilns in Colchester and Canterbury show no significant difference (*Bulletin of the Institute of Archaeology*, no. 5, p. 35).

B. The outstanding feature of this fabric is its coarse, granular texture. Its colour varies greatly; a greyish cream, with or without pink core, is perhaps most common, but buff, pink, and brown are not unusual. The trituration grit is usually grey, white, and black flint, but brown grit is sometimes admixed.

It was produced by potters of the Verulamium region, including those working at Brockley Hill and Radlett.

Flavian mortaria in Fabrics A and B usually have fine concentric scoring in combination with the grit both on the inside and on the top of the flange (Criciro (13) is an exception to this rule).

C. Granular, sandy orange fabric with drab cream core. Nos. 29 and 114 are both in this fabric and may well have been made in the same region, probably in east Kent. This fabric differs completely from Fabric A.

D. Very hard, sintered, cream fabric of high density, usually tempered with a large amount of white, grey, brown, and transparent colourless grit. The texture is comparable with that of Fabric E and Verecundus is the only named Romano-British potter known to have used it. His mortaria are characterized by a number of features, particularly their size—his small mortaria have diameters of *c.* 16 in. his usual ones are more than 2 ft. in diameter. The outsize measurements and the relative smoothness of the internal surface may well have made them especially suitable for use in such places as bakeries.

Mortaria of the type made by Verecundus are so common at Silchester as to suggest the possibility of manufacture nearby.

E. Hard, sintered, brownish cream fabric of high density and tempered with grit; black, red-brown, and transparent colourless trituration grit.

This fabric and grit appears to be typical of Italian mortaria with this rim-form.

F. Fine-textured, pinkish brown fabric, with grey, black, and a very few brown trituration grits. The pronounced brown colouring is a distinctive feature of mortaria made in the Bavai area.

The Graffiti

1 By R. P. Wright, F.S.A.

Buff flagon. A graffito cut on the shoulder reads DIIA[.... As there seems to be no personal name beginning DEA.... this vessel will have been used for the worship of a goddess whose identity would have been clear on the missing part of the text. For Mercury cited

on a vessel see *C.I.L.* vii, 181 (face vase from Lincoln), *J.R.S.* li (1961), 197, no. 42 (Rocester, Staffs.).

(*a*)

2 Buff storage jar. A graffito cut on the shoulder of the jar reads]MAT. This is probably an abbreviation for Maternus, but it might be the second part of a longer abbreviated name.

(*b*)

THE COINS

The Pre-Roman Coins

By D. F. Allen, M.A., F.B.A., F.S.A.

(Pl. xc)

It is convenient in this Fifth Report to give a summary of the Celtic coins found in the long series of Richborough excavations. I have not seen all these coins together at one time, but I have a few notes, stretching back to 1935, of particular coins shown to me on different occasions. This enables me to correct or add to some of the original descriptions published in *Richborough I–IV*, but, since less than half the coins are still available for confirmation, the final list falls short of the ideal. For *Richborough V* see p. 188.

There are between 12 and 14 Celtic coins positively recorded from the excavations, all of bronze. As the section on the coins found in 1931–8 indicates, there may have been up to 4 more, but this is uncertain. My only doubt over the 12th and 13th coins is that, though described as of Massilia, I suspect them to have been Gaulish imitations. Of the 14 coins, 8 are certainly British and 3 certainly Gaulish, while 3 (including the 2 Massilia coins) are dubiously identified. The British coins, with two exceptions, represent a typical Kentish group from the early first century A.D.

There is a single example of a 'tin' coin of ordinary type (no. 1). Evidence is accumulating that the true home of these strange coins was in north Kent and that they had a long life well into the first century A.D.

What is certainly a Kentish type, but could well belong to the last years of the first century B.C., is a normal struck bronze coin with the legend SA (no. 2). The form of horse with a ring for a nose associates this bronze piece with gold coins reading Vose(nos), the name of a ruler who appears to have been a contemporary of Tasciovanus in Kent.

An interesting coin, probably Kentish, is an uninscribed bronze minim of a type otherwise unknown (no. 3). The coin has disappeared but I made a rough sketch in about 1936, when it was shown me by Mr. Pearce, which I reproduce for what it is worth. This coin may be compared with another Kentish uninscribed bronze minim, probably of the Eppillus period. In my paper on the 'Origins of British Coinage'[1] I was uncertain if it was British or Gaulish, but examples are now known from Canterbury, Rochester and Lullingstone, enough to establish it positively as Kentish. The new coin looks an earlier type, perhaps nearer the Dubnovellaunos phase.

The finds include at least three coins of Cunobelinus. One is the bronze core of a forgery of a gold stater (no. 4). The remaining two are regular bronze coins of Cunobelinus of types with the Camulodunum legend, mostly found in Colchester itself (nos. 5–6).

Finally there are two struck bronze coins of the Durotriges in Dorsetshire of the late type associated with Claudian sites (nos. 7–8). The metal is perhaps more correctly described as silver so debased that it is indistinguishable from bronze.

One of the Gaulish coins is a 'potin' coin, that is of the same metallic composition as the coins we call 'tin' (no. 9). It is of a well-known type from the east of the Seine, south of Paris; this is roughly the district of the Senones, but the attachment of tribal names to these potin coins implies that the types have a tribal character which is far from being proven.

Next there is a struck bronze coin of a type known to belong to the Belgic area of Gaul but not at present more precisely locatable (no. 10). The head on the obverse is drawn from Roman *denarii* of L. Piso Frugi, a type used on bronze coins in Gaul both shortly before and shortly after the Roman conquest.

Another Gaulish coin is of orichalcum and belongs to a large class found on the French Atlantic coast between the Loire and the Garonne and usually attributed to the Petrocorii in Périgord (no. 11).

[1] D. F. Allen, 'The Origins of British Coinage: a Reappraisal', in S. S. Frere, (ed.) *Problems of the Iron Age in Southern Britain*, University of London Institute of Archaeology, Occasional Paper No. 11 (1958), 269.

There are several legends, but this one reads ATECTORI. The type was circulating in the last 10–15 years of the first century B.C.[1]

I have already mentioned the coins described as of Massilia (nos. 12–13). This could, I suppose, be a correct description, but the butting bull is so common on Gaulish and British coins that I am not at all confident. A coin in Richborough Museum may be one of these; it is not fully identifiable, but is certainly not an original Greek coin.

The final coin (no. 14) (female head left, quadruped (boar) left) defies identification, but could as well be British as Gaulish.

It will be seen that we have here a mixed lot of British and Gaulish coins from the very last phase of the pre-Roman era. The British coins are dominated by Cunobelinus, as would be expected. Absentees from so small a lot are hardly significant, but one may note the absence of coins of Dubnovellaunos and Eppillus, both rulers in Kent. The minim, the most interesting coin found, was originally considered to be Gaulish, but only, I believe, on the basis that it was not in the British literature of the subject. In fact, we know of no bronze minims from Belgic Gaul, while they certainly existed in Kent.

The interesting feature of the Gaulish coins is the very wide area from which they are drawn, namely the north-east, the centre and the west of Gaul, to which, if we accept the Massilia identifications, the far south should be added. This is no doubt because Richborough was a port. I do not recall any other British site with a wider spread of Gaulish coins.

Reconciliation

There has been much confusion over the identification of the Richborough coins. Of the 14 coins I have listed, it is possible that my no. 12 may be a repetition of no. 13; otherwise I am confident that the list is correct as far as it goes. I am doubtful whether 4 of the 5 coins given in *Richborough V*[2] do more than repeat the similar coins in the first four reports, though it is odd that nos. 37378 and 37381 both seem to repeat my no. 4. However, no. 37379 of *Richborough V*, my no. 7, is still available and was correctly described.

When preparing my paper on the origins of coinage in Britain, I recorded second specimens of my nos. 7 and 10. The first repetition is correct, the second doubtful. I also repeated an old identification of my no. 11 as a coin of Cunobelinus, type Mack 246; it is now certain that this is wrong and that it is a Gaulish piece with the legend Atectori, which bears faintly similar types on both sides.

[1] G. Chauvet, 'Monnaies Gauloises, La Cachette de la Meillezaie-Tillay', *Bulletin de la Société des Antiquaires de l'Ouest* (1922), 696, dates this hoard, which contained 70 *Atectori* coins out of a total of 390, to *c.* 10 B.C.

[2] See p. 188.

Summary List of Celtic Coins from Richborough

British Coins

1 'Tin' coin, Class I. In British Museum, 17·0 gr. (*Richborough II*, 2499.)

2 SA bronze, Mack 299. In British Museum, 36·3 gr. (*Richborough II*, 2498.)

3 Bronze minim, Dubnovellaunus period? Empty envelope in Richborough Museum, marked as away for electrotyping. (*Richborough IV*, 22213.)

4 Cunobelinus, core of plated forgery of gold stater, Mack 203, etc. In Richborough Museum, 56·6 gr.; found on surface. (*Richborough II*, 2496; cf. *V*, 37378 and 37381.)

5 Cunobelinus, bronze, Mack 252. In Richborough Museum, 31·05 gr. Noted as found on surface in 1931. (*Richborough IV*, 22216; cf. *V*, 37380.)

6 Cunobelinus, bronze, Mack 253. In Richborough Museum, 29·8 gr. (*Richborough IV*, 22214.)

7 Durotriges, struck bronze, Mack 318. In Richborough Museum, 37·8 gr. (*Richborough V*, 37379.)

8 Another in better condition. In Richborough Museum, 52·5 gr.; found on surface. (*Richborough IV*, 22215.)
The references for 7 and 8 could be reversed.

Gaulish Coins

9 Potin coin, de la Tour 7447 (2 monsters, wolf and boar). (*Richborough II*, 2494.)

10 Bronze uninscribed coin, de la Tour 8416 (head with long locks in plaits, horse right). In Richborough Museum, 33·5 gr. (*Richborough II*, 2495; cf. *V*, 37377.)

11 Bronze coin, with legend ATECTORI, de la Tour 4249 (head right, small bull right). In British Museum, 23·1 gr. (*Richborough II*, 2497.)

Massilia Coins?

12 Bronze coin, described as de la Tour 1673, but not necessarily correctly. (*Richborough III*, 19316.) Coin not traced.

13 Bronze coin; the description (*obv.* head; *rev.* bull butting r.) would fit the same type. (*Richborough II*, 2493.) Presumably the coin in Richborough Museum, 21·76 gr., of which the type is not precisely identifiable.

Uncertain British or Gaulish

14 Bronze coin (female head left, quadruped (boar) left) heavy, ill-shapen. The description might fit a Gaulish potin coin. (*Richborough I*, 1.) Coin not traced.

Coins nos. 37377–81, found in the excavations 1931–8

In preparing this report it has been observed that the five Celtic coins listed by Mr. Pearce as relevant to *Richborough V* appear to repeat coins recorded in previous reports, namely nos. *II*, 2495; *II*, 2496; *IV*, 22215; *IV*, 22216; and again *II*, 2496. The improbability of two or three specimens of the same non-local coins being found at Richborough has seemed very great. At first it was thought that all the coins in *Richborough V* might be duplications since in no case were both the earlier finds and the *Richborough V* coins findable. However, both *IV*, 22215, and its counterpart *V*, 37379, have now turned up in Richborough Museum, thus proving that the list in *Richborough V* is, at least in one instance, correct. It will probably never be possible to eliminate all uncertainty about the finds since unfortunately neither weights, casts nor photographs of any of the coins were taken at the time of finding. Although the likelihood remains, therefore, that some of the entries below may be repetitions of coins listed before, it has been felt right to reproduce the list as left by Mr. Pearce, with this prefatory note of caution.

37377 Gaulish. *Obv.* head r. *Rev.* horse prancing r. A coin of the Ambiani, cf. de la Tour 8416. (Cf. no. 10.)

37378 Cunobelinus. Cf. *II*, 2496. Mack 203. (Cf. no. 4.)

37379 Durotriges, struck bronze. Mack 318. (Cf. no. 7.)

37380 *Obv.* CVNO on a tablet beneath the head of Janus. The whole within a beaded circle. *Rev.* CAMV on a tablet beneath a sow r. seated under a tree. Mack 252. (Cf. no. 5.)

37381 Contemporary forgery of stater of Cunobelinus. (Cf. no. 4.)

The Roman Coins found in 1931–8

By Richard Reece

The 18,081 coins listed in this report bring what is probably the final total for Roman coins at Richborough to 56,084. These coins were listed by the late B. W. Pearce whose manuscript and typescript form the whole basis of this section.

Pearce's report was presumably complete when he published a survey of all the Richborough coins in the *Numismatic Chronicle* (vol. 78, part ii, for 1940), so that it has been in store for about 25 years. One or two points of explanation are needed to account for this present form. In transferring Pearce's readings to modern references I have broken the tradition of the four earlier reports. This list consisted originally of coins numbered from 37382 to 55462, with one type to each line, and all coins referred back, where possible to *Rich-*

borough I, *II*, *III*, and *IV*. The main problems in such a presentation were those of cost and reference. This present list provides a more compact method of recording and is self-contained. The work of modernizing the references has not been easy, and with over twelve hundred reference numbers some mistakes may have been made; for these I take full responsibility.

I wish it were possible to take responsibility for any other errors which occur, but there has been neither time nor opportunity to check over each of the 18,000 coins. In general I am sure that the lists are correct, but in minor details in the fourth century a few points have arisen which make me cautious of claiming any new varieties after A.D. 306 without first checking on the coin involved. I would urge similar caution on any specialists approaching the references.

That such slips did occur twenty-five years ago is in no way surprising since Pearce and his collaborators had not got the general picture presented in *Late Roman Bronze Coinage*, which is available today. It is a considerable tribute to their caution and scholarship that without such a guide they achieved such accuracy. This part of the report then is presented as no more than a list brought up to date with the appropriate comments. But it does complete the publication of perhaps the largest site find in Roman Britain, and as such must start off a new series of investigations which I will attempt to discuss in a later section.

The number of small irregular coins found, particularly of the early fourth century, need careful study and only their appearance can be noted here. The more usual barbarous radiates and barbarous 'fallen horseman' reverses were common. Among the regular coins one worthy of special mention is the *aureus* of Carinus and Numerian, so far unique. Six hoards are included in the present lists but, apart from the radiate hoard and the diademed hoard, no information is available as to which individual coins formed them. The following details are given:

Hoard I

South of site IV

Helena	1
Crispus	1
Constantius II	1
House of Constantine	4
Magnentius	1
Valens	1
House of Valentinian	1
Maximus	3
Valentinian II	9
Theodosius I	5

HOARD I (*cont.*)

Arcadius	13
Honorius	1
House of Theodosius	37
Indeterminate	18
TOTAL	96

HOARD II

South of Chalk House

Constantine I	4
Constantine II	2
Constans	1
House of Constantine	3
Magnentius	1
Valens	3
Gratian	1
House of Valentinian	3
Maximus	4
Valentinian II	4
Theodosius I	14
Arcadius	31
Honorius	8
House of Theodosius	45
TOTAL	124

HOARD III, 1937

Crispus	1
Constantinopolis	4
Helena	1
Constantius II	1
House of Constantine	1
Magnentius	1
Valens	1
Valentinian II	2
TOTAL	12

Dates. Hoard I and II both range from 324 to the end of the fourth century and cannot have been deposited before 394. Hoard III has a similar span and cannot have been deposited before 375.

HOARD IV. *Pit 293*

A group of 100–30 coins found in this pit are now corroded together. The features which can be recognized are all of Constantine I,

with the *Providentiae Augg* reverse. The number is uncertain, as is the date, but the hoard should belong to the second quarter of the fourth century.

HOARD V. *The diademed hoard*

These 1,221 coins were found in the south-west angle of the fort and published by Mattingly and Stebbing in the *Numismatic Chronicle*, 1935. Pearce mentions that 'some of them are very small and others of a like size may have been overlooked or lost so that the original number may have been greater. On the other hand, some few of the listed coins may have been casual losses and may have been unconnected with the hoard.' Twenty-three regular coins from Gallienus to Magnentius occur with 225 definite copies, mostly of radiate obverses or 'fallen horseman' reverses, and about 810 pieces of metal ranging down to small fragments. The only secure grounds for dating the hoard are the regular coins in it. Since these end with Magnentius any date after 364 seems to be an unwarranted stretching of the evidence. To put the hoard in the fifth century makes the hoarder a highly discriminating eccentric who had taken a dislike to the prolific issues of the houses of Valentinian and Theodosius.

HOARD VI. *The radiate hoard*

This hoard of 875 coins was found round about the remains of a hut in clearing the topsoil. It was published by Mattingly and Stebbing as the American Numismatic Society's monograph no. 80 which is now unfortunately unobtainable. As now preserved in the British Museum it consists of about 860 barbarous copies of Claudius II, Victorinus, and Tetricus I and II with six other coins; one of Allectus, one barbarous fourth-century '*Fel Temp Reparatio*' fallen horseman reverse, and four of the House of Theodosius with the *Salus Reipublicae* reverse. I am very grateful to Dr. Kent for pointing out to me that although the supposed dating of the hoard has increased by roughly 100 years for every ten years since it was found, it was originally thought to belong to the radiate period before the building of the stone fort, so that the regular coins were not taken as a serious part of the hoard even at the outset. The late dating has therefore been mainly on stylistic grounds and cannot now be held to have any secure external confirmation.

LIST OF ROMAN COINS FOUND 1931–8

References are to *Coinage of the Roman Republic* by Sydenham, (=S); *Roman Imperial Coinage* by Mattingly, Sydenham, and others (=*R.I.C.*); 'Constantinian Hoards and other Studies' by Carson and Kent in the *Numismatic Chronicle* xvi (1956) (=*N.C.* I); 'The Pattern of Bronze Coinage under Constantine I' by Kent in the *Numismatic*

Chronicle, xvii (1957) (=*N.C.* II); *Late Roman Bronze Coinage* by Carson, Hill, and Kent, Part I (=H.–K.); the same, Part II (=C.–K.).

5	Republic	S. 3820, as S. 1217 but LEG number illeg. (2), S, p. 366 perhaps C. Naevius Balbus. *Obv.* perhaps Pomponius Musa otherwise illeg.
9	Augustus	*R.I.C.* 53, 180, 305, 350, 360 (3). *Rev.* illeg. (2).
4	Tiberius	3 (2), 15. *Rev.* DIVVS AVGVSTVS otherwise illeg.
1	Germanicus	(Caligula) 44.
2	Caligula	30 (2).
6	Agrippa	(Tiberius) 32 (5), the same countermarked IIIIP.
53	Claudius	66 (35), 67 (4), as 66 but barbarous (11), as 68 but head r.. *Rev.* illeg. (2).
2	Antonia	(Claudius) 82 (2).
28	Nero	28, 185, 301, 304 (2), 317, 319 (2), 329 (7), 343, 361 (5), as 329 but laur. head r. (3), as 73, as 252, as 286–8, as 301.
48	Vespasian	67, 90, 253, 473, 475 (4), 478 (3), 479, 486, 494 (5), 496, 497, 500, 502 (3), 747 (2), 752, 753*b*, 758, 760, as 473 but VESPASIANVS, as 500 but CAES, as 766 but CAESAR, as 482 but CAESAR (2), as 497 but VESPASIANVS, as 485, as 486, as 497 (7), as 501. *Rev.* illeg. (2).
6	Titus	(Vespasian) 195, 205, 784 (2), 786, 789.
34	Domitian	(Vespasian) 724 (3); (Domitian) 242, 272, 293, 301, 304, 325, 326*a* (2), 327 (3), 328 (2), 348, 349, 356 (2), 392, 401, 424 A, 435, as 327 (3), as 338, as 340. *Rev.* Spes left (2). *Rev.* illeg. (3).
3	Nerva	65, 98, 133.
19	Trajan	12, 352, 382, 387, 392, 414, 428, 456, 500, 502, 515, 626, 635, 672, 702, as 396, as 467. *Rev.* illeg. (2).
1	Marciana	748–50.
16	Hadrian	39 (2), 590*b*, 600, 631*a*, 634, 636*a*, 678, 706, 760, 785, as 748. *Rev.* illeg. (4).
2	Sabina	(Hadrian) 401*a*, 1035*a*.
14	Antoninus Pius	29, 49, 523, 554, 767, 816, 929, 934, 993, 1206, 1354, as 534. *Obv.* (ANTO)

		NINVS AVG PIVS(——laur. head r. *Rev.* TR P XIIII COS IIII S C a figure left with corn ears and vertical sceptre. *Rev.* illeg.(1).
2	Faustina I	(Ant. Pius) 1108, 1192.
4	Marcus Aurelius	425 plated, 1035, 1355. *Rev.* illeg. (1).
2	Lucius Verus	(M. Aurel.) 540, 1300.
3	Faustina II	(Ant. Pius) 1405 *a*, 1405 *c*; (M. Aurel.) 1647.
1	Lucilla	(M. Aurel.) 1779.
1	Commodus	*Rev.* illeg.
1	Crispina	(Commodus) 276.
5	Septimius Severus	265, 266–7, 435, as 261 but *Obv.* SEVERVS AVG PART MAX plated contemporary forgery, as 289 but *Rev.* RESTITVTORI plated.
2	Julia Domna	(Sept. Sev.) 548, 575.
1	Caracalla	158.
1	Plautilla	(Caracalla) as 361 but *Rev.* CONCORDIA.
1	Geta	103 plated.
1	Julia Maesa	(Elagabalus) 263.
2	Severus Alexander	64, 127.
3	Maximinus I	1, 60. *Rev.* illeg.
1	Philip I	53.
1	Volusian	186.
1	Valerian I	226.
167	Gallienus	153, 157 (6), 160 (4), 163 (5), 164, 167, 177 (5), 178 (6), 179 (20), 180 (6), 181 (9), 193 (4), 206, 207 (4), 208, 214 (3), 221, 226 (2), 230 (2), 233 (2), 236 (4), 245 (2), 246, 249, 252, 256 (8), 260, 267, 277, 280 (3), 282 (3), 297, 299 (2), 317, 330 (2), 511 *b*, 571 (3), 572 (4), 585, as 159 but m.m. |Є (2), as 192 A but m.m. |H (2), as 193 but RED m.m. |S, as 193 but m.m. |P, as 230 but m.m. D, as 232 but no m.m., as 267 but m.m. |B, as 274 but m.m. |X, as 287 but m.m. |S (4), as 485 but m.m. P|. *Rev.* as 162 but Annona holds vertical sceptre and ears of corn, as 176, as 233, as 252 (2), as 266, as 298. *Rev.* illeg. (20).
6	Salonina	5, 5 *a*, 11, 67, 69, 92.
1	Valerian II	24.
13	Postumus	54, 58, 76, 123, 134, 144, 315, 318 (2), 373 (2). *Rev.* illeg. (2).

2	Marius	9. *Rev.* illeg.
1	Laelian	9.
172	Victorinus	46, 51, 57 (6), 58, 61 (13), 67 (5), 75 (3), 78 (11), 110 (3), 114 (24), 115, 117, 118 (38), 123 (28), 126 (2), 392. *Rev.* as 108, as 122 (2). *Rev.* illeg. (30).
532	Tetricus I	47, 54, 57 (16), 61, 70 (13), 80 (27), 83, 86 (2), 88 (44), 90 (13), 94, 101 (93), 109, 110 (5), 114, 115 (3), 117, 123 (17), 127 (9), 129, 130 (3), 132, 133 (3), 136 (19), 141 (8), 146 (2), 147 (5), 148 (14). *Rev.* as 73, as 76 (2), as 86 (15), as 100 (15), as 101 (2), as 110 (5), as 118, as 121 (14), as 127 (3), as 130 (4), as 134 (12), as 140, as 145 (8). *Rev.* barbarous (15), illeg. (128).
220	Tetricus II	224 (3), 235 (2), 238 (3), 238 *a* (3), 239, 248 (13), 251, 255 (37), 258 (2), 260, 270 (22), 274 (44), 277. *Rev.* as 237, as 248, as 258 but barbarous, as 264, as 274 (22). *Rev.* barbarous (10), illeg. (52).
420	Claudius II	12 (3), 14 (4), 15 (2), 16, 18 (6), 32 (4), 34 (8), 38, 46 (7), 47 (4), 49 (7), 52, 54 (12), 56, 57, 61, 66 (4), 70 (3), 71, 72, 80 (2), 81 (3), 86 (3), 87, 89 (3), 91 (2), 92 (2), 98 (6), 100, 102, 104 (6), 105 (3), 106 (2), 107, 109 (5), 110, 111, 113, 137, 139, 145, 156 (3), 168, 192, 223, 261 (148), 265 (2), 266 (91), 290. *Rev.* as 27, as 79 (2), as 91. *Rev.* barbarous (5), illeg. (44).
5	Quintillus	19, 29, 35. *Rev.* as 13. *Rev.* illeg.
5	Aurelian	41, 56, 59, 184, 202.
5	Tacitus	14, 61, 69, 92, 152.
22	Probus	29, 38 (2), 40, 80, 91 (2), 112, 116 (3), 129 (2), 352, 435, 516, 673, as 170 but *Obv.* number 4. *Rev.* as 355. *Rev.* illeg. (3).
1	Carus	29.
1	Carinus	295.
1	Carinus and Numerian	Gold as 330 but Victory standing r. holding a transverse trophy, a crescent in front of her face.
343	Carausius	10 (2), 12, 15, 34, 42, 51 (2), 58, 62, 69 (4), 77 (2), 91 (4), 98 (9), 101 (20), 105, 108, 109, 121 (14), 125, 141 (3), 148,

149 (2), 155 (8), 164, 178, 180, 181 (2), 228, 229, 237, 258, 266, 268, 273, 285, 300 (4), 303, 305, 345, 348, 376, 385, 428, 432, 433, 475 (6), 479, 735, 736, 744, 781 (3), 814, 856, 857 (2), 869, 876, 880, 881 (4), 883 (7), 984, 985, 1015, 1038, 1041. *Rev.* as 98 but m.m. $\frac{B|E}{ML}$, as 101 but m.m. $\frac{F|O}{MLXXI}$, as 108 but m.m. $\frac{S|P}{MLXXI}$, as 283 but m.m. $\overline{XXIC}$, as 506 PROVIDENT m.m. $\underline{S|P}$, as 929 but m.m. $\overline{ML}$; *rev.* as 49 (4), as 91 (5), as 98 (70), as 101 (23), as 106 (2), as 149 (3), as 154 (6), as 180 (2), as 494; minor types and varieties uncertain and not in *R.I.C.* (29), brockage, overstrike. *Rev.* illeg. (47).

76 Allectus — 22 (2), 28 (8), 33 (7), 34, 36 (2), 38, 42, 47, 55 (10), 69 (2), 86 (6), 105 (4), 117, 124 (11), 128 (4). *Rev.* as 28, as 42, as 48, as 55 (4). *Rev.* illeg. (8).

5 Diocletian — *R.I.C.* (Carausius) as 224 but name of Diocletian and m.m. $\frac{S|P}{MLXXI}$; (Carausius/Diocletian) 5, 9; *N.C.* I. 10, 373.

11 Maximian — *R.I.C.* (Maximian) 403, as 365 but m.m. $\underline{S|}$, as 583 but *obv.* legend number 7 and m.m. $\overline{ST}$; (Carausius/Maximian) 32, 42, as 42 but m.m. $\frac{S|C}{P}$. *Rev.* illeg. (2); *N.C.* II. 8, 222, 247.

2 Constantius I — *N.C.* I. 377, 504.

1 Galerius — *N.C.* I. 386.

1 Severus II — *N.C.* I. 46.

7 Licinius I — *N.C.* I. 172; *N.C.* II. 52, 68, 373, 658, 987, as 1059 but m.m. $\frac{|X}{SMKA|III.}$

4 Licinius II — *N.C.* II. 198, 693, 1008, as 678 but m.m. $\frac{|X}{SMKA|III.}$

274 Constantine I — *N.C.* II. 21, 28, 30 (3), 36 (5), 39 (2),

274 Constantine I (*cont.*) — 43, 53, 55 (2), 67 (6), 71 (2), 78 (5), 85 (5), 157 (8), 160 (2), 162 (3), 172 (2), 188 (13), 195, 207 (21), 212 (9), 215 (3), 257, 289 (2), 292, 296 (3), 318 (2), 388, 657 (2), 678, 762; mint-marks illeg. but *rev.* as 27, as 30 (2), as 78 (14), as 81, as 85 (3), as 92, as 162, as 172 (8), as 207 (10), as 388 (4): H.–K. 1 (2), 38 (4), 48 (12), 53 (4), 60 (8), 67, 72, 78, 87 (4), 106, 115 (5), 180 (3), 186, 202, 222 (2), 238 (2), 245 (2), 291, 352 (2), 362, 373 (2), 378 (2), 754, 1041, 1073, 1397 (2); mint-marks illeg. but *rev.* as 1 (2), as 48 (15), as 87 (10), as 98 (3), as 106 (13), as 398 (2). Brockage of *rev.* of *N.C.* II. 99 but m.m. $\frac{\mathsf{T|F}}{\mathsf{PTR}}$. Barbarous and irregular (6).

28 Crispus — *N.C.* II. 79, 86, 89 (3), 92 (2), 209 (6), 213 (2), 216 (2), 307 (2); mint-marks illeg. but *rev.* as 92 (3), 209 (2), 761: H.–K. 467. *Rev.* as 15 m.m. illeg. *Rev.* illeg.

336 Constantine II — *N.C.* II. 87 (2), 90 (2), 93, 186, 199, 211 (4), 214 (4), 308 (2), 317, 836; mint-marks illeg. but *rev.* as 188, as 214 (6): H.–K. 5, 18, 20, 31 (2), 49 (25), 56 (4), 63 (11), 68 (2), 73, 76, 88 (18), 93 (21), 124 (3), 181 (31), 187 (9), 193, 198 (2), 203 (3), 226 (15), 229 (4), 232, 353 (11), 374, 406 (2), 532, 549 (2), 580, 836, 871; mint-marks illeg. but *rev.* as 49 (75), as 88 (8), as 336. *Rev.* illeg. (18). Barbarous uncertain and illegible (31).

607 Urbs Roma — H.–K. 51 (64), 58 (17), 65 (10), 70, 76 (6), 85 (6), 184 (103), 190 (16), 195, 200 (7), 205, 217, 355 (10), 376, 750 (2), 1008; mint-marks illeg. or uncertain (339). *Rev.* barbarous irregular or uncertain (21) of which three are double-struck and one is of lead.

766 Constantinopolis — 52 (71), 59 (20), 66 (19), 71 (2), 77 (2), 86 (2), 185 (78), 191 (23), 196, 201 (3), 356 (28), 404, 751 (2); mint-marks

		uncertain (8), illeg. (457). *Rev.* irregular, barbarous or uncertain (49).
24	Populus Romanus	1066 (12), 1067 (12).
86	Hybrids	*Obv.* VRBS ROMA: *rev.* as 48 (5), as 49 (2), as 50, as 52 (28), as 87 (4), as 104, others (5). *Obv.* CONSTANTINOPOLIS: *rev.* as 12, as 48 (14), as 49 (3), as 50, as 51 (12), as 87 (5), as 104, as 1067, others (2).
94	Helena	25, 112, 119 (19), 128 (3), 616, 1046. *Rev.* as 104 m.m. illeg. (51). *Rev.* irregular, barbarous or uncertain (17).
93	Theodora	113 (12), 120 (22), 129. *Rev.* as 105 m.m. illeg. (47). *Rev.* irregular, barbarous or uncertain (11).
1	Fausta	36.
7	Delmatius	237, as 237 m.m. illeg. (6).
434	Constans	H.–K. 75, 84, 90 (3), 95 (2), 102 (31), 110, 117 (4), 127 (4), 131 (8), 138 (17), 140 (29), 142 (12), 144 (4), 148 (45), 153 (12), 158 (21), 162 (5), 227, 243 (14), 257, 265, 267 (3), 274 (3), 387, 424 (5), 440 (3), 445 (2), 456 (5), 599 (2), 615, 642, 704, 774, 789, 791, 950; mint-marks illeg., but *rev.* as 75 (3), as 90 (62), as 117 (4), as 138 (38), as 959: C.–K. 29, 33 (18), 37 (5), 39 (6), 43 (2), 46, 197 (2), 628, 886, 1158; mint-marks illeg. but *rev.* as 72 (18), as 43 (2), as 29 (3). *Rev.* illeg. (17).
341	Constantius II	Silver: *rev.* VOT/XX/MVLT/XXX m.m. TRP. Copper: H.–K. 7 (2), 23, 34, 50 (12), 57, 64 (3), 75, 89 (28), 94, 100, 108 (6), 109, 116 (4), 126 (6), 130, 137 (3), 139, 141 (4), 143, 145 (7), 155*a*, 161, 182 (5), 188, 204, 230 (9), 234, 256 (2), 263 (2), 264, 266, 375, 386, 400 (2), 423, 438 (3), 444, 455 (2), 598, 671 (2), 749, 756, 963, 1230; mint-marks illeg. but *rev.* as 50 (27), as 89 (73), as 109, as 137 (15): C.–K. 28 (2), 32 (3), 38, 72 (3), 75, 77, 203 (2), 249 (3), 253, 455, 457, 460 (2), 594, 662, 677 (2), 680, 898, 1655; mint-marks illeg. but *rev.* as 32 (3), as 40, as 72 (50), as 77 (8), as 1208. *Rev.* illeg. (5).

3	Constantius Gallus	C.–K. 73 (3).
1,561	House of Constantine	*Rev.* as *N.C.* II. 157, as 188 (10), as 195, as 207 (4), as 216 (3); as H.–K. 1 (3), as 48 (99), as 87 (546), as 137 (147), as 958 (7); as C.–K. 25 (616), as 32 (3), as 34 (4), as 77 (30). *Rev.* barbarous (23). *Rev.* illeg. (64).
79	Magnentius	C.–K. 2, 5 (4), 20, 48, 50, 51, 53, 56 (5), 66, 211 (2), 217 (2), 229, 415, 907; mint-marks illeg. but *rev.* as 2, 20 (3), as 51 (6), as 58 (45); as 5 but overstruck on H.–K. 87.
4	Decentius	C.–K. 243. *Rev.* as 5 (3).
6	Julian	Silver: *rev.* VOT/V/MVLT/X m.m. illeg. (2). *Rev.* VOT/X/MVLT/XX m.m. illeg. (2). *Rev.* VICTORIA DOMIN AVG m.m. illeg. Copper C.–K. 264.
1	Jovian	Silver: *rev.* VOT/V/MVLT/X m.m. TCONST.
137	Valentinian I	C.–K. 273, 286 (9), 300 (3), 307 (3), 311 (4), 321, 338, 479 (9), 481, 485, 490, 494, 501, 508 (2), 512 (4), 514 (5), 518, 521, 525, 527 (14), 712 (2), 724, 965, 967, 986, 992 (4), 998, 1014 (7), 1017, 1026, 1030, 1305, 1393, 1394 (2), 1398 (2), 1399 (2), 1418, 1419, 1420, 1424; mint-marks obscure as 275 Lyons (14), as 1273 Siscia. *Rev.* as 96 (13), as 275 (6), as 477 (6).
295	Valens	Silver: *rev.* VRBS ROMA m.m. TRP• (1), m.m. illeg. (2). Copper: C.–K. 82 (2), 87, 97 (4), 102, 107, 274, 276 (2), 289 (2), 301, 303 (3), 309 (3), 319 (10), 322, 332, 340 (7), 344 (3), 352 (4), 363, 365 (3), 368 (2), 480 (9), 483 (6), 486 (3), 492 (3), 495, 497 (2), 502, 510, 513 (4), 516 (7), 519, 523 (2), 526, 528 (33), 537, 713 (14), 725 (2), 966, 968, 972 (2), 976, 991 (2), 1012 (4), 1015 (4), 1018, 1031 (2), 1036, 1303, 1306, 1334, 1348 (2), 1395 (2), 1406 (4), 1416 (2), *rev.* as 282 but m.m. of 279 (3), of 286 (20), of 307 (3), of 311 (4), of 321, of 338; mint-mark illeg., *rev.* as 82 (78), as 282 (6).
94	Gratian	Silver: *rev.* VRBS ROMA m.m. LVGPS.

		Copper: C.–K. 308, 314, 318, 320 (2), 331, 335, 339, 341, 343 (2), 345, 351, 353, 355, 367, 371 (4), 372, 376, 511 (4), 517 (3), 523*a*, 529 (17), 531, 533 (6), 536, 543, 552, 726, 1013, 1402, 2378 (2), 2732; mint-marks illeg., *rev.* as 299 (5), as 327 (2), as 371 (5), as 376 (2), as 503 (8); *rev.* illeg. (8).
153	House of Valentinian	Silver: *rev.* VRBS ROMA otherwise illeg. (2). Copper: *rev.* as C.–K. 275 (61), as 276 (90).
115	Magnus Maximus	Silver: *rev.* VIRTVS ROMANORVM m.m. TRPS (1), m.m. illeg. (1). Copper: C.–K. 156 (7), 380 (2), 387 (11), 560 (29), 795 (5), 1003 (4); mint-marks illeg., *rev.* as 380, as 156 (54).
20	Flavius Victor	158, 388 (3), 561 (4), 1004 (2); mint-marks illeg., *rev.* as 158 (10).
388	Valentinian II	389 (34), 541, 562 (70), 764 (2), 785 (6), 789 (7), 796 (17), 799 (7), 1065 (2), 1074, 1091 (8), 1105 (35), 1563, 1873, 2127, 2381 (2), 2556 (2), 2568, 2730; mint-marks obscure but as 796 Rome (16), as 1105 Aquileia (13); mint-marks illeg., *rev.* as 162 (114), as 782 (9), as 796 (15), as 1074, as 2127, as 2730 (2); *rev.* illeg. (18).
514	Theodosius I	163, 166 (8), 391 (25), 565 (99), 787 (5), 790 (4), 797 (36), 800 (4), 1092 (2), 1106 (76), 1576, 1859, 1874 (3), 2184 (3), 2382, 2533, 2557 (2), 2569 (3), 2899; mint-marks illeg., *rev.* as 163 (172), as 787 (8), as 797 (42), as 2555, as 2557 (3); *rev.* illeg. (12).
1,007	Arcadius	Gold: *rev.* VICTORIA AVGGG m.m. $\frac{\text{M}\vert\text{D}}{\text{COMOB}}$ (2). Silver: *rev.* VIRTVS ROMANORVM m.m. illeg. (4), *rev.* VOT/V/MVLT/X m.m. SMKA (2), SMNB (1). Copper: C.–K. 164 (4), 167 (16), 395 (73), 398, 566 (157), 781 (6), 794, 798 (29), 801, 1099, 1107 (97), 1985, 2185 (4), 2408, 2562, 2570 (3), 2771; mint-marks illeg., *rev.* as 164 (501), as 793 (52), *rev.* illeg. (48).
256	Honorius	Silver: *rev.* VIRTVS ROMANORVM m.m.

		MDBS (2), *rev.* VOT/V/MVLT/X m.m. illeg. Copper: C.–K. 174 (7), 396 (7), 570 (26), 806 (27), 810, 811 (7), 1111 (26); mint-marks illeg., *rev.* as 174 (121), as 806 (12), as 811 (7), *rev.* illeg. (12).
2,870	House of Theodosius	Silver: *rev.* type of VIRTVS otherwise illeg. Copper: *rev.* as C.–K. 162 (1679), as 763, as 767, as 782 (71), as 794 (2), as 796 (969), *rev.* illeg. (146).
30	Eugenius	172 (7), 393 (3), 567 (3), 803 (2); mint-marks illeg., *rev.* as 171 (14). *Rev.* illeg. (1).
1	Constantine III	Silver: *obv.* D. N. CONSTANTINVS P F AVG, *rev.* VICTORIA AVGGG m.m. SMAR.
41	Indeterminate	First century: *denarii* (5), AE1 (3) all halved, AE2 (33) 8 halved and two countermarked.
22		Second century: *denarii* (1), AE2 (21).
442		Radiates: regular; reverse types: Aequitas (1), Fides (4), Hilaritas (4), Iovi (2), Laetitia (7), Marti (1), Pax (23), Pietas (4), Provid (6), Salus (11), Securitas (2), Spes (12), Victoria (2), Virtus (6), illeg. (357).
318		Barbarous; reverse types: Felicitas (1), Fides (4), Fortuna (1), Hilaritas (3), Invictus (3), Laetitia (4), Moneta (1), Pax (25), Pietas (7), Providentia (2), Salus (8), Spes (16), Victoria (1), Virtus (4), illeg. (238).
243		AE3 completely illeg. (243).
1,941		AE4 completely illeg. (1941).
253		Minims, otherwise illeg. (253).
33		Fragments, completely illeg. (33).
996		Diademed Hoard (996).
857		Radiate Hoard (857).
18,081		

Summary of the Roman Coins from Richborough (figs. 22 and 23)

By Richard Reece

The publication of the last section of the Roman coins makes available a complete list of all the coins found in and around the fort at Richborough. In numbers Richborough overshadows all other British excavations, and even the large site groups such as Cirencester,

Verulamium, and Silchester. It is therefore one of the most important collections in Roman Britain and, as such, must be the origin and main material for future detailed studies.

One of the main barriers to wider use of these coins is the way in which all five of the lists have been published. The gradual process of turning recognizable coin types into masses of references is now almost complete so that a modern list can only be translated in a good library. I include the latest list in these strictures because since compiling it I have found it little quicker to use than *Richborough I* which, as Pearce remarked, is an excellent summary. The main deterrents are the lists in the second and third reports referring as they do to one another and back to number one, with few references to standard works. The fourth report had the advantage of several more volumes of *Roman Imperial Coinage* and is more self-contained, although it can start a chase by referring to volume three which in turn can refer to volume two which will finally lead to number one. These difficulties, together with the fact that some of the earlier volumes are not now generally available, have added to remarks made by many other workers in the field to produce this complete list of the coins by periods and emperors.

The intention of this list is easy to state, the form in which it should appear provides many problems. For instance a list by emperors is of little use since an emperor such as Constantius II spans a complete change in the coinage, with many minor variations over a period of thirty-eight years. It is in fact unimportant that coins of 324 and 358 are of the same emperor, but their dates and affinities in two quite different series can be extremely useful. It is therefore necessary to divide the coinage up into periods which will be both workable and useful. No one set of divisions will answer to all needs, but a generally agreed system of periods would greatly facilitate comparison between sites in the future. For the fourth century I have adopted the framework suggested by Mrs. Alison Ravetz in her stimulating and thorough inquiry into the fourth-century inflation in relation to Romano-British coin finds which has now appeared in the *Numismatic Chronicle* for 1964. I am very grateful to her for a copy of the paper prior to publication; it will easily be seen that the divisions of the fourth century are not the only important points which I have gained from it. I am also grateful to Miss Anne Robertson who pointed out the necessity of keeping separate the hoards and the site finds; this I have done so far as information available permitted.

Period I, up to A.D. 14, must collect together all the early coins from the republic, the triumvirates, and the reign of Augustus and hence is almost useless since we have no time limits to apply to it. Period II, 14–41, may prove more useful though its exact meaning in terms of coin movements must remain obscure. The first useful division is period III, 41–54, which spans the reign of Claudius I and hence our

first decade of occupation. The reign of Nero with its reforms decides period IV, 54–69, but no such events break up the Flavian rule from 69 to 96, period V. This is a large period but it seems unrealistic to break it down, first because the coinage of Domitian continues smoothly over the changes, and secondly coins from sites already published seldom permit the isolation of the issues of Titus and Domitian as Caesars and as Augusti. Periods VI, VII, VIII, and IX, take in the reigns of Nerva and Trajan, Hadrian, Antoninus Pius, and Marcus Aurelius with dates of 96–117, 117–38, 138–61, and 161–80. Period X includes the troubles at the end of the second century and the reign of Severus, 180–211.

The advent of the *antoninianus* in 214 might be expected to govern the next group, but at Richborough there is a whole period before the coin makes its first appearance. Period XI, 211–38, consists only of *denarii* from Caracalla to Maximinus. There is an abrupt change from the *denarius* to the *antoninianus* with Gordian III in 238, and this is the only coin which appears until the reform of Diocletian in 295. This is too long for one period since its use might well mask important details which division would bring out. The one part of it that cannot be split up is that of the Gallic and British empires. I think the case is now very strong for regarding the coinage of these two groups as one series linked by the barbarous radiates. Dr. Kent has insisted for some time that most, if not all, barbarous radiates belong to the period of their prototypes, and Mrs. Ravetz's remarks on the *Fel Temp Reparatio* copies of the mid-fourth century can equally well be applied to barbarous radiates. At Winchester the well-produced radiates fill very well, at least numerically, the gap between the Tetrici and Carausius.

This means that any dates decided on must leave intact the Gallic empire and must therefore be put back before 265. From the point of view of the central coinage, changes seem to crystallize around the year 260. The coinage up to this date, finishing in the joint issues of Gallienus and Valerian I, keeps up even today an appearance of silver. Gallienus' sole coinage today looks like copper. Appearances cannot be relied upon for there may have been drastic reductions in the silver content of the billon coinage which did not affect the colour, while a small silver reduction may have been responsible for an apparent change of metal. However, 260 seems at present a convenient date at which to close period XII, 238–60, and open period XIII, 260–95. The former will cause difficulties on published sites over splitting the coinage of Gallienus, the latter over splitting the coinage of Diocletian.

The divisions of the fourth century follow Mrs. Ravetz's plan, the main advantages being that the groupings follow changes in the coins under study rather than the emperors. This inevitably leads to confusion over published lists which make little mention of reverse types, but the trouble involved in sorting out these problems can, as she has

shown, be well worth while. Period XIV includes the lifetime of the *follis*, 295–317, and period XV, 317–30, leads to a uniform module in period XVI, 330–46. The *Fel Temp Reparatio* coinage and its decline fall into period XVII, 346–64, and the AE 3 of Valentinian I, Valens and Gratian fill period XVIII, 364–78. Period XIX, 378–88, is one of change before the main period of Theodosian AE 4, period XX, 388–402. To this I would hopefully add a period XXI, 402 and on, to contain at Richborough the coins of Constantine III. It could also receive the later varieties of the *Salus Reipublicae* coinage of Honorius if such are found.

In the following lists gold, silver, and, where appropriate, copper and bronze denominations have been kept separate. Coins listed only according to their century in the original reports have been allocated to each period according to the number of coins already in that period; thus most of the illegible fourth-century coins are likely to belong to period XX since this already has over 40 per cent. of the total. Coins listed by dynasties, e.g. House of Constantine, have nearly all been allocated to their correct period by reverse types.

	Site Finds					Hoards
	Denarii	*Sestertii*	*Dupondii*	*Asses*	*Others*	
Period I, to A.D. 14						
Republic	41	..	..	..	..	..
Augustus	7	..	4	18	1 *semis*	..
Illegible	3	..	1	4	..	..
Period II, 14–41						
Tiberius	11	..	1	5	1 *semis*	..
Agrippa	..	..	..	39	..	..
Caligula	..	3	1	14	1 *quadrans*	..
Germanicus	..	..	1	10	..	..
Illegible	2	1	1	14	..	..
Period III, 41–54						
Claudius	1	16	11	291	4 *quadrantes*	12 *sestertii*
N. Cl. Drusus	..	5	..	..	..	4
Antonia	..	..	9	3	..	..
Illegible	..	1	2	61	..	..
Period IV, 54–69						
Nero	2	3	8	100	2 *semisses*	..
Galba	1	..	..	..	..	..
Vitellius	3	..	..	..	..	..
Illegible	1	1	1	20	..	..
Period V, 69–96						
Vespasian	21	9	37	123	..	..
Titus	4	2	2	13	..	..
Domitian	6	7	11	96	..	..
Illegible	3	1	3	48	..	..

	Site Finds					Hoards
	Denarii	*Sestertii*	*Dupondii*	*Asses*	*Others*	
Period VI, 96–117						
Nerva	1	1	4	7	..	..
Trajan	18	10	15	27	..	..
Marciana	1	..	..	..	..	..
Illegible	2	1	1	5	..	..
Period VII, 117–38						
Hadrian	6	23	8	23	..	..
Sabina	4	2	..	1	..	..
Illegible	2	1	1	5	..	..
Period VIII, 138–61						
Antoninus Pius	15	23	10	14	..	..
Faustina I	7	3	..	9	..	..
Marcus Aurelius	1	..	..	2	..	..
Faustina II	3	..	7	6	..	..
Illegible	3	2	1	6	..	..
Period IX, 161–80						
Marcus Aurelius	5	5	11	..	..	..
Faustina II	..	..	4	1	..	..
Lucius Verus	..	1	..	1	..	..
Lucilla	1	5	..	..	..	..
Illegible	1	1	1	..	..	..
Period X, 180–211						
Commodus	3	5	..	2	..	..
Crispina	..	4	..	..	..	..
Septimius Severus	21	..	..	..	..	..
Iulia Domna	9	..	..	..	..	..
Illegible	4	1	..	..	..	..
Period XI, 211–38						
Caracalla	8	..	..	..	..	..
Plautilla	3	..	..	..	..	..
Geta	1	..	..	..	..	..
Elagabalus	2	..	..	..	..	..
Iulia Maesa	4	..	..	..	..	..
Severus Alexander	6	..	..	..	..	..
Iulia Mammaea	1	..	..	..	..	..
Maximinus	4	..	..	..	..	1 *sestertius*
Illegible	2	..	..	..	..	..

	Site Finds			Hoards
	Billon Antoniniani	*Copper Antoniniani*	*Others*	
Period XII, 238–60				
Gordian III	3	..	..	..
Philip I	2	..	..	..
Trajan Decius	1	..	..	..
Trebonianus Gallus	2	..	..	..
Volusian	3	..	..	..
Valerian I	7	..	..	..
Gallienus	5	..	..	..
Salonina	4	..	..	..
Valerian II	4	..	..	..
Saloninus	2	..	..	..
Illegible	6	..	..	..
Period XIII, 260–95				
Gallienus	2	507	..	1
Salonina	..	26	..	..
Postumus	65	..	2 *sestertii* 1 *as*	1
Laelian	2	..	..	..
Victorinus	..	510	..	1
Marius	..	7	..	..
Tetricus I	..	1,772	..	7
Tetricus II	..	586	..	..
Claudius II	..	1,232	..	3
Quintillus	..	24	..	..
Aurelian	22	..	..	..
Severina	2	..	..	..
Tacitus	23	..	..	..
Florian	1	..	..	..
Probus	47	..	..	..
Carus	2	..	..	..
Carinus	3	..	1 gold	..
Numerian	1	..	..	..
Carausius	..	1,323	1 silver	11
Allectus	..	292	..	6
Diocletian	11	..	..	..
Maximian	20	..	..	..
Constantius I	7	..	..	..
Galerius	3	..	..	..
Illegible	..	2,364	..	15

	Site Finds	Hoards
Period XIV, 295–317	*AE* 1–2	
Diocletian	11	..
Maximian	22	..
Constantius I	11	..
Galerius	9	..
Severus II	2	..
Maximinus II	7	..
Maxentius	1	..
Licinius I	31	..
Constantine I	194	..
House of Constantine	3	..
Fourth century	60	..
Period XV, 317–30	*AE* 2–3	
Constantine I	379	8*
Licinius I	8	..
Constantine II	100	..
Crispus	106	3
Licinius II	10	..
Constantius II	14	..
Fausta	5	..
Helena	21	..
House of Constantine	62	..
Fourth century	150	..
Period XVI, 330–46	*AE* 3–4	
Constantine I	358	..
Constantine II	813	15*
Constantius II	754	42*
Constans	1,099	53*
Constantius II or Constans	185	..
Urbs Roma	1,481	10
Constantinopolis	1,894	7
Populus Romanus	67	..
Hybrids	132	..
Helena	263	4
Theodora	227	4
Delmatius	16	..
House of Constantine	1,978	58*
Fourth century	860	..

* There is not enough information to assign these coins to each period. They are therefore placed in the most likely period.

	Site Finds			Hoards
	Gold	*Silver*	*AE*	
Period XVII, 346–64				
Constantius II	..	9	336	..
Constans	..	..	222	..
Constantius II or Constans	..	..	662	..
Magnentius	1	..	263	7
Decentius	..	..	24	..
Julian	..	19	22	4
Helena	..	1	..	..
Jovian	..	5	5	..
House of Constantine	..	..	1,302	..
Fourth century	..	1	320	225
Period XVIII, 364–78				
Valentinian I	..	7	603	9
Valens	..	13	874	15
Gratian	..	4	413	1
House of Valentinian	..	4	651	28
Fourth century	..	..	280	38*
Period XIX, 378–88				
Gratian	1	1	131	..
Valentinian II	..	..	86	..
House of Valentinian	..	4	4	..
Theodosius I	..	2	93	..
Arcadius	..	1	27	..
House of Theodosius	..	8	115	..
Magnus Maximus	..	5	359	22
Flavius Victor	..	3	98	5
Fourth century	..	1	170	..

	Site Finds			Hoards	
	Gold	*Silver*	*AE*	*Silver*	*AE*
Period XX, 388–402					
Valentinian II	..	1	1,388	1	70
Theodosius I	..	2	1,753	..	168
Arcadius	7	14	3,809	..	351
Honorius	2	21	855	2	118
Eugenius	..	4	90	..	6
House of Theodosius	..	29	12,055	..	761
Fourth century	..	1	2,802	..	287
Period XXI, after 402					
Constantine III	..	5	..	..	..

Miscellaneous	
Richborough V 'Pit hoard'	115
'Radiate hoard'	857
'Diademed hoard'	996

	Site Finds						Hoards		
Period	*Gold*	*Silver and Billon*	*AE* 1	*AE* 2	*AE* 3	*AE* 4	*AE* 1	*AE* 3	*Silver*
I	..	51	..	5	22	1	..	..	..
II	..	13	4	4	82	2	..	..	..
III	..	1	22	22	355	4	16	..	..
IV	..	7	4	9	120	2	..	..	..
V	..	34	19	53	280	..	..	..	..
VI	..	22	12	20	39	..	..	..	..
VII	..	12	26	9	29	..	..	..	..
VIII	..	29	28	18	37	..	..	..	..
IX	..	7	12	16	2	..	..	..	..
X	..	37	10	..	2	..	..	..	..
XI	..	31	..	..	..	..	1	..	..
XII	..	39	..	..	..	..	..	..	..
XIII	1	212	2	1	8,644	..	..	45	..
XIV	..	..	..	351	..	..	..	..	..
XV	..	..	..	..	855	..	..	11	..
XVI	..	..	..	..	..	10,127	..	193	..
XVII	1	35	..	..	3,156	..	..	236	..
XVIII	..	28	..	..	2,821	..	..	91	..
XIX	1	25	..	..	1,083	..	..	27	..
XX	9	72	..	..	..	22,750	..	1,761	3
XXI	..	5	..	..	..	..	..	..	..
Misc.	..	..	..	..	..	..	..	1,968	..
Total	12	660	139	508	17,527	32,886	17	4,332	3

Total site finds: 51,732 Total in hoards: 4,352 Total coins found: 56,084

Site Finds

When the coins have been split up into periods the obvious thing to do is to compare the periods to see what deductions can be drawn. This provides problems which, as far as I know, have never been tackled and followed through. Any attempt to solve these problems in the present state of knowledge of Roman coinage may be doomed to partial failure. But since there are due to appear sometime in the future a number of site lists such as Canterbury, Verulamium, Dorchester-on-Thames, Cirencester, and Winchester, to mention only some of the larger southern towns, I feel that we need to have ready some method of comparing these lists to extract the maximum information. I therefore put forward this method of reducing our largest site find to an intelligible histogram as nothing more than an essay. If it is of any use I would hope that it would provoke discussion, and so be refined into something more useful. The points which lead to the final diagram are best dealt with as strict units.[1]

[1] Since writing this section (Jan. 1965) I have realized some of the defects and limitations of the method proposed. Most of these apply to sites other than Richborough so

1. Graphs of the distribution of Roman coins by periods are not feasible: their place must be taken by histogram (figs. 22 and 23). This is not an irrelevant mathematical nicety, for the points on a graph joined by a thin line describe two continuously varying functions, the points representing only moments when we choose to observe. For Roman coinage we are not yet in a position to do this for it would involve knowing the coinage of each year, selecting and counting perhaps every

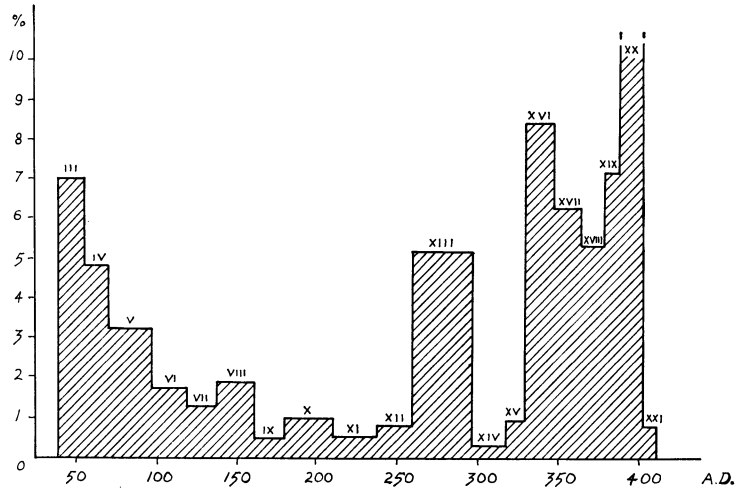


FIG. 22. Histogram showing quantities of coins

twentieth year, and plotting these points with the knowledge that we could check any intermediate dates. In contrast all we can do at present is divide the coinage into groups and then fill in a solid mark to represent the average amount of coinage in that group. Therefore the diagram forced on us is the histogram.

2. The axes in general are obvious; horizontally a time scale, including periods, vertically some index of numbers of coins. Since the number of years in each period has been taken into account, the block will be an average for each period and therefore it is helpful to have the time scale in years letting each period run its full extent.

3. The major problem left is that of the vertical axis. To show sheer numbers of coins is impossible because no scale can be devised which will show variations in hundreds, and at the same time include numbers in the thousands and tens of thousands. Percentages at this stage fulfil no useful function since they give exactly the same relationship. Another powerful argument against the use of numbers is the inevitable equation of one gold coin of Honorius with its eighteen hundredth part, one copper coin. The problem therefore resolves itself into how

that I still consider the method suitable for these 51,732 coins. The arguments pro and con will, I hope, appear in the *Numismatic Chronicle* for 1966.

to represent the value of coins lost in a particular period, and, more difficult, how to put the values of all periods on one diagram. If such an attempt is to be made all that remains are the details of this particular case.

4. The period of the *denarius*, from republican times to the early

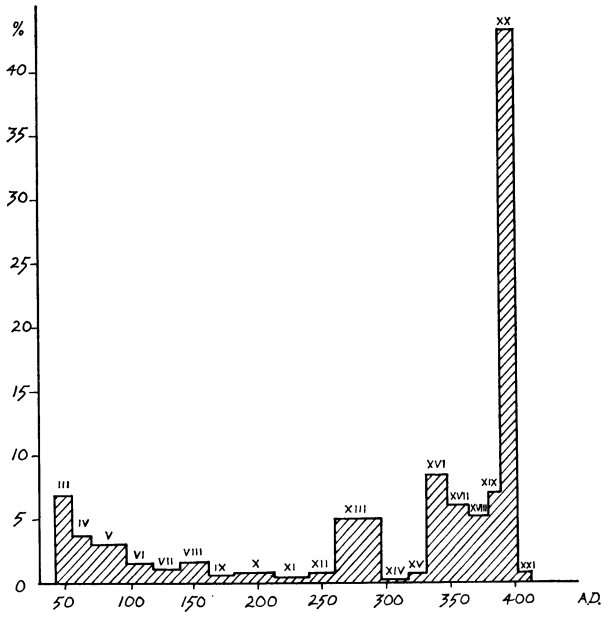


FIG. 23. Histogram showing quantities of coins

third century, is comparatively easy for it can be presumed that the coins circulated at the fixed tariff that we know, and were used at their proper relative values. This gives twenty-five *denarii* to the *aureus*, four *sestertii* to the *denarius*, four *asses* to a *sestertius* and four *quadrantes* to an *as*. Since it is usually easier to deal in whole large numbers rather than decimals less than one, I have downgraded everthing to the value of Augustan *quadrantes*. This makes sense in theory, and with adjustments, works in practice.

5. The first refinement is to take account of inflation over the first 200 years of the empire. As a very rough guide I have used some figures on legionaries' pay; 225 *denarii* under Augustus, 300 under Domitian, 500 under Severus, 750 under Caracalla, and a possible value of 1,500 under Maximinus. These plotted out give a sensible curve of inflation which asymptotes in the second quarter of the third century and therefore probably loses any practical meaning. From this curve, taking values under Augustus as 1, I have taken average 'inflation factors' for each period. This may appear to be a highly arbitrary process, but it gives a diagram which agrees well with what we know of the history of the site.

6. The second refinement concerns periods I and II. Plotted as separate periods they make little contribution to the diagram. All the money involved probably entered the country after A.D. 43 but it seems very dangerous simply to add up periods I, II, and III, insisting thereby that none of the earlier coins came in after 54. Again as an arbitrary method I have added periods I and II and divided the value equally between periods III and IV. This gives sensible results.

7. Period XII is guesswork which assumes a relation of 2 *denarii* to the *antoninianus* and an inflation factor of 9. No weight at all can be placed upon the result, but at least it seems to be about a correct value.

8. For the fourth century I have leaned heavily upon Mrs. Ravetz's work and used a system which differs completely from that used for the first and second centuries. The two main suggestions are due to her, that the ratio of gold to silver, and silver to copper remained roughly at 1 to 18 and 1 to 100. I would go on to say that inflation may only have taken place in the base coinage, and that a solid bullion standard was successfully maintained. Thus my earlier 'inflation factor' is built into the coinage if all the copper and billon coins are taken as of equal value. Relative values in the fourth century may well be obtainable, and all that is now needed is to relate these values back to the original standard of the Augustan *quadrans*.

9. This final stage is again highly empirical. I only set out the very tentative points on which I have worked so that they are available for correction. Using the values of 18 to 1 for silver to gold and 1,800 to 1 for copper to gold of the *Codex Theodosianus* for the late fourth century the total value of coinage in period XX is about 25 gold pieces. Using a very doubtful equation of 25 *solidi* of 397 (legionary pay in 397) and 20 *aurei* of the early third century (legionary pay under Severus), and an inflation value of about three between the first and early third centuries a possible relation between these 25 gold pieces and 6 first-century *aurei* can be made. If these 6 *aurei* are taken through the usual calculations for a period of 14 years they would give a point on the diagram of 1,370. Accepting this means using a factor of 2·4 to bring the fourth-century coinage into line. When the appropriate figures are plotted the results, apart from period XX, are sensible, and suggest that however wild, the errors have more or less cancelled each other out to give a scheme somewhere near the true state of affairs.

It may be objected that this tenuous link has been established using period XX which now yields wild results, and that the fourth century should be reorganized in such a way as to make period XX make sense. This has been tried, but when period XX makes 'sense', period XVI with 10,000 coins is down-graded to an impossibly low position.

Period	*Total no. of coins*	*Equivalent in units*	*Years in period*	*Units/ year*	*Inflation factor*	*Final units*	*Per cent.*
I	79	3,394	20	169·7	1·0	169·7	5·5
II	105	1,059	27	39·2	1·2	32·7	1·0
III	404	2,016	13	155·1	1·3	119·3	3·8
IV	142	1,068	15	71·2	1·4	50·9	1·6
V	386	4,124	27	152·7	1·5	101·8	3·2
VI	93	1,916	21	91·2	1·7	55·5	1·7
VII	76	1,432	21	68·2	1·8	37·9	1·2
VIII	112	2,596	23	112·9	1·95	57·9	1·8
IX	37	616	19	32·4	2·25	14·4	0·4
X	49	2,536	31	81·8	2·8	29·2	0·9
XI	31	1,984	27	73·5	4·5	16·3	0·5
XII	39	4,992	22	226·9	9·0	24·1	0·8
XIII	8,859	13,324	35	380·7	2·4	161·9	5·1
XIV	351	351	22	20·3	2·4	8·4	0·2
XV	855	855	13	65·8	2·4	27·3	0·8
XVI	10,127	10,127	16	633·0	2·4	263·1	8·5
XVII	3,192	8,456	18	469·8	2·4	195·2	6·2
XVIII	2,849	5,621	14	401·5	2·4	166·8	5·3
XIX	1,109	5,383	10	538·3	2·4	223·7	7·1
XX	22,831	46,150	14	3,297·0	2·4	1,370·0	43·6
XXI	5	500	9	55·5	2·4	23·1	0·8

Hoards

There is not enough information available to discuss the hoards fully. Since they make up less than ten per cent. of the total number of coins found it is doubtful if they would produce any useful comparisons or contrasts if a full study were possible. To complete the record, however, a list of hoards may be useful.

Sixteen in all have been found. Two are mentioned in the second report, one in the third, seven in the fourth, and six in the fifth. Of these two have been fully described elsewhere, the diademed hoard, *Richborough V*, no. 5, and the radiate hoard, *Richborough V*, no. 6. In four of the other hoards the range of types is narrow, in the remaining ten many types are represented.

Of the narrow range hoards one is of the reign of Claudius I, *Richborough II*, no. 2, one of Carausius, *Richborough IV*, no. 7, one of Allectus, *Richborough IV*, no. 6, and one of Constantine I, *Richborough V*, no. 4. The wider range hoards belong to the fourth century. One stops in the middle of the century with the earlier *Fel Temp Reparatio* issues, *Richborough IV*, no. 5, and another stops rather oddly with Valentinian II, presumably round about 378, *Richborough V*, no. 3. The remainder all show the same pattern with some radiates, and issues of the House of Constantine, but in each hoard at least 85 per cent. of the coins are of the House of Theodosius (*Richborough II*, no. 1, *III*, no. 1, *IV*, nos. 1, 2, 3, and 4, *V*, nos. 1 and 2.)

Conclusions

The Richborough coins can be examined at three levels, individually, by reigns and periods, and by thousands. It is this combination of detail and broad coverage which makes the collection so important for the future. The value of Richborough in its thousands lies not only in the fact that it produced one rare *aureus* of Carinus and Numerian, but also that it provides 510 normal coins of Victorinus. That is, the collection is large enough to show up important but rare varieties of individual coins, and large enough to give an idea of what the coinage lost at any one period of Roman rule is like.

At the individual level there is little of use to say. Each report has tabulated its more remarkable coins; to make a long list of these would serve no useful purpose. The main varieties have come from the coinage of Carausius, but it is also well to remember that before the publication of *Late Roman Bronze Coinage* the earlier reports were useful as detailed comments on the coinage of the House of Theodosius.

The level of periods and reigns is therefore left. First, a few results of the diagram can be mentioned. Although this attempt to put all the coins on one diagram has annihilated all detail, a few points emerge clearly. Richborough has three main phases of intensive coin use, and presumably therefore intensive occupation. The Claudian period, bolstered up by earlier coinage which must have come into the country at this period, comes as no surprise. The gradual drop in activity through the rest of the century is well known. A bump in the downward curve in the Antonine period could be accidental, but it does give room for speculation. The later second and early third centuries are times of minor occupation. This is drastically changed somewhere soon after 260 when, even trying to allow for considerable inflation, coins reappear in large numbers. This is not due only to Carausius and Allectus but starts right in the beginning of the Gallic empire under Postumus, and must presumably be related to the earth fort. If the barbarous radiates are allocated to the period between the Gallic and British empires, as I have suggested, Bushe-Fox's worries on the gap between the earth and stone forts (*Richborough IV*, 65–66) are groundless.

A magnificent comment, almost from the lips of Constantius I as he sailed past Richborough to land in London, comes in period XIV of the restoration, when coins drop to their lowest numbers. There can be no doubt in associating Richborough with at least the administration of the British emperors, just as there seems little room to doubt that under Tetrarchic control the fort was almost deserted.

But there is the final phase for which Richborough is renowned, lasting into the fifth century. This phase seems to be a continuous occupation of the site at an intensive level. Its beginning seems rather unhistorical since it must be placed in or near period XVI. The fort was obviously in full activity well before Count Theodosius appears in

367, so the most attractive date is no use. Another possibility is the visit of Constans to Britain in 343, but although this fits into the right period it will not do. The coins of the earlier part of the period such as the 'Urbs Roma' and 'Constantinopolis' issues of 330–5 make up a large part of the sudden coin increase. This pushes the fourth-century activity back to around 330, and it is tempting to make use of the fourth hoard in the coin list of the fifth Report. Just as the Claudian invasion resulted in a hoard, and activity under Carausius and Allectus resulted in two hoards, so some activity around 324–30 resulted in another hoard. Such a slender coincidence must not be pushed too far, but these four hoards, as I have already mentioned, form a special group in that their range of coin types is limited. This limitation suggests 'hiding' hoards of money immediately to hand, rather than 'saving' hoards over which time could be taken. On coin evidence at least I would look to the six years around 327 for the recommencement of considerable activity at Richborough.

Inside this fourth-century activity, which must be compared on a commercial level at least to the Claudian invasion, a pleasing picture emerges from the coin totals. As Mrs. Ravetz has independently pointed out copper is declining as a medium of exchange, and silver and gold are coming more into general use. This is well illustrated from periods XVI to XIX where the copper coins drop from 10,000 to 3,000 to 2,800 to 1,000, and silver and gold take a stable part in commerce. This perfect illustration does not last, for it is interrupted by period XX when no rules at all seem to apply. The volume of coinage in period XX cannot be represented on any diagram which is meant to take detailed account of the preceding 340 years.

It may be objected that the main troubles are caused by the bronze coinage in such large numbers, and that their relative value needs drastically to be reduced. This is not true, for in three of the four late periods the value of bullion and base coins is almost equal. The problems are not caused by over-valued copper, but by generally increased activity. Another objection might be made on the grounds of copper to silver ratio in period XIX. After roughly equal values of copper and silver values in earlier periods, XVII 35 to 3,156, XVIII 28 to 2,821, we get in period XIX 25 to 1,083. This, it may be said, shows that silver and gold are taking over, and that the true value of period XX lies in the 9 gold and 72 silver; the copper could be disposed of as dispersed remnants of several large hoards of a type well known at the period. It happens that period XIX is the exact time when Mrs. Ravetz has noted a scarcity of supply of copper coins in Britain; not silver, and not elsewhere on the continent. The precious metals no doubt had to make up the deficiency. Add to this the precious metal to copper ratio of about 234 to 22,750 and period XIX is seen as a minor interruption in a solid series.

The picture which cannot be avoided is one of a truly remarkable

volume of coinage, remarkable not only in numbers but in value. In sheer numbers it more than doubles any other period, in value it exceeds any other period by a factor of four. Bushe-Fox and others have tentatively suggested that the numbers of Theodosian copper coins is due to the burial of hoards, and their dispersal by the medieval and modern plough. The points of bullion and copper ratios already mentioned partly destroy this idea, but even allowing its possibility one further practical detail has to be settled. There are some twenty-two thousand coins to be considered. They may have been deposited as one hoard, worth in present day terms about £300, or several hoards worth less. The one hoard is probably impossible when the uniformity of distribution of the coins all over the inside of the stone fort is considered. A few smaller hoards are unlikely, first for the same reason, and secondly because they would presuppose a number of fairly wealthy people burying independently, similar hoards in well-spaced holes. The most attractive idea in the present line of reasoning is that of many small hoards, sometimes of copper and silver mixed. One such which avoided the plough would be no. 4 of the fourth Report. Tragically we know little or nothing of the internal, probably wooden, layout of the fort in the last ten years of the fourth century, so we can give no comment on the likelihood of uniform deposition of small hoards.

With no firm answer so far we must turn back to first principles. How was period XX different from other periods so far as coin use was concerned? The answer, simple as it is, probably solves our problems, for this was the only period in which coins ceased to be used. In earlier periods coins were taken back to government centres, melted down and reminted. In, and immediately after this period, this was not happening to such a great extent and we therefore get nearer to 'total loss'—that is, loss of all the coins in circulation. If this total does in fact represent the coinage in use at the time coin supplies ceased, it would need only twenty or thirty years at normal rates of loss to explain the build up.

This absence of coin withdrawal after a certain date, and continued use up to about 413 makes the picture sensible and clear. It would make an attractive theory to account for the lack of build-up elsewhere in Britain to suggest that the machinery of withdrawal from the Provinces lasted longer than that of supply, and worked through Richborough. Hence the final build-up for the whole of Britain occurs here, with the final link to the continent, and back to the mints, broken. I think that the evidence in no way supports or necessitates such a theory. It may help to understand a slightly longer supply to Richborough but cannot materially have affected the numbers of coins. The period XX totals can be explained on analogy with losses in earlier periods (XVI), with the absence of withdrawal, as the losses of a large, thriving, and well-paid community.

A date of around 413 for the end of coin use conveniently includes period XXI, but gives little activity after that date. Since the army were presumably at Richborough (who else would populate any area so intensively as the coins suggest?), and were paid in gold or silver which was regularly reminted, and apparently fairly easily lost, the absence of precious coins after 411 must be a significant comment on the presence or absence of troops. There is of course no barrier to suggesting a civilian population up to the level of period XIV; in fact taking into account the amenities available to them, nothing seems more likely. But now that the ghosts of the Diademed Hoard, and probably the barbarous radiates has been laid, the Roman coins, regular or irregular, give no help at present on the problem of fifth-century occupation.

Finally there are two lines of thought and research which the coins at Richborough suggest may be worth considering. The first is problematical and perhaps impossible, but the coins of period XX do invite some sort of investigation into percentages of coins lost, numbers of coins in circulation, and perhaps with work on hoards, into the general turnover and lives of any one type. Sir Flinders Petrie started a mathematical investigation on these lines when faced with large numbers of fourth and fifth century coins in Egypt, and his ideas may well be worth following.

The second line goes into extreme detail which may yield too little of use to be worth the work involved. This concerns the examination of the coinage of a short period or reign, and the comparison of different collections over this short time. As an example, several years ago I took the coinage of Victorinus and examined the numbers of each reverse type represented in site finds from Cirencester, Verulamium and Richborough (*I–IV*), as well as nine appropriate hoards. At the time this seemed little more than a mathematical exercise, but while it awaits publication I need only explain that by finding the average representation for each reverse type, and then finding how each collection varied from the average, it was possible to obtain an 'average variation' for each collection. This depends partly on the numbers for each collection, but when this is taken into account normal and abnormal can easily be spotted and the unusual given closer attention. On this basis Richborough, at least for the reign of Victorinus, has a completely normal cross-section of coinage as judged by other finds throughout the country. It may well therefore be valid to use the collection as a reference of what is 'normal' for Roman coinage. But more samples at different dates need to be examined before we base too much reliance on this.

My debt to the work of Mrs. Alison Ravetz and Dr. John Kent is obvious, especially where their ideas, acknowledged or not, appear. I only hope they do not find such close involvement an embarrassment. One debt is not so obvious. The late Professor Donald Atkinson

was considerably involved in the Richborough excavations, especially in the period covered by the Fourth Report. It was some twenty-five years after this that I had the benefit of his training, especially in Roman coins. Several of the ideas which have been worked out here resulted from discussions with him, and benefited from his comments, while not necessarily gaining his approval. To him and the many others who have helped me I am very grateful.

The Post-Roman Coins

By S. E. Rigold, F.S.A.

Abbreviations

B.M.A. Anglo-Saxon Acquisitions in the B.M., *N.C.* 1922, 1923.
B.M.C. *Catalogue of Coins in the B.M., Anglo-Saxon Series.*
B.N.J. *British Numismatic Journal.*
C.A. C. Roach Smith, *Collectanea Antiqua.*
N.C. *Numismatic Chronicle.*
R.R.L. C. Roach Smith, *The Antiquities of Richborough, Reculver and Lymne.*
T.P.S.S. S. E. Rigold, 'The Two Primary Series of Sceattas', *B.N.J.*, xxx (1960), 6.
W.B. G. C. Williamson's ed. of Boyne's, *Trade tokens issued in the seventeenth century.*

Coins found 1931–8, or for any other reason not previously recorded

1 *Anglo-Saxon*
Kentish 'Sceatta' or small-flan penny, now in British Museum, together with others from the excavations, recorded in *Richborough I*, *II*, and *IV* (acquisition number 1931, 8–6–25). Surface, 1939.

Obv. Two heads facing each other, reversed trident between.
Rev. Bird r., head l. and three pellets in triangle.
Weight: 1·17 gm. (18·0 gr.).

This specimen is described as a new variety (Type 72) by P. V. Hill in 'Uncatalogued Sceattas' (*N.C.*, 6th ser., xiii (1953), 113 and pl. VII, 25). The obverse is a late form of that of *B.M.C.* type 37, which, in turn, is derived from the Kentish 'primary series B' (*B.M.C.* type 26–27)—see *T.P.S.S.* (esp. 22). This suggests a date around or soon after 730.

2 Sceatta cf. *B.M.C.* Type 15 *b*. Diademed bust r., cross on globe in front / standing figure, with cross-hatched (not bi-lobed) cuirass, r., holding two branches. Wt., 0·99 gm. (15·4 gr.). In Ashmolean Museum, ex-Evans, with ticket reading 'Richborough-Rolfe'. One of the 'London-connected', and probably London-struck, series. Not in *R.R.L.*

3 Northumbrian 'Styca' or copper 'Sceatta'; squarish flan about 11·5 mm.

Obv. Cross fichy, i.e. with a small spike at each arm, ᴧEAИREDRE.
Rev. Similar, ᴧALDATEƨ.

A coin of King Eanred (810–41); the moneyer's name 'Aldates' is probably blundered. See C. S. S. Lyon, 'A Reappraisal of the Sceatta and Styca Coinage of Northumbria' (*B.N.J.*, xxviii (1957), 227) for evidence that Eanred's, and the styca coinage in general, did not begin until *c.* 830. For other stycas from Richborough see section C.

Later English

1 Cut halfpenny from Short-cross penny (Henry II–Henry III, 1180–1247). Group unknown (not available for re-examination), but reverse legend reported as ASC . . . TON. Possibly TOMAS (e.g. at Canterbury in Group VI–VII). Surface 1936.

2 Edward IV, Durham penny, heavy coinage, of light from 'heavy dies', *c.* 1464. DVNOLI and central rose(?) on reverse. Very worn, lost in early sixteenth century. Surface, 1931.

3 Charles I, Rose farthing 1635–49, m.m. mascle; several recorded from the site. Surface find.

4 George III, halfpenny, 1772.

Seventeenth-century Tradesmen's Tokens

1 Farthing, *W.B.* Kent 359, *GVY LANGDON 1659 (Grocers' Arms) / IN HETH (Hythe), L over GE. Surface, 1931.

2 Farthing, *W.B.* Kent 508, *IOHN · VANDERBROVGE (Superimposed interlaces or 'Lacy knot') / *IN·SANDWICH 1656, IVDB clockwise. Surface.

In addition to those already reported, viz. *W.B.* Kent 221 (William Keylocke, Dover, 1667) and *W.B.* Kent 79 (Will. Terrey, Canterbury), the following is described in a letter from V. Crowther-Benyon as recently found in 1930:

3 Halfpenny, *W.B.* Suffolk 319, IOHN CLARKE 1667 (HIS HALF PENNY) / IN STRATFORD (Stratford St. Mary). (Three lozenges, described as glass-quarries.)

Jetton

Late Nuremberg Rechenpfennig of Hans Krauwinckel (*fl.* 1580–1610), diam. 25 mm. For type compare Barnard, *The Casting-Counter and the Counting-Board*, pl. xxxiii, 82–85.

Obv. Three crowns and three lys, HANNS KRAVWINCKEL IN NVRENBE. *Rev.* Reichsapfel in trilobe, GLVCK BESCHERT IST VNGEWERT.

Identical with another, previously reported (*Richborough II*), except that the motto (Das Wort Gotes bleibt ewick) and name are transposed.

Other jettons, already recorded but inadequately described (*Richborough II*) are:

1 Middle period Nuremberg, Lion of St. Mark type—a common variety somewhat as Barnard, *op. cit.*, pl. xxxiii, 79. (Chapel.)

2 An interesting and apparently undescribed, early (*c.* 1500) Nuremberg; diam. 24 mm.
Obv. Three lidded jugs with horizontal bands of ornament, each containing a flower (2 daisies, 1 single rose), garbled legends.
Rev. Shield with estoile, first and fourth, and crown, second and third; border of foliage. (Chapel.)

3 French, late fourteenth century (Barnard, *op. cit.*, pl. vii, 70; diam. 24 mm.).
Obv. AVE MARIA : GRACIA : PL, Crown.
Rev. AVE∧, cross fleury in quatrefoil.

Miscellaneous
East India Company, quarter anna, 1853.

Summary of Post-Roman Coin-finds from Richborough

The coin-lists in this and the previous reports, in C. Roach Smith's *Richborough, Reculver and Lymne* (Rolfe coll.) and in *Arch. Cant.* xviii, 72 ff. (Gent coll.) include a post-Roman content that is not particularly remarkable, except in one important respect: the large number of *early* Anglo-Saxon coins is as noteworthy, in its way, as the extraordinary fecundity of Roman coins, and will be commented on in detail below.

For the rest the samples are perhaps too small for generalization, but the following observations are worth making: the Gent collection was rather atypical when compared with the Rolfe collection and much of it seems to come from outside the fort; its fifth- to seventh-century coins of the Eastern Empire are unparalleled except for the Constans II in *Richborough IV*. One would like to know whether the gold of Leo I and Justin I showed signs of mounting as jewellery, while the Aes is difficult to explain except as a source of bullion. The proportion of medieval foreign coins (two French, one Flemish, one Portuguese) is high, even for a maritime site. The ordinary English series, in which the later Saxon coins should be included, shows a stepping-up towards the end of the Middle Ages, which may reflect an increased frequentation of the chapel.

The Anglo-Saxon Coins from Richborough

The coins can be conveniently treated in four categories:

(i) 'Sceattas'—small-flan pennies of the late seventh and eighth centuries.

(ii) Early 'broad' pennies, from the late eighth century until Viking incursions disrupted coastal settlement in the late ninth century.

(iii) 'Stycas'—small copper coins, perhaps stemming from sceattas, minted in Northumbria in the mid-ninth century.

(iv) Regular English coins of the period of the West-Saxon dynasty.

(i) '*Sceattas*'

The Richborough entry in the provisional list of sceatta-finds by C. H. V. Sutherland (*N.C.*, 1942) repeats certain items; nevertheless, the impression it gives remains valid—more sceattas are recorded, as casual finds (not in hoards), from Richborough than from any other site except the early monastic ones of Reculver and Whitby and the very secular pits at Southampton. Where the precise find-spot of a Richborough sceatta is given, or deducible from the area then being examined, it is always the vicinity of the Chapel and the Foundation. Unfortunately, in the case of Richborough as well as of the other two religious sites aforementioned, it is not known whether any of the sceattas actually derive from disturbed burials, but a number of instances is given in *T.P.S.S.* of small hoards, pairs and even singles in just such a context, as a survival of, or substitute for, *beigabe*, and at least as late as *c.* 730. In any case, whether deliberately buried in graves or simply lost, the coins of the first three above-mentioned categories indicate that the precinct of the Chapel at Richborough was in use from the late seventh to the mid-ninth century, mainly as a cemetery, but possibly including a dwelling. If it is true that there were no burials within the Chapel, then a chapel existed on the site in the same period, whether or not the oldest visible remains are in fact *late* Saxon.

The sceatta coinage, like the early broad pennies, was predominantly a Kentish production. In *T.P.S.S.* two series with a strongly Kentish distribution are isolated, which, in their various ramifications, account for nearly all sceattas until the third decade of the eighth century. The later, or Secondary, sceattas vary much more in type and weight. In *B.N.J.*, 1951 P. V. Hill has noted the influence of archetypes originating in London on later sceattas, tending to weigh about 1·04 gm. or 16 gr. But not all 'London-connected' sceattas are London-made; type, technique and distribution suggest that many Secondary sceattas are also Kentish. The classification and suggested dating in the following list of sceattas from Richborough is based on *T.P.S.S.* None of them shows much wear. The *B.M.C.* type 44 reported by Sutherland was not from Richborough but from Thanet.

Primary Series A

1 *R.R.L.*, 157, lower figure. Sub-type A1 (*T.P.S.S.*, 16, 34; cf. *B.M.C.* type 2 *a*). Though he did not at first recognize it, the author is now

convinced, from re-examination of the engraving, that this is the unique specimen of the sub-type, now in the collection of Mr. A. F. Baldwin. Kentish.

Radiate bust r., TIIC before head / Standard. 1·23 gm. Early to mid 690's.

2 *Richborough II*, 227, no. 1. Sub-type A 4 (*T.P.S.S.* and *B.M.C.* as above). A barbarous copy, possibly not Kentish.

Radiate bust r. / Standard. 1·22 gm. Late 700's(?).

3 Shown at B.M., 21 Jan. 1937 (see *N.C.* 1942, 55). A derivative of series A with Runic legend. The parallel cited, *B.M.C.*, pl. 1, 12, would indicate the variant R Iy (*T.P.S.S.* 17, 35). Kentish or East Anglian.

Radiate bust r., 'epa' or similar in runes / Standard. Weight unknown but probably high (*c.* 1·2 gm.). 710's or 720's.

Primary Series B

No orthodox specimens of this series, such as occur at Reculver, are known from Richborough.

4 *Richborough V* (see above). Hill type 72; *N.C.* 1953, 113, unique, but obverse as on *B.M.C.* type 37 (*T.P.S.S.* 23). Probably Kentish.

Two heads facing, trident between / Bird r., 1·17 gm. *c.* 730.

Secondary Series

5 *Richborough II*, 227, no. 2. *B.M.C.* type 52. A rare and transitory type; the curious interlaced strands of hair ally it to the earliest-attested Secondary type, *B.M.C.* 32 *a*, which occurs *c.* 730 (*T.P.S.S.* 49), but the weight is lower—that of the 'London-connected' series. Probably Kentish.

Bust facing, with interlaced hair / Cruciform interlace. 1·03 gm. 730's.

6 *Richborough I*, 173. *B.M.C.* type 41 (the more numerous 41 *b*, in which the two figures face forward). A relatively common and perhaps long-lived type, with much variation in style and weight, most, like the Richborough example, being quite heavy. Reminiscent of the London reverse with a single figure (*c.f.* no. 10), but, in view of the distribution (Reculver, Thanet), technique and perhaps reminiscence of the two personages on *B.M.C.* type 37, probably Kentish. *B.M.C.* nos. 175, 176 are very close in style.

Two standing figures, cross-staff between / Dragonesque regardant beast l. 1·24 gm. 730's.

7 *R.R.L.*, 157, upper figure. (*B.M.C.* type 7). A rare and odd type; the reverse, stemming from the Constantinian 'Urbs Roma', may have inspired Aethelred of East Anglia to use the same later in the century. Weight of known examples variable but always light. Other find spots: Thanet (*B.M.C.* no. 77), Bitterne, Hants (*Proc. Soc. Ant.*

Lond. (1907–9), 376), and Reading (Reading Mus.). The heart-shaped body of the bird, like that of the standing figure on some London reverses, suggests that it is London-made.

Wolf and twins / Bird between vine-tendrils. Weight unknown but probably *c.* 1·04 gm. Perhaps 740's, or even later.

8, 9 *Richborough II*, 227, nos. 3 and 4. Sutherland, in *N.C.*, 1942, reports a third Richborough specimen, but it has not been traced. *B.M.C.* type 38, but without cross before bust. The border on no. 9 is a neat interlace; on no. 8 it is more like a 'cable'. Not a common type, though known from Reculver (*R.R.L.*, pl. VII, 4), it appears to be a Kentish revival of the motifs of the Kentish Primary Series B. Head not unlike *B.M.C.* type 32*a* (see no. 5).

Head r., borders of dots and interlace / Bird r. in torque, interlace border. 1·18, 1·00 gm. 730's or a little later.

10 *Richborough V* (see sbove). B.M.C. type 156. 'London connected' probably London made.

Bust r. cross-on-globe in front / standing figure holding branches. 0·99 gm. c 740.

(ii) *Early Pennies*

The coins of Offa and his contemporaries from Richborough are even more remarkable than the sceattas. Not counting the rather later piece of Berhtwulf, the total of seven casual finds is the highest recorded from any site. It is more than possible, even at this late date, that deposition in graves may account for some of them. All those naming Offa or his queen were struck at Canterbury. The following classification and dating is that of C. E. Blunt, 'The Coinage of Offa', in *Anglo-Saxon Coins* (Festschrift for F. M. Stenton, 1960); his serial numbers are prefixed *B.*

Offa, King of the Mercians (757–96)

1 *Richborough II*, 228, no. 3. Group I (*c.* 784–7) *B* 19, Osmod. 1·3 gm.

2 *Richborough II*, 228, no. 1. Group II (*c.* 787–92) *B* 26, Dud. 1·36 gm. Unique.

3 *Richborough II*, 228, no. 2. Group II (*c.* 787–92) *B* 53, Ethelnoth. 1·33 gm.

4 *R.R.L.*, 157; *C.A.* I, pl. XXIII, 8; *B.M.A.* 34. Group III (*c.* 792–6) *B* 91, Eoba. 1·22 gm. Unique.

Cynethryth, Queen to Offa

5 *Richborough IV*, 319. (*c.* 787–92) *B* 124, Eoba. 1·26 gm. From between outer and middle ditches of earth fort.

Offa and Archbishop Athilheard (792–805)

6 *R.R.L.*, 157 (793–6) *B* 136, weight unknown.

Eadwald, King of the East Angles (*c.* 796–7)

G. C. Brooke's original attribution, changed in his *English Coins*, has now been re-asserted.

7 *Richborough II*, 228, no. 4 (*c.* 796–7). Lul. 1·43 gm.

Berhtwulf, King of the Mercians (840–52)

8 *R.R.L.*, 157; *C.A.* I, pl. XXIII, 10; *B.M.A.* 134. J. J. North's Group II (*c.* 848–51)—see *English Hammered Coinage*, i, 66, no. 421. Eanna. 1·15 gm.

(iii) *Stycas*

In addition to the styca recorded in *Richborough V* (see above)—Eanred Re / Aldates (*c.* 830–41), two more are noted in *R.R.L.* 158, of the succeeding king, Aethelred II (841–4 and 844–9), viz. Ethelred Rex / Eanred and- / Fordred, both probably from his earlier reign. Finds of stycas at any distance from Northumbria are practically unknown expect in W. Scotland, and these must be a testimony to the use of the Wantsum strait by long-distance passengers.

(iv) *Kings of the English*

Richborough IV, 319. *Eadred*, *B.M.C.* type 1 (946–55), Wynelm (known at Oxford in this reign). Inner ditch of earth fort, upper layer.

R.R.L., 158. *Aethelred* II, Hand type (Brooke 2), apparently 'Second Hand' (*B.M.C.* type iid, Hildebrand B2—985–91), clipped, mint unknown.

Richborough II, 230. *Cnut*, Short Cross type (Brooke 4, *B.M.C.* xvi, Hild. H—1029–35). Gunleof, Chester. East of Foundation, by Chapel.

PART TWO

SUMMARY OF THE RICHBOROUGH SITE

Introduction

In the following pages an attempt has been made to gather together the main features of the Richborough site and to present them as a continuous development. It should be emphasized that this summary is based on the results of the excavation of a small part of a large settlement (fig. 25), and it may well be that the opinions expressed below as to the economic changes experienced by the community will have to be modified in the light of further work. Many problems remain to be answered: what, for example, is the extent of the street grid; to what degree was the area surrounding the fort built up in the first and second centuries; was the pre-Flavian supply base defended; did civil occupation continue during the third- and fourth-century military phase, and, if so, where? These are a few of the problems. Aerial photography is providing some of the answers (pl. II), but only after many more seasons of extensive excavation will it be possible to write a detailed history of Richborough.

In spite of the lengthy publications which have already appeared, the last word is by no means written even on the excavations of 1931–8. A statistical examination of the pottery found during this work would provide much useful information about trading relationships, and a study of the pit groups would no doubt augment the picture of the internal development of the town; much else remains to be done.

The enormous task of excavation which Mr. Bushe-Fox and his helpers accomplished each year throughout the seventeen-season campaign has had a considerable and lasting effect on the study of Roman Britain. Their great achievement should not, however, obscure the fact that a great deal of this remarkable site still remains to be excavated.

Richborough—The Physical Geography

By Sonia Chadwick Hawkes, F.S.A.

Richborough Castle, as it stands in mouldering grandeur on its eminence amidst the marshes of the Stour estuary, obviously presents a very different aspect today from when it was an important military base commanding one of the principal harbours of Roman Britain. Most of the depredations that man and the elements have wrought

on the fabric of its buildings and fortifications can be understood at a glance and accepted as the inevitable toll of over fifteen centuries of disuse. More arresting, however, is the dramatic sight of the collapsed eastern side of the stone fort, undermined and thrown down by the flood waters of the river; and more subtle, though no less expressive of ruin, is the altered configuration of the coastline which has left

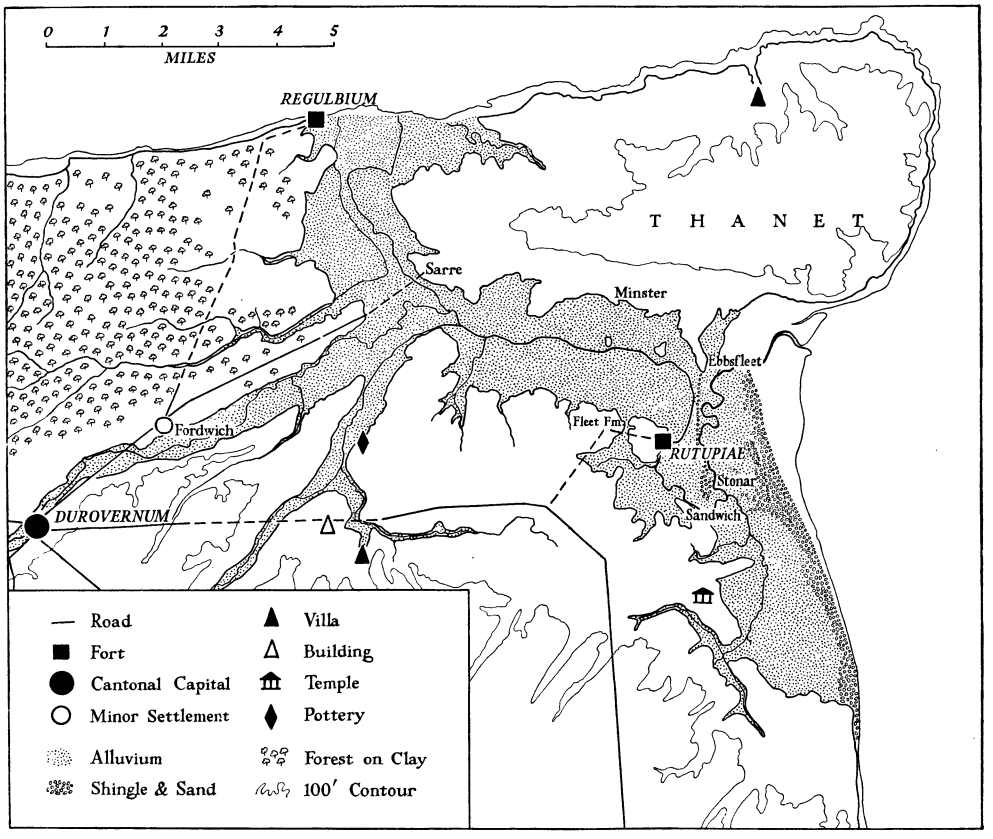


FIG. 24. North-east Kent in the Roman period

Rutupiae, like its neighbour and successor the Cinque Port of Sandwich, stranded inland with two miles of mud and shingle between it and the sea which was once its life-blood. Anyone who looks out from Richborough today across the ugly vista of marshland littered with the incongruities of modern development, houses, factories, and power-station, which threaten to hem it in entirely, must make a great effort of informed imagination to conjure up a vision of the *Portus Rutupiae* as it was. In the past, various attempts have been made to reconstruct this coastline between Deal and Ramsgate for the prehistoric and Roman periods,[1] but none is now completely acceptable

[1] George Dowker, 'Account of the Society's Researches in the Roman Castrum at

in the light of modern geological research. Indeed, the story of Richborough port, bound up as it is in the complex geological history of the Wantsum Channel, is not easily read, more especially since even the site of the Roman harbour has not been identified for certain. Yet, since it was the situation of Richborough which governed its choice as one of the original supply bases places in the Claudian invasion of A.D. 43, and its later development into a fort of the coastal defence system in southern Britain, some account of its physical geography must be attempted here.

On the accompanying map of north-east Kent (fig. 24), the relatively modern geological deposits of alluvium and beach material have been differentiated from the older Cretaceous and Eocene formations which constitute the solid geology of the district, to show that Thanet is in fact an island separated from the mainland of Kent by a broad arc of marshland, three-quarters of a mile across at its narrowest point, widening to three miles across its seaward ends. This marshland, and the rivers which meander through it to the sea, are all that now remain of the old Wantsum Strait which, as late as early historical times, was an important shipping route from the English Channel into the Thames. Richborough, separated from the southern shore by a narrow strip of marsh, can be seen as a small island just inside the eastern entrance to the Wantsum. The other shore fort of Reculver can be seen to occupy a small peninsula on the western side, where the northern mouth opens into the Thames estuary. The strategic position of these two Roman forts in relation to the Wantsum is evident at a glance. It must be stressed at the outset, however, that the line of junction between the alluvium and the solid ground, as it is shown on the map, does not represent the coastline of Roman times, but shows simply the extent of the modern marshland. This limit was reached only fairly recently, when the building of effective sea-walls at last put a stop to extensive deposition of alluvium by flooding. Prior to this there was a long history of marsh growth throughout the Middle Ages, and it is certain that the Roman shoreline is buried at a considerable depth. The exact depth remains to be ascertained (by the excavation of Richborough harbour, for example), but evidence from other parts of the estuary of the Thames and its tributaries suggests that it may be anything up to 15 feet.[1] Yet, even if the Roman shoreline could be plotted on the map, it would not give a true picture of the Wantsum at the period. Marsh formation was probably already

Richborough', *Arch. Cant.* viii (1872), 13 ff.; George Walker, 'The lost Wantsum Channel: Its Importance to Richborough Castle', *Arch. Cant.* xxxix (1927), 91 ff.

[1] John Evans, 'Archaeological Horizons in the North Kent Marshes', *Arch. Cant.* lxvi (1953), 122, 129 ff.; A. G. Francis, 'On subsidence of the Thames Estuary since the Roman period, at Southchurch, Essex', *Essex Naturalist*, xxiii (1932), 151 ff.; Frank Jenkins, 'The Post-Roman Submergence of the Land Surface at Canterbury, Kent', *Archaeological News Letter*, v (1954), 34 f., and *Arch. Cant.* lxiv (1951), 68 ff.

far advanced in Roman times, and we have no means of knowing the amount of open water in the channel. It would thus be misleading to attempt to map the Roman shoreline, and the best that can be done is to use such information as there is about the Richborough area,[1] eked out with relevant detail from other parts of southern Britain and elsewhere,[2] to try and give a verbal picture of the geological events which first created and then choked the life out of the port of Rutupiae.

In the Pleistocene, the river Stour flowed out north into the Thames, and some of its ancient gravel terraces still survive on the western side of the channel near Reculver. But with the great rise in sea-level that followed the end of the last Glaciation and the subsequent formation of the Straits of Dover, the estuaries of the Thames and its tributaries were drowned, and the shallow syncline in the chalk between Thanet and mainland Kent became flooded by the sea; thus the original Wantsum channel came into being. Into it flowed the Great Stour, tidal as far as modern Canterbury, and a number of lesser rivers including the Little Stour, which between them drain a large part of eastern Kent. Their currents were now met and slowed up by the tides, which caused them to drop their burden of silt in the estuary, and the long slow process of marsh formation began. In the many thousands of years that have since elapsed, there have been fluctuations of sea-level in relation to the land: but in general the evidence points to a progressive lowering of land mass in relation to sea-level; and as the sea has risen so have the levels of the marshes in the river estuaries, so that today there are at least 40 feet of mud above the bottom of the Wantsum channel. Originally, when the Strait was scoured by the tides from either end, much of this silt must have been carried out to sea, but from a relatively early date the eastern end of the Wantsum was partially blocked by a bar of shingle, which served to check the ingress of the tides. The formation of the Stonar bank was probably a chief cause of the build-up of mud deposits inside the Wantsum, but the process was assisted by the longshore drift across the east mouth of eroded cliff material from Deal northwards, and by the

[1] J. A. Williamson, 'The Cinque Ports', *History*, xi (1926), 113 ff.; R. F. Jessup, 'Reculver', *Antiquity*, x (1936), esp. 186 ff.; H. J. Osborne White, *The Geology of the Country near Ramsgate and Dover*, Mem. Geological Survey, nos. 274 and 290 (1928); F. W. Hardman, 'The Sea Valley of Deal', *Arch. Cant.* l (1938), 50 ff.; F. W. Hardman and W. P. D. Stebbing, 'Stonar and the Wantsum Channel', *Arch. Cant.* liii (1940), 62 ff.; liv (1941), 41 ff.; Gordon Ward, 'The Saxon History of the Wantsum', *Arch. Cant.* lvi (1943), 23 ff.; J. A. Steers, *The Coastline of England and Wales* (1946), 334 ff.; A. H. W. Robinson and R. L. Cloet, 'Coastal Evolution in Sandwich Bay', *Proc. Geol. Assoc.* 64 (1953), 69 ff.

[2] E.g. H. Godwin, 'Studies in the Post-glacial History of British Vegetation. IV. Post-glacial Changes of Relative Land- and Sea-level in the English Fenland', *Phil. Trans. Royal Society* London, series B, 230 (1940), 285 ff.; H. Valentin, 'Present Vertical Movements of the British Isles', *Geographical Journal*, 119 (1953), 299 ff.; Evans, *op. cit.*; Charles Green, 'East Anglian Coast Levels since Roman times', *Antiquity*, xxxv (1961), 21 ff.; Sylvia Hallam, 'Wash Coast-line Levels since Roman Times', *Antiquity*, xxxv (1961), 152 ff.

erosion and re-deposition in the north mouth of the soft Eocene formations of the cliffs near Reculver. In the course of time, these natural obstacles caused the choking of the channel, and during the severe marine transgression in the Middle Ages the 'inning' of the marshes to prevent flooding of valuable pasture land caused more and more silt to be deposited in the channel instead of on its verges, and this completed its ruin. By the fifteenth century, the Stour was still navigable as far as Canterbury, but the rest of the channel was a marsh.

In the Roman period, evidently, the Wantsum was in some state intermediate between sea channel and marsh. The origin and date of the formation of Stonar beach has long been disputed,[1] but it is generally agreed that it had come into existence before Roman times.[2] Its presence may have been an advantage, since it must have served as a breakwater protecting Richborough harbour from storms. It is likely that there were then two entrances into the east mouth: one around the north of Stonar bank, the other around the southern end opposite Sandwich, where the Stour flows out today. The existence of a northern entrance is suggested by the fact that even today the Stour flows steadily towards Ebbsfleet only to be deflected south very sharply by the shingle bar. This bar is very narrow and of no great depth where it joins the Ebbsfleet spit, and there is a good chance that it represents a fairly recent prolongation, by longshore drift, of the main beach further south. This hypothesis is perhaps confirmed by documents suggesting that in the eleventh century the monks of St. Augustine's, Canterbury, were attempting to reopen a shipping channel which had been used by the Nunnery at Minster in Thanet some centuries earlier, but which had since become blocked, no doubt in the ninth and tenth centuries when the Viking raids put an end to the Nunnery's commercial activities.[3] The tradition that Ebbsfleet was the landing place of Hengest and Horsa's force of Germanic federates[4] is perhaps an indication of the existence of this northern entrance in the fifth century. The southern entrance was certainly much further south in the Roman period than it is today, for the drift of shingle northwards from Deal, since its movement has been recorded, has progressed very rapidly—nearly 2,000 ft. in 150 years—and has forced the mouth of the Stour ever further northwards.[5] If this movement has been constant in the past, then in Roman times

[1] The various theories are summarized in Robinson and Cloet, *op. cit.*, who themselves suggest it may have originated from the onshore drift of an offshore bank similar to the present Brake Bank.

[2] Pebbles from the Stonar shingle seem to have been used for building work at Richborough.

[3] The story is given in full in Hardman and Stebbing, *op. cit.*, part II. Their interpretation of it, that the monks were attempting to re-open an old channel, seems more likely in view of the geological evidence than that put forward by Gordon Ward, *op. cit.* 26, that the monks were trying to make an entirely new cut.

[4] *Anglo-Saxon Chronicle*, entry for year 449.

[5] Robinson and Cloet, *op. cit.*

the end of the outer shingle spit will have been some three miles south again, and not as yet an additional obstruction to the entrance of the Wantsum. This means that the channel inside could still be effectively scoured by the tide, with the consequence that it cannot yet have been seriously choked by silt. Of its navigability in the Roman period we have no record: the earliest historical information comes in the early eighth century from Bede,[1] by way of his Kentish informants, and he describes the Wantsum as three furlongs broad and fordable (*transmeabilis*) only in two places. One of the crossing places was certainly near the line of the present Sarre Wall, because this was where the Roman road from Canterbury crossed, either by ferry or ford, over to Thanet. The existence of a ford here, presumably at low water, is plausible because Sarre was the meeting-place of the double tide, and the formation of some kind of bar would be expected under these conditions. Yet the ford does not seem to have rendered the channel impassable to the shallow-draught vessels of the Saxon period. Charter evidence of the eighth and ninth centuries shows that the Minster Nunnery was engaged in maritime trade between its own harbour in the Wantsum, and London, Canterbury, and the Continent;[2] and from the same sources we learn of a toll customarily exacted from shipping at Sarre, thus suggesting that Sarre may have been a royal port, or even a place where ships had to put in to wait for the tide. Viking ships were active all around Thanet, Sandwich, and Canterbury, in the late Saxon period, but we have no positive evidence that they sailed right through the Wantsum. In 1052, however, the Chronicle tells us that the Earls Godwin and Harold sailed from Sandwich via the Northmouth on their way to London, and this combination of place-names suggests that their route lay through the Wantsum. From this evidence it may be inferred that shipping could use the channel not only as a means of access to Canterbury, but also as a through route from the channel ports to the Thames estuary. This may have been the case in the Roman period too. The position of the forts of Richborough and Reculver, on guard at either entrance, makes it rather more than a possibility.

The Roman and Anglo-Saxon sea-level was not entirely stable, however, and conditions in the Wantsum may have varied considerably during this long period. For later Roman and pagan Saxon times we have evidence of a severe marine transgression which seems to have begun in the third century, becoming serious towards A.D. 300, and to have ended with a re-elevation of the marshland in the seventh and eighth centuries.[3] This rapid encroachment of the sea will have

[1] *Historia Ecclesiastica* (ed. Plummer, 1896), Bk. I, cap. xxv.

[2] Summarized in Hardman and Stebbing, *op. cit.* ii, 44 ff.

[3] Hallam, *op. cit.* 154 f., summarizes the evidence for a Romano-Saxon submergence in the Wash, citing corroborative evidence from along the Dutch coast. This deterioration in late and immediately post-Roman times is generally considered to be one of the principal

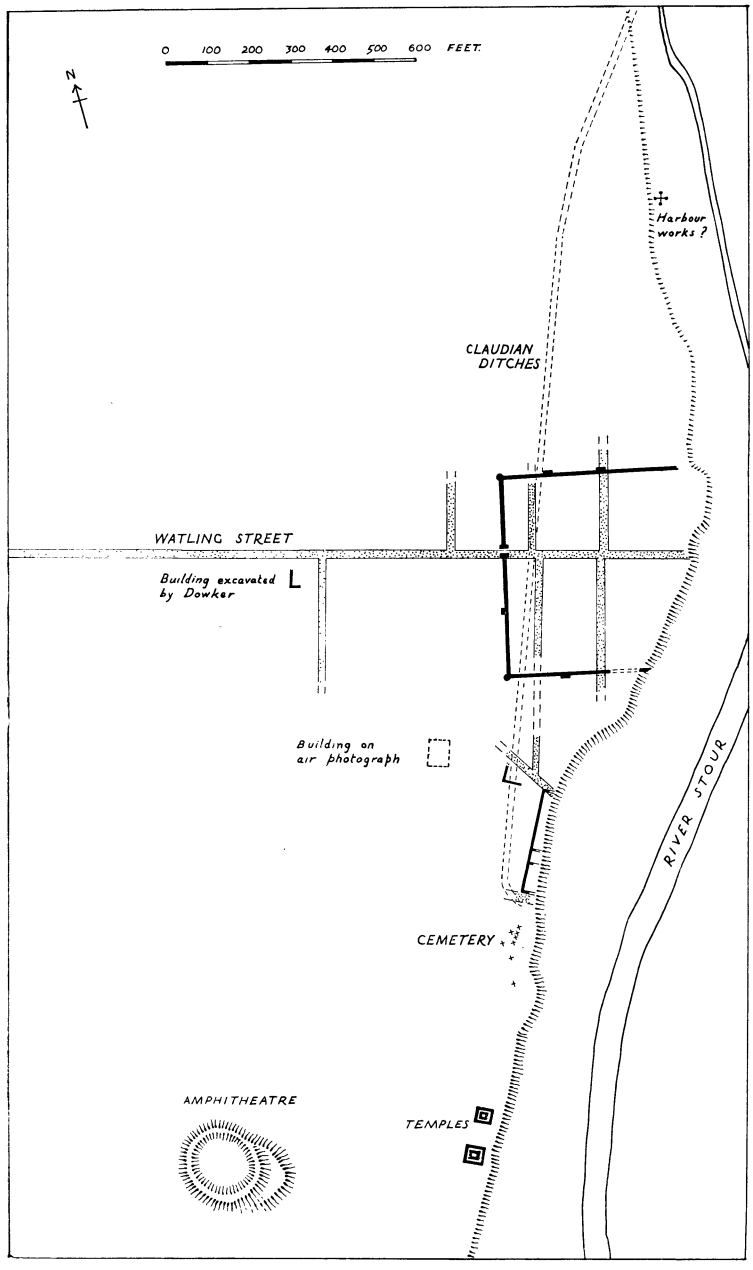


FIG. 25. General plan of Richborough

affected the Wantsum and the harbour at Richborough. It has been suggested that the beginnings of a marine transgression created conditions favouring the use of estuarine ports, because at first submergence would tend to scour out and deepen the channels and harbour.[1] If this is correct, then the military development of Richborough in the later third century is not without significance. The situation of the fort makes it almost a certainty that the harbour lay under the now tumbled walls against the eastern side of the island, under the lee of Stonar beach. We can guess that it was a lagoon harbour, like so many around the Kentish coast, and of a size considerable enough to accommodate a large military fleet. Fort and harbour were approached from the western side of the island by a road from the mainland that crossed the marshes near what is now Fleet Farm. This road has been sectioned[2] and found to be laid not on a causeway but directly on blue clay, which is an alluvial formation. This suggests that, during the Roman period, a strip of clay marsh land joined Richborough island to the mainland, so that its position resembled that of Reculver—a peninsula jutting out into the channel. It is extremely unlikely that the Roman Army in 43 would have landed at a place from which subsequent free movement was restricted by waterways.

This is as much as can be said at present about the physical condition of Richborough and its area in the Roman period. We have no records of the continued use of Richborough harbour in the post-Roman period, and it is possible that it was adversely affected by the later phases of the marine transgression, when the deposition of silt in the Wantsum must have caught up with the rise in sea level. At all events, it was Sandwich, a mile nearer the mouth of the channel, which was in Saxon times the chief port at the eastern end of the Wantsum, and such information as we have suggests that it had become so as early as the middle of the seventh century.[3]

The Development of Richborough[4]

By Barry Cunliffe, F.S.A.

The excavations on Richborough hill have shown little trace of intensive occupation in the pre-Roman period, but chance finds bear

reasons for the mass migration to Britain in the fifth century of Germanic peoples from the densely inhabited coastlands of north Germany and Holland. In the Thames estuary, submergence in the third century is attested by the abandonment of the potteries in the Upchurch marshes; the re-emergence by a series of Anglo-Saxon Charters, of the seventh century onwards, which deal with land grants in the marshes. Cf. Evans, *op. cit.* 129 ff.; Noël Hume, 'Romano-British Potteries in the Upchurch Marshes', *Arch. Cant.* lxviii (1954), 72 ff.

[1] Green, *op. cit.* 26.

[2] This report pp. 37–40.

[3] St. Wilfrid landed at the port of Sandwich in A.D. 666. Eddius Staphanus, *Life of St. Wilfrid* (ed. Colgrave, 1927).

[4] I am grateful to Prof. Sir Ian Richmond and Prof. S. S. Frere for reading this section and offering many helpful comments.

witness to the fact that the site was visited from time to time by prehistoric people. Neolithic and Bronze Age material includes a late-Neolithic polished stone axe, a Neolithic leaf-shaped arrowhead, a Bronze Age tanged arrowhead and a fragment of a bronze-socketed axe.[1] But it is only in relation to the Iron Age that structural evidence emerges for settlement of the hill by a small community, whose folk dug ditches for drainage and perhaps erected palisades to protect themselves or to contain their stock.[2] By about 100 B.C., if not earlier, the site was abandoned and remained so until the Roman landing of A.D. 43. There is no trace of Belgic occupation.

The First Claudian Camp, A.D. 43 (fig. 26)

The earliest Roman occupation on Richborough hill is represented by two parallel defensive ditches which run for 2,100 ft. across the promontory.[3] On the north they terminate in the marsh now bordering the Richborough stream, a tributary of the River Stour; their southern end must originally have been on the estuary, but at the present time the ditches, having curved eastwards, are cut off by the artificial cliff created by railway workings. The outer, or western, ditch averages 7 ft. wide by 4 ft. deep, the inner 10 ft. wide by about 6 ft. deep, while between them is an interval 6 ft. wide. No specific trace was found of the rampart which would have lain behind the inner ditch, but this is explained by the fact that the ditches were soon re-filled and the site levelled up. The absence of post-holes or of a palisade-trench in front of the rampart must mean that if a timber breastwork existed at all it was embedded in the rampart itself.

One entrance is known and has been excavated. Both ditches were here interrupted by a causeway, and behind the line of the inner ditch a passage 11 ft. wide and 11 ft. deep was flanked on each side by three squared timbers set in large pits. The posts, where recorded, were normally 1 ft. square. But the irregular shape of the pits, especially pit B, suggests that they had been removed at least once: while in pit D the post-hole itself, 2 ft. by 1 ft. 4 in., seems to have contained two posts set together, the outer for the tower-frame, the inner for the door-frame.[4] In addition to holding back the ends of the rampart, the posts presumably supported a tower above the entrance. A similar, though larger, gate was found in the south side of the Agricolan fort at Fendoch, Perthshire, but the south gate of the Claudian fort at

[1] For the Neolithic polished axe and the two flint arrowheads, see *Richborough V* pl. LII; for the bronze socketed axe, see *Richborough IV*, 133, no. 156.

[2] The Iron Age structures are summarized in *Richborough IV*, 8–11. Iron Age features also occur in *Richborough V*, 13, and *Richborough III*, 9. The Iron Age pottery is described in *Richborough V*, 116–7, and pl. LXIX.

[3] The Claudian camp, its main features and dating evidence are described in detail in *Richborough IV*, 11–18; other references appear in *Richborough V*, 4, and *Richborough III*, 10–13.

[4] I owe this suggestion to Sir Ian Richmond.

Hod Hill, Dorset,[1] approximates more closely in size to the Richborough entrance.

In the passageway of the entrance lay two groups of three post-holes, 6 in. in diameter, thought to be contemporary with the gate. It seems hardly likely that central supports were needed for a tower above, since the 11 ft. between the known posts could easily have been spanned by single timbers. That they formed successive doorstops is a likelier explanation, although it remains a possibility that they were dug at a later date. Three shallow channels were found cut into the natural sand between the ditch ends; these were originally thought to have contained a barricade, but exactly how such a structure could have been related to the use of the entrance is not clear. The gullies are more likely to have been drains running across the causeways. The entrance-passage was metalled with a thin layer of pebbles, which petered out inside the defences.

The area of the camp protected by the ditches is now much reduced in size by erosion. The beach-head strip originally enclosed can hardly have been less than 500 ft. in depth and may well have been larger. Occupation within appears to have been temporary and no permanent buildings have been identified, but two hearths beneath buildings I and J[2] definitely belong to this period. It also seems likely that some of the many pits and wells north of the main east–west road were originally dug at this early date. Further to the south, beneath the area now occupied by the car park, a heavily burnt layer containing pottery was examined. This too may belong to the first period.[3]

The dating evidence, derived mainly from material sealed in the primary silt and in the slightly later fill of the ditches, has been summarized previously in detail. It leaves little doubt that the first phase of occupation falls within the earliest days of the invasion of A.D. 43, and it is now generally accepted that the features under discussion belong to the base set up by Aulus Plautius on landing in Britain. Bushe-Fox has drawn attention to the absence of Gallo-Belgic platters and the relative scarcity of decorated samian pottery from the earliest levels, facts which are in complete agreement with a transient military occupation in hostile territory. Although occupation was of a temporary nature, the double ditches and the well-built gate indicate that the camp was intended to be semi-permanent.

The account of the invasion by Cassius Dio makes it clear that military progress through Kent was rapid. By the end of the first campaigning season, at the latest, the need for a strongly defended temporary base at Richborough would have disappeared and an enlarged permanent base would undoubtedly have been planned. The amount of silt which had accumulated in the ditches, before

[1] Richmond, 'Roman Timber Buildings', *Studies in Building History*, 17, ed. Jope.

[2] *Richborough IV*, 17, 34.

[3] *Ibid.* 79; and *ibid.* 17. The exact date is uncertain.

deliberate re-filling began, was small and in the sandy subsoil of the hill could easily have derived from a winter's weathering.[1] Thus historical indications and archaeological facts combine to suggest that the life of Richborough as a beach-head was short and that within a few months of the initial landing work could have begun on more permanent installations.

The Supply Base, c. *A.D. 44–85* (fig. 27)

The second phase of military occupation began with the construction of a street grid passing over the filled-in Claudian ditches and extending beyond them.[2] The axis of the excavated part of the site is the east–west road which is, in fact, the beginning of Watling Street. A number of sections have shown that in its original state it consisted of a tightly rammed pebble metalling, 22 ft. wide, with wood-lined rectangular drains on either side. The area to the south was divided into three *insulae* by two side roads joining the main road at right-angles. Road 2, between *insulae* I and II, measured 20 ft. wide and was traced beyond the ditches of the third-century earth fort. Road 3, dividing *insulae* II and III, was about 21 ft. wide. Attempts to trace it to the south of diagonal trench 1 were unsuccessful, but it may have continued southwards to the site of the car park where a length of early road on the same alignment was found.[3] The area to the north of the east–west road was similarly divided into three *insulae* by two north–south roads. Road 4 was of the same width as road 2 and continued its line north.[4] Road 5, described as a thin layer of pebbles,[5] was traced as far north as the line of the stone fort and joined the east–west road a little to the west of road 3.

That the road grid is early is shown by the way in which the metalling of the main east–west road had subsided into the soft filling of the Claudian fort ditches.[6] From beneath the road at this point only Claudian material was recovered.[7] Elsewhere finds from below the roads are sparse, a fact which itself supports an early date.

The full extent of the new supply base is unknown, since the recent excavations have been concentrated solely within the walls of the stone fort. However, Boys recorded cropmarks thought to be roads west of the fort. His observations, incorporated in a plan[8] by Roach Smith, show three roads: one (L) running north from the main east–west road 37 yards from the fort wall, the others (M and N) running south at distances of 108 yards and 147 yards from the fort. In 1887 G. Dowker carried out a series of excavations in which he examined the

[1] See *Richborough IV*, pl. v *b*.
[2] *Ibid.* 56, and other notes scattered sporadically throughout the various reports.
[3] *Ibid.* 78.
[4] *Richborough III*, 17.
[5] *Richborough IV*, fig. 6.
[6] *Ibid.*, pl. iv *b*.
[7] *Ibid.* 15.
[8] Roach Smith, *The Antiquities of Richborough, Reculver and Lymne*, 44.

RICHBOROUGH CASTLE

THE CLAUDIAN BRIDGEHEAD

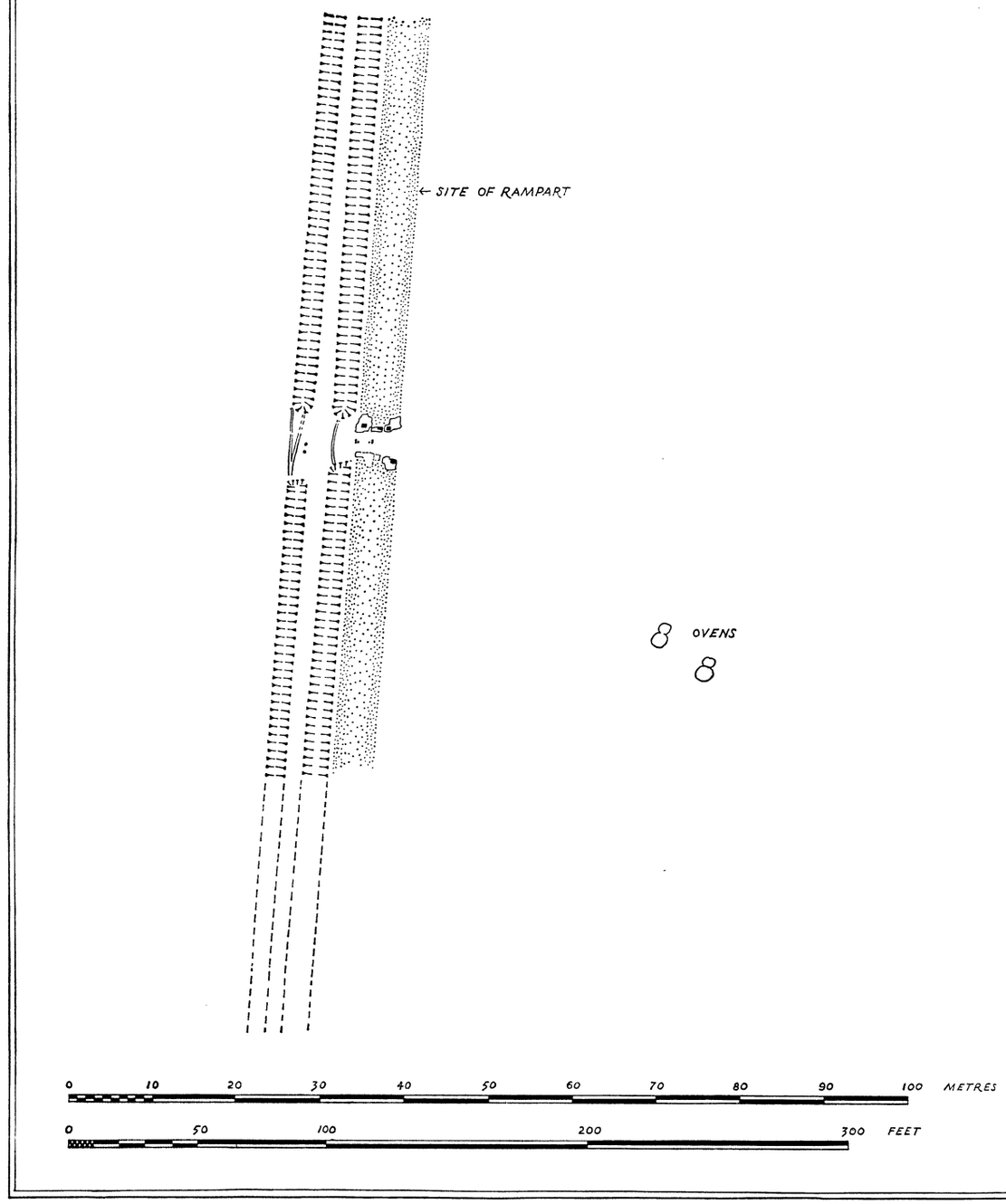


FIG. 26

three supposed roads.[1] His results show that L and M were just over 20 ft. wide and metalled with rammed pebbles; but he was unable to trace road N. There is, of course, no dating evidence at all for these roads, but the Claudian period saw the major phase of road building and Dowker's description of the size and metalling of the roads which he excavated corresponds well with those shown to be of this date by the excavations of Bushe-Fox.

The road system served blocks of timber buildings erected at this time. South of the east–west road, three groups of store buildings, probably granaries, have been examined. *Insula* I contained four buildings,[2] each 123 ft. long and 26 ft. wide, which may be regarded as typical of the series. Their construction was based on timber uprights set at intervals in six parallel foundation-trenches running the entire length of the building. Reconstructions published by the excavator suggest that the timber uprights were piles projecting a few feet from the ground surface to take a platform of joists on which were supported the raised floors, while the superstructure consisted of timber framing and wall boarding. Professor Richmond, however, considers that the external walls were more probably of wattle and daub construction, since this material was both valuable as an insulator and more readily available than timber. The function of the raised floor was to allow free circulation of air beneath it to prevent the stored corn from overheating and rotting.

To the west of the buildings and fronting upon north–south Road 2 are post-holes which must belong to either a portico or loading platforms, or more probably a combination of the two. It is uncertain whether a similar feature occurred at the east end.

In *insula* II, three of the four granaries excavated were similar in form to those just described, though measuring only 93 ft. in length.[3] All three appear to have been fronted on their east side by loading platforms. The fourth building, which lies to the north of the granaries, exhibited two sets of foundation-trenches, running east–west and north–south respectively, at right-angles to one another. Both the difference in depth and the placing of their post-holes, especially on the southern row, indicates that they belonged to different periods, the earlier consisting of six east–west rows (resembling closely the plan of the other granaries), the later of twenty-one north–south rows.[4] The west ends of all four original buildings were divided from Road 3 by a continuous row of posts, presumably forming a portico.

To the west of Road 3, in *insula* III, the east ends of two typical granaries were excavated.[5] It may well be that others still survive to the south. The known buildings were deliberately sited well back

[1] *Arch. Cant.* XVIII, 6–14. [2] *Richborough IV*, 26–34.
[3] *Ibid.* 44–46; and *Richborough V*, 10–11.
[4] Sir Ian Richmond drew my attention to this point.
[5] *Richborough V*, 6–7.

from Road 3 in order to miss the loosely packed refilling of the Claudian ditches, the position of which was still known at this time. This must mean that the loading platforms are at their west (unexcavated) ends. The north and east sides of the *insula* were delineated by a shallow irregular gully.

At some time, still in the pre-Flavian period, the two granaries in *insula* III were dismantled and a new building erected which incorporated a series of units opening onto a portico running along the east–west road. Several of the units consisted of a large front and small back room.[1] The latter was in some cases further divided. Traces of adjacent rooms were found immediately south, running along the north–south road. The function of the building is not certain, but it is closely similar to a row of shops or stores.

Insula IV, to the north of the east–west road, contained a complex of timber buildings, some of which were replaced at frequent intervals during the life of the store base.[2] Building A, which runs along Road 4, is clearly a granary, bounded by a portico on the west. The construction at its north end is complicated, but this may be no more than an elaborate loading platform. Next to the granary is part of another timber building, C, which appears to overlie an earlier structure, B, represented by a range of four rooms fronted by a corridor. Building C was replaced by a courtyard building, D, which in turn was overlain by a similar building, E. The function, plan and exact dating of buildings C–E are not clear, but they must belong to the period A.D. 50–75. It seems probable that they either formed part of an administrative block or were the remains of the much reconstructed official *mansio* superseded by building F, and yet again by the two masonry buildings on site III.

Building F, overlying building E, was a very substantial structure consisting mostly of rooms and ante-rooms measuring respectively 12 ft. by 12 ft. and 12 ft. by 4 ft., and ranged round a courtyard 94 ft. long from east to west. Its site had been levelled up with clay, on which gravel floors had been laid. The superstructure of the buildings so far described in *insula* IV was based on vertical timbers set in foundation-trenches. The walls of this building seem to have been built on sill beams placed in trenches, but it would appear that the beams had been removed when the building was deliberately dismantled. Building F can be dated with some precision; it overlay the Neronian–Vespasianic pit 20 and was destroyed when the Great Monument was erected. Thus a date range of A.D. 75–85 seems probable.[3]

Little remains of the buildings in *insula* V, partly because the later masonry building on site I obscured much of the area and partly because the site was dug early in the campaign of excavations before the complexities of timber buildings were fully recognized by the excavators. However, the few post-holes recorded beneath the

[1] *Richborough V*, 7–8. [2] *Ibid.* 11. [3] *Ibid.* 18–19.

masonry building[1] must belong to early timber structures occupying the area between the main east–west road and Road 4. To the north of site I, in area V, traces of other pre-Flavian timber buildings are mentioned.[2] Further west, in *insula* V, the remains of a timber building[3] were recorded in the angle between Road 5 and the main east–west road. It was a simple open-fronted structure measuring 30 ft. by 56 ft. and was provided on both street-fronts with a portico 13 ft. wide. The northern part of *insula* V was honeycombed with pits and wells, the distribution of which is a fair indication of the absence of closely spaced buildings.[4]

The south-eastern corner of *insula* VI was fully excavated, and an open-fronted rectangular building,[5] 26 ft. by 55 ft., was uncovered. Its interior was divided into six rooms. Traces of further structures, possibly part of the same building, occurred immediately to the west. The complex was bounded on the street fronts by a portico about 13 ft. wide. The excavator suggested a phase of alteration affecting this building and the building in *insula* V in about A.D. 70,[6] but his interpretation is not entirely satisfactory. He admits that some of the structures shown on his plan of phase two may either be earlier or later. However, some explanation must be offered and the most likely, on the available evidence, is that Road 5 went out of use and was covered by a new timber structure filling the space between the two buildings already in existence. The evidence is not as full as could be wished, but in general the suggestion carries conviction (see fig. 28).

It is thus clear that in the years immediately following the invasion of Aulus Plautius a great supply base was built, which continued in use with modifications until about A.D. 85. The regular street plan and the form of the individual buildings are undoubtedly military and must be closely connected with the invasion and subsequent occupation. A point of some interest is that before about A.D. 70 two at least of the granaries in *insula* IV were demolished and buildings of different character were erected in their place. This might imply a decrease in the quantity of grain stored. In any case, similar bases must have been established elsewhere in the country, while during the thirty years following the invasion supplies of corn were extracted from the British province with increasing efficiency to such an extent that importation gradually ceased. By about 85 the useful life of the depot was at an end and the buildings were demolished prior to the construction of the Monument.

The Late First Century, A.D. 85–100 (figs. 28 and 29)

With the demolition of the timber store buildings and the construction of the Monument, which began in about A.D. 85, the nature

[1] *Richborough I*, 11.
[2] *Richborough IV*, 51.
[3] *Ibid.* 19–20.
[4] See, for example, *Richborough III*, pl. LII.
[5] *Richborough IV*, 18–19.
[6] *Ibid.* 24–25.

of the settlement changed. The road running westwards from the Great Monument was relaid with black pebble metalling on a line slightly south of its predecessor, and on either side large drainage gullies were dug. Road 4 was also substantially rebuilt.[1] Its eastern gutter, which carried away surface water from the south gutter of the east–west road, and the west gutter of Road 2 were constructed in masonry, partly to prevent water from pouring into the 30-ft. deep excavation for the foundation of the Monument and partly to allow heavy loads to be transported across it. When the building of the Monument was completed the stone drain was removed and the whole area between the road and the foundation was levelled up with masons' chippings. Roads 2 and 5 were remetalled at the beginning of the period, but good evidence for the continued use of Road 3 is lacking.

The period of several years spent in building the Monument, from about A.D. 85 to 90, entailed a considerable amount of activity which has left its mark in the archaeological record. There is ample evidence for the wholesale dismantling of all the pre-existing timber buildings.[2] Most of the buildings in *insulae* I and IV were completely removed, since the foundations of the Monument cut through them. In *insulae* II and III pits dating to the period after 80–85 were dug through the foundation-trenches of the store buildings;[3] and in *insulae* V and VI a levelling of sand dating to the same period sealed the earliest structures.[4]

The foundations of the Great Monument were built in a large rectangular pit measuring 126 ft. from north to south by 81 ft. from east to west and 30 ft. deep. The pit was excavated in the natural sand, which was removed by two ramps leading into the pit from the east.[5] Much of the 306,000 cubic feet of sand was used to level the area north of the main east–west road, but some must have been used in mixing mortar for the superstructure. The builders' working area and mixing floor lay to the north of the Monument[6] and appears to have been served by a temporary road of tufa blocks running to the junction of Road 4 with the main road. When the mortar mixing had finished and the main mass of the Monument was presumably standing the working area was covered by a layer of clean sand, upon which lay in turn masons' chippings of oolite and marble and occasional bronze dowels, used for pinning the marble casing to the Monument.

The excavator has suggested that the abundant traces of metal-working found below the masonry building on site I, including iron slag, copper slag, a partly used lead pig of Nerva (A.D. 96–98), furnaces and crucibles,[7] may have been connected with finishing touches to the ornamentation of the Monument. Although it is

[1] *Richborough IV*, 57–58.
[2] See, for example, *Richborough V*, 18–19.
[3] *Richborough IV*, 33.
[4] *Richborough V*, 11.
[5] *Richborough IV*, 44–46.
[6] *Richborough II*, 11–12; *III*, 20; *IV*, 47.
[7] *Richborough I*, 13–14.

RICHBOROUGH CASTLE

THE CLAUDIAN SUPPLY BASE

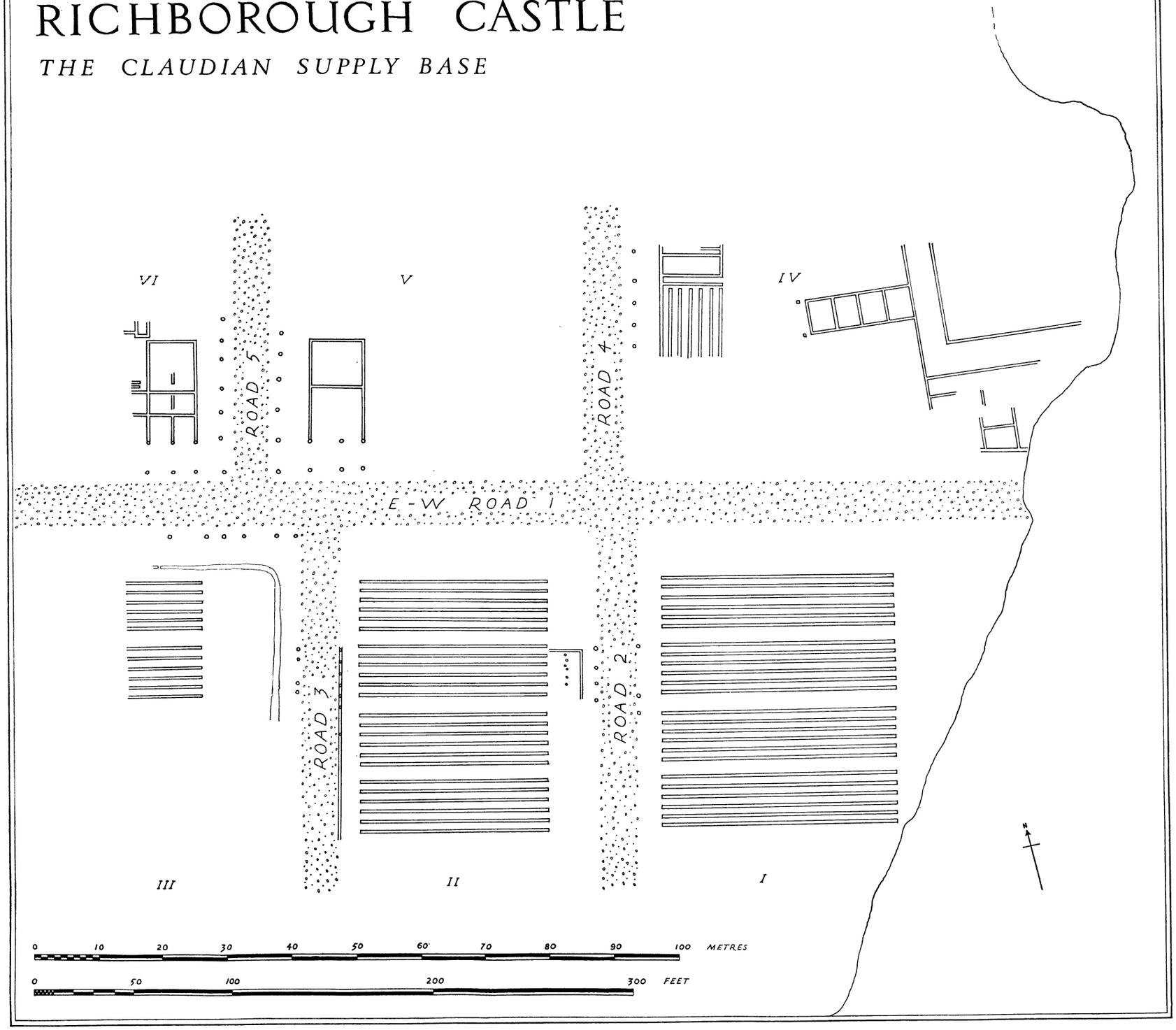


FIG. 27

always possible that work on the Monument was unfinished by the beginning of the second century, an alternative explanation of the metal-working is that its later phase, at least, belongs to an artisan quarter in the civil settlement, a suggestion supported by the discovery of a half-finished fibula and a folded strip of silver.

The Monument itself has been described in detail by Dr. D. E. Strong (above, pp. 40–73).

The nature of the late first-century settlement is difficult to untangle, largely owing to lack of plans and the inadequacy of available descriptions. However, several facts are apparent. Only *insulae* V and VI appear to have been built-up areas at this time, and in both of these the timber-framed buildings were destroyed by fire about A.D. 90.[1]

In the south-east corner of *insula* V the traces of metal-working mentioned above, together with more domestic structures, were presumably contained within timber buildings. Some elements, notably an oven and the lead pig, must be later than the burning, but others, including a mortar floor, are earlier. All that can safely be said of this area is that occupation was probably continuous throughout the late first century and into the early second century when the masonry building was erected. The length of early stone wall found here should belong to a late first-century structure.[2] The exact nature of the timber and early masonry buildings is beyond recovery.

In area VII, that is the north-west part of *insula* V, two mortar floors defined a building 22 ft. east to west by 14 ft. north to south.[3] Its walls, of wattle and daub plastered and painted in white, red, green and yellow, had been constructed on a timber framework resting on a sill of chalk and tufa blocks. This building was erected about A.D. 85 and destroyed by fire probably about A.D. 90. No further buildings were described in this area, but the extent of the burning would suggest that the whole *insula* had been occupied at the time of the fire.

Insula VI contained remains of wattle and daub buildings which may have terminated at a pebble layer 65 ft. north of the main east–west road. Several lengths of burnt daub walls were found in the south-east corner of the *insula*. One stretch was described as being '30 ft. from and parallel to the fort wall'. This was considered to be the easternmost wall. The southern limit was marked by a stone foundation, possibly for a portico, on the street frontage.[4] In spite of the scanty description, evidence of function is not entirely lacking, for a find of about a dozen lamps does suggest that this part at least of the building or buildings was a shop or store.[5] Evidence of fire continues outside the west wall of the fort and it may be noted that Dowker

[1] *Richborough IV*, 25, 37–38, 51, 53, etc.
[2] *Richborough I*, 12.
[3] *Richborough IV*, 52–53.
[4] *Ibid.* 37–38.
[5] *Ibid.* 38.

found traces of burning, of unstated date, in his excavations of 1887 still further west.[1]

The area to the south of the main east–west road is devoid of recorded structures and it is clear that the fire did not spread to this quarter. A considerable quantity of late first-century pottery was, however, found here. There are two possible explanations, either the area was not built up and was perhaps used for rubbish dumping so that there would have been nothing for a fire to destroy, or the area was covered by buildings not recognized by the excavators and the fire was controlled before it spread south. The latter may well be true, particularly when it is realized that timber buildings constructed on sill beams laid on disturbed occupation soil would not be easy to recognize in an unburnt state, and could have been missed.

Mention may here be made of the first phase of the masonry-based building excavated in the north-east corner of the site (site 3) which is probably of late first-century date.[2] The footings are rough and slight and were presumably no more than a sill wall for a timber superstructure. The building, however, shows some signs of sophistication, including a small heated bath, a room with an *opus signinum* floor and quarter-round mouldings and painted wall plaster. In plan it bears little resemblance to any other known building of the same date, but in view of its continuity in position, alignment and plan with its three predecessors (timber buildings D, E, and F) the suggestion made above, that this area was reserved for a *mansio*, seems reasonable. It will be seen later that the structure discussed here was replaced by yet another masonry building in the second century and that this new building remained in use until the late third century. This means that throughout the period A.D. 50–285 a large courtyard building existed on this site.

The growth of the settlement during the period A.D. 85–100 is difficult to demonstrate in any useful detail, but a general picture emerges of commercial development. The construction of the Great Monument at the head of Watling Street and at the gateway to Britain, together with the destruction of the store buildings, marked the end of the military period. It would seem that artisans and traders, attracted by and transported to the vast engineering work, remained to set up shop at what must have now become a thriving Channel port. The relaying of the earlier streets may well be the mark of official encouragement.

Bushe-Fox originally put forward the view that the timber buildings in front of the Great Monument were deliberately destroyed by fire about A.D. 90, in order that the Monument should stand in isolation. This view seems difficult to accept. Timber structures appear to have replaced those destroyed on site I almost immediately, while soon afterwards, perhaps before A.D. 100, masonry buildings were erected

[1] *Arch. Cant.* XVIII, 6–14. [2] *Richborough II*, 13–15.

RICHBOROUGH CASTLE

THE EARLY FLAVIAN PERIOD

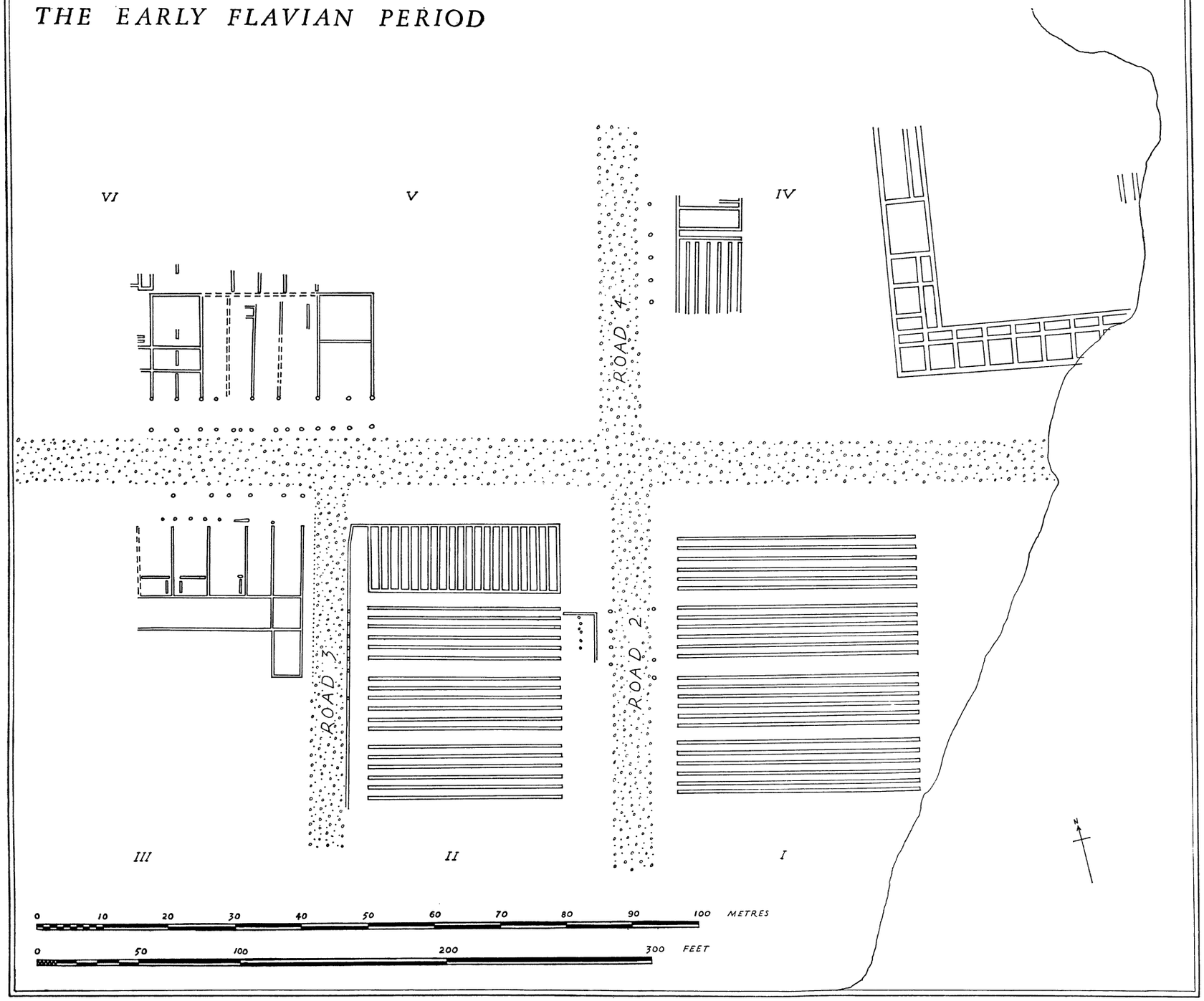


FIG. 28

on sites I and III. Thus, any policy of clearing the area surrounding the Monument had been allowed to lapse remarkably quickly. It seems simpler to suppose that the fire was accidental, as the group of burnt lamps would suggest, and that the buildings were forthwith replaced. Indeed, the vitality of the community can be gauged by the rapid recovery, of part at least of the site, following the fire and by the replacement of some of the buildings in stone soon after.

The Second and Early Third Centuries (figs. 30 and 31)

Throughout the second century the roads were not remetalled, and there is some evidence that rubbish was accumulating over them and choking their side ditches. Road 2, cut by pit 123 which is dated to *c.* A.D. 150, was evidently abandoned by this time.[1]

Evidence for the occupation of *insula* I is provided by two wall footings of flint set in clay found south and south-west of the Monument, while to the east pebbled areas, lines of chalk blocks and tiled hearths were recorded. The remains were loosely dated to the second century.[2]

Insula II contains a flint wall[3] and in *insula* III, below the later Chalk House, mortar floors with timber partitions between were found sealed beneath a mass of burnt material. The building must post-date a coin of Antoninus Pius found below its floor and may be of third-century date. That it was destroyed in the late third century is suggested by a coin of Claudius II found in the burnt layer.[4] A similar floor was found outside the west gate of the stone fort.

Further south, beyond the stone fort and under what is now the car park, the stone foundations of a half-timbered building were recovered associated with late second- to early third-century pottery.[5] No date, on the other hand, can be suggested for the substantial remains of masonry buildings recorded by Dowker west of the fort[6] or for the others which have been recognized on air photographs (pl. II).

In *insula* IV the first masonry building on site III was replaced by a larger structure[7] built of coursed flints bonded at intervals with horizontal bands of tiles. The floors, which have entirely disappeared, must have been of timber. The building, though larger and better built than its predecessor, bears some resemblance to it and also to the *mansio* excavated at Silchester.[8] Its date of construction is uncertain, but the excavator considered a date in the first half of the second century to be probable, mainly on the grounds of structural similarity to the early second-century building on site I. The way in which the earth fort respects it shows that it must have survived to the late

[1] *Richborough IV*, 92.
[2] *Ibid.* 36.
[3] *Richborough V*, 5.
[4] *Richborough IV*, 76–77.
[5] *Ibid.* 78.
[6] *Arch. Cant.* xviii, 6–14.
[7] *Richborough II*, 15–18.
[8] *Archaeologia*, I, 271 ff. and liv, 222 ff.

third century, being destroyed just before the construction of the stone fort.

The shops in the south-east corner of *insula* V were completely replaced in masonry[1] during the first half of the second century. The new building was in three units based on three large rooms, 6, 9, and 10, fronted by a continuous arcade and with storage or living space behind. The goods sold in the shops—if such they were—remain unknown, but a mortar-lined tank in the corner of room 6 could have contained live shell-fish.

Rooms 8 and 10 were crossed by a timber-lined drain which passed through the walls between brick piers. North of the building its line was continued by a V-shaped ditch; to the south it passed through the east–west road and curved slightly west, probably to join the road's south side ditch. The drain must pre-date or be contemporary with the building. Its function is not clear; the excavator suggested that it was constructed as a latrine drain from room 8, but a more probable explanation is that its primary function was to replace the blocked stone drain east of Road 4 and to carry off excess water from the south side ditch of the east–west road. The stone drain, however, was blocked about A.D. 90, and this would imply that the timber drain may well pre-date the masonry building, though the point is not susceptible of proof. The drain clearly remained in use during the early part, at least, of the building's life. The erection of the building took place in the Hadrianic or Antonine period, soon after the filling of well 1 and pit 11.[2] It had ceased to be used by the late third century, when the earth fort ditches were cut through it.

In the north part of *insula* VI a masonry cellar[3] strengthened with timber framing is presumably the only surviving part of an unrecognized timber building. The date of its construction is given by the discovery of an earlier pit below its floor-level containing early second-century pottery in the top 8 ft. of its fill. It is highly improbable that the entire 8 ft. represents the packing of a later subsidence, and it must be concluded that the cellar was built in the early second century. It fell into disuse in the second half of the century, after which it was filled with rubbish.

Several burials of this period were found in the south-west part of the site. Beneath the wall of the late stone fort (site V) was discovered an inhumation burial[4] of a male in a wooden coffin, enclosed in a masonry tomb originally measuring about 13 ft. by 16 ft. The tomb chamber and coffin had been covered by a barrow about 60 ft. in diameter. The pottery evidence suggests a date in the early part of the third century. About 200 ft. south-east of this a cremation was discovered,[5] placed in an amphora together with a samian dish, of form

[1] *Richborough I*, 14–17.
[2] *Ibid.* 17–18.
[3] *Ibid.* 48–50.
[4] *Richborough III*, 25–29.
[5] *Richborough V*, 27–28.

RICHBOROUGH CASTLE

THE LATE FLAVIAN PERIOD

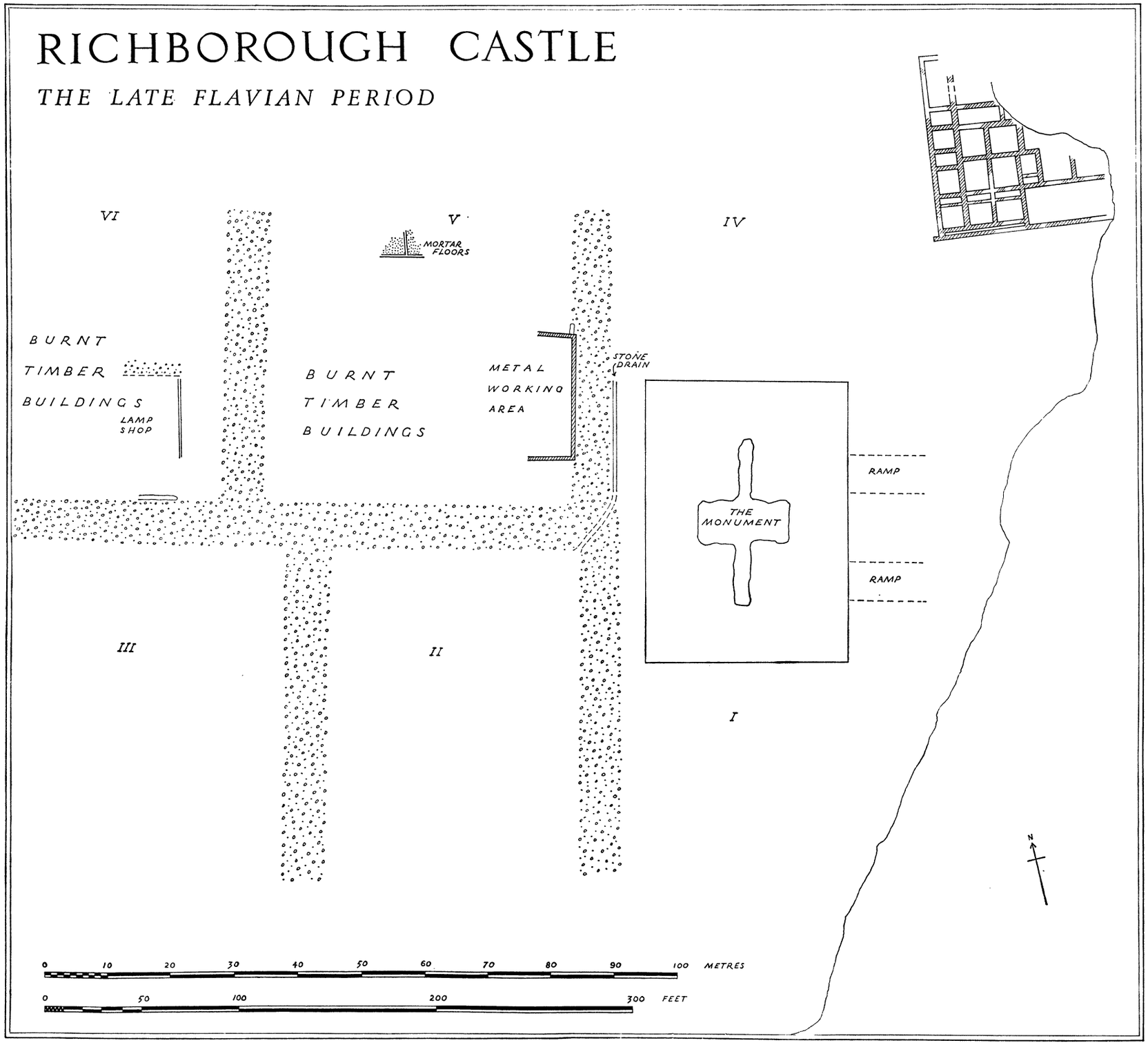


FIG. 29

31, a small clay bottle and a Castor ware hunt cup. Outside the amphora was a jar. Within a yard of this burial was another cremation,[1] placed in a jar, together with two Castor ware cups and coins of Antoninus Pius and Faustina the Elder, and covered with a tile. Each of these burials dates to the late second century.

The evidence of occupation in the second and early third centuries quoted above shows that the Richborough settlement was growing, even perhaps flourishing, in the first half of the second century. But there soon followed a period of decline, marked not only by lack of evidence for building activity, but also by roads and buildings falling into disuse. This negative evidence is further supported by a sharp decrease in the amount of pottery and coins found on the site. In fact, by the time that most of the other Romano-British towns were being enclosed by banks and ditches, at Richborough in the late Antonine period the burial ground was spreading to the very doors of the houses. By the early third century the marble was flaking off the Great Monument and fragments were finding their way into the filling of the tomb on site V. But that occupation went on is shown by the continued use into the late third century of the building on site III.

The cause of the decline was probably economic. Late-Flavian Richborough was primarily a port inheriting its trading connexions from the earlier military base. With the growth of towns and communication much of the trade originally passing through Richborough must have been captured by centres able to deal direct with the Continent, such as London, Colchester, Dover, and Caister-by-Yarmouth. In the second century Richborough would have found itself by-passed with only a small local market area. It would be extremely interesting to compare statistically the development of Richborough with that of Dover, but unfortunately the latter site has not yet produced a sufficient quantity of material. However, the finds from Dover excavations include a high percentage of second- and third-century material, suggesting that the port prospered at this time,[2] and its development therefore appears to be complementary to that of Richborough. Compared with other Romano-British towns of the first and second centuries, Richborough must have followed a similar pattern of development with shopkeepers and craftsmen taking over the military bases, probably with official encouragement, and forming a nucleus around which the town could grow. Later, if successful, the centres were enriched with public buildings and finally enclosed within defences. Richborough did not grow and apparently was left without the benefit of public amenities and defences. In this sense it is a failed town. But Richborough still remained a place of embarkation for the continent and it is surely significant that the one building known to survive until the late third century was the supposed *mansio*.

[1] *Richborough V*, 27–28.

[2] *Arch. Cant.* lxiv, 130 ff.; lxxi, 15 ff.

The Third-Century Fort (fig. 32)

In the late third century part of the site once again reverted to military ownership. At this time an area of 1·1 acres, around the Great Monument, was enclosed by three ditches and a rampart, converting the Monument into a defended look-out post.[1] The fort measured over its rampart was some 300 ft. square. The eastern side of the defences has been eroded away, but sufficient remains to show that at the north-east corner only the inner ditch was continued, the two outer ditches stopping in order to avoid the stone building on site III which lay in their way. The avoidance is a testimony to the official importance of the building.

The excavation of the entire surviving circuit of the ditches has shown them to vary slightly in size. On average the inner ditch measured 22 ft. wide and 7 ft. deep, the middle 15 ft. wide and 7 ft. deep, and the outermost 17 ft. wide and 7 ft. 6 in. deep. Little is known of the rampart inside the inner ditch since it was soon thrown back and levelled, but some sections show it to have been of clay with a base about 36 ft. wide. No positive traces of timber revetting or palisade survives. The ditches had cut through Roads 2 and 4, but the main east–west road entered the fortification by a causeway 20 ft. wide. The entrance[2] was slightly further north than the axis of the existing east–west road, causing the south edge of the metalling to be removed by the ditches. At the level of the road, east of the line of the inner ditch, the ends of the rampart were revetted by three timber uprights on each side of an 11-foot wide gap. These mark the site of the timber gateway.

No trace of internal buildings survived, and few apart from barrack-blocks could have existed in the very small area available between the Monument and the rampart.

Evidence for the dating of the fort has been cited in detail in the reports.[3] In summary, the excavator considered that the fort went out of use and was deliberately levelled early in the reign of Carausius as a preliminary to the building of the stone fort. This is supported by the discovery of a few Carausian coins in the ditch fill and a large number in sealed occupation deposits above. The date of construction is difficult to determine. The fort could have been erected any time between 200 and 280, but it seems unlikely that it had a long life. The possibility that it was unfinished at the north-east corner has been considered above and the small quantity of silt observed in the bottoms of the ditches could support this although regular cleaning out would be difficult to disprove.

The function of the fort as a look-out post and signal station to warn the coast of impending raids seems certain. Since it could not itself

[1] *Richborough I*, 10; *II*, 18–22; *III*, 22–25; *IV*, 60–66; *V*, 22–27.
[2] *Richborough IV*, 60–61.
[3] *Richborough II*, 20–21; *III*, 23–24; *IV*, 64–66; *V*, 26–27.

RICHBOROUGH CASTLE

THE EARLY SECOND CENTURY

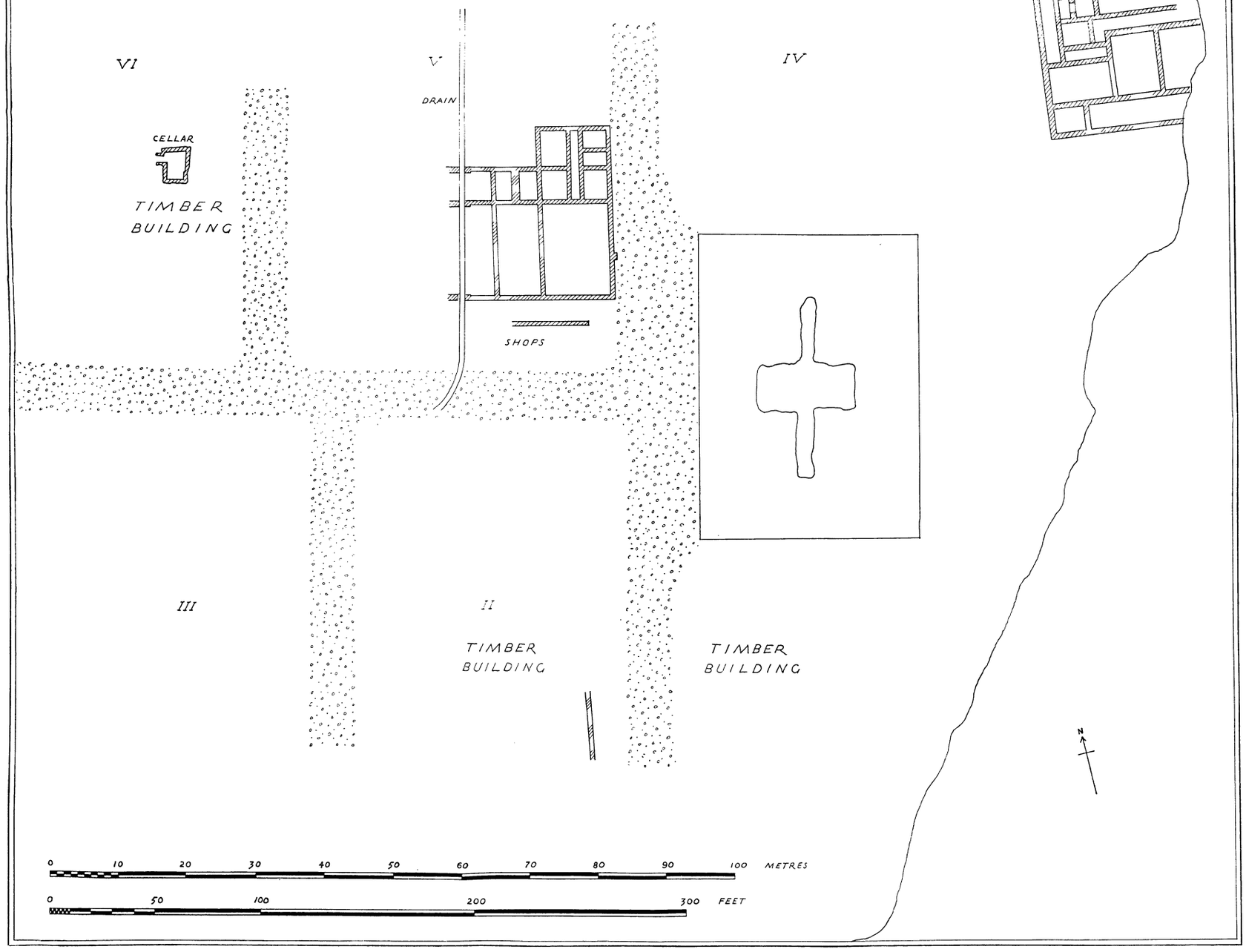


FIG. 30

RICHBOROUGH CASTLE

THE EARLY THIRD CENTURY

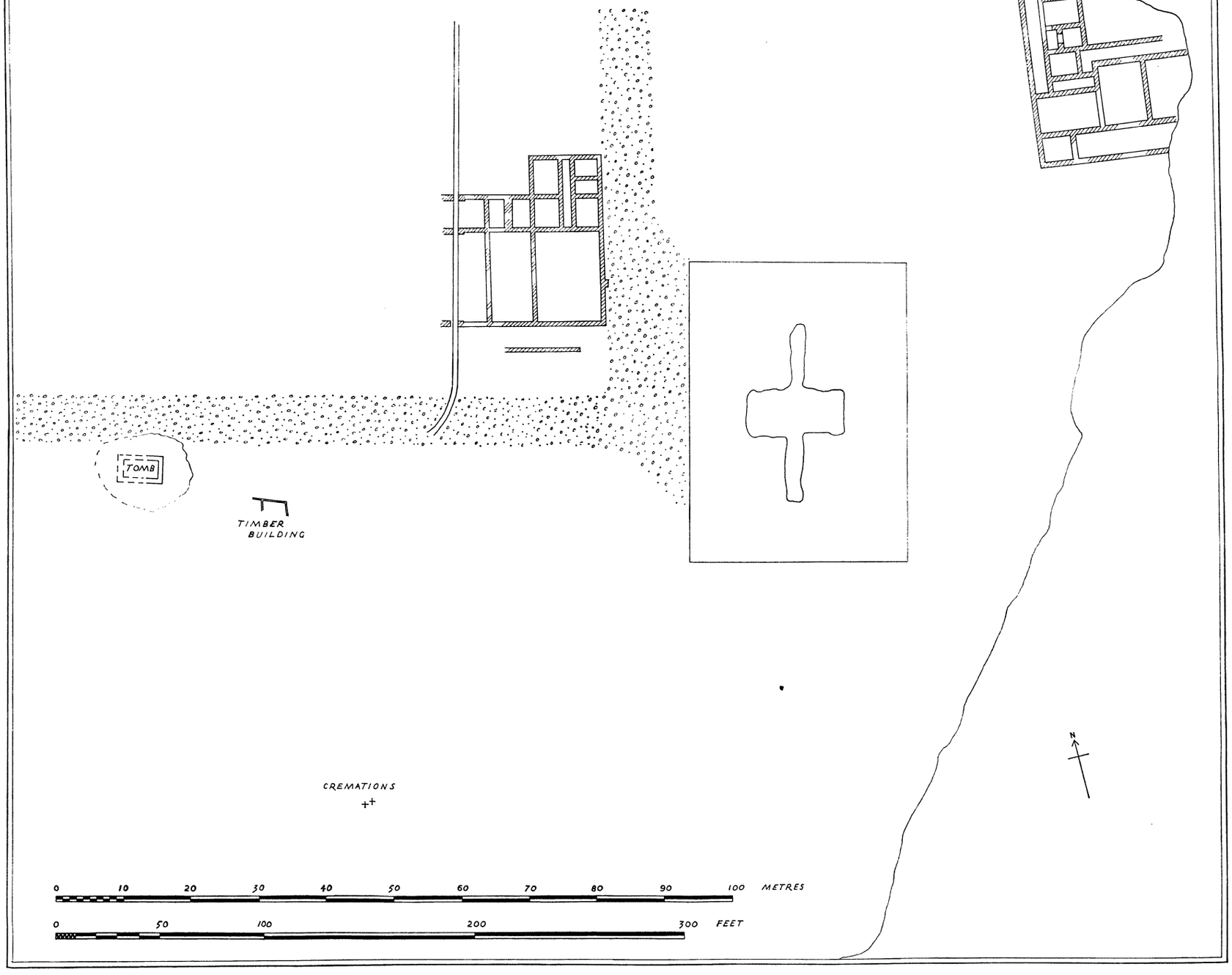


FIG. 31

have housed sufficient troops to deal with marauders it must have been used in conjunction with nearby forts, such as Reculver and possibly Dover, in which adequate garrisons were stationed. In this way it would have formed an integral part of an early warning system for the protection of the Kentish coast. Reorganization, occasioned no doubt by increasing pressure, soon followed and a large permanent garrison was based on the hill, housed in a new stone fort.

The Saxon Shore-Fort in the Third Century (fig. 33)

Under Carausius (A.D. 286–93) the earth fort was dismantled and a larger stone fort constructed in its stead. Today the entire west wall, much of the north wall and part of the south wall survive. The final position of the east wall is in doubt, but the area enclosed must have been about 6 acres. A foundation of chalk and stone strengthened by two rows of piles was uncovered during the excavation of the building on site III, running along the east side of the site, above the earlier building.[1] The foundation had been laid at different levels between several earlier standing walls, and its position, date and similarity in structure to the foundation of the fort wall elsewhere might suggest that it had carried the missing east wall. Three points, however, argue against this: first, elsewhere on the circuit the rectangular bastions were placed midway between the gates and the corner turrets, but if this were the east wall then the adjacent bastion on the north wall would come too close to the north-east angle. Secondly, there is no evidence that a wall was ever built on the footing; thirdly, the footing was cut by pit 16, containing late fourth-century coins and by pit 26, which was not later than the end of the third century. The last piece of evidence clearly suggests either that the wall had already disappeared by the date of the pit—an improbable conclusion—or that it had never utilized the footing; and since there is ample evidence of a collapsed east wall below the cliff, the conclusion must be that the east wall was erected, but not on the chalk footings. The simplest explanation is that the footing was prepared in error but for some reason never used, and the wall was in fact built further east.

The thickness of the wall at its base varies slightly from 10½ ft. to 11½ ft. Excavation has shown[2] that a foundation-trench was dug to take a footing of rammed chalk and stones, on which was laid a horizontal lacing of timber beams packed around with more chalk and stone. On this the wall of stone-faced flint rubble set in concrete was erected. The external face was bonded at intervals by horizontal bands of tiles. The exact height of the wall is unknown, but the south wall survives to a height of 25 ft., suggesting that originally the wall may have been about 30 ft. high. The discontinuity of bonding courses and

[1] *Richborough II*, 22–24. [2] *Richborough V*, 29.

minor differences in the technique of building clearly demonstrate that the wall was built in sections, presumably by different gangs of workmen. This phenomenon appears at other Saxon shore-forts, for example Pevensey and Portchester.

The main gate lay on the west front of the fort.[1] The roadway, 11 ft. wide, ran between two foundations of massive blocks, many reused, each measuring 25 ft. by 12½ ft. on which would have been constructed the gate towers flanking a single arched entrance. Traces survive of the south guard chamber, measuring internally 16 ft. by 8 ft.

In the north wall a small postern gate opened through a rectangular bastion.[2] The right-angled bend in the passage resembles the curve in the north postern at Pevensey. Slight indications of a similar structure were found in the south wall.[3]

The two surviving corners were protected by solid projecting circular turrets, 18 ft. in diameter and of one build with the fort wall. Regularly spaced between these and the gates are rectangular bastions 20 ft. long, and projecting 10 ft. from the wall face.[4] The bastions (fig. 13) were built on a solid foundation, but above this for about 10 ft. they appear to have been either hollow or earth-filled. Then came a solid platform, based on horizontal timbers and bonded into the fort wall which ran across the back of the bastion, leaving an upper hollow chamber one storey below the rampart-walk.[5]

The outside of the fort was protected by two V-shaped ditches,[6] the inner ditch measuring 30 ft. wide and 10 ft. deep, the outer measuring 13 ft. wide and 8 ft. deep. The distance from the foot of the wall to the outer lip of the outer ditch varied from 75 to 95 ft., and the field of fire was thus about 100 to 120 ft. To the south of the west entrance, a third ditch running between the others was excavated. But this was quickly refilled with occupation debris of the late third century and is thought to have been a mistake. Opposite the west entrance abutments projecting from the sides of the inner ditch were left, presumably to give stability to a timber bridge, while across the outer ditch a causeway was left. The ditches opposite the north postern gate were treated in a similar way, but no trace of abutments or causeways were found south of the supposed south postern gate.

The main east–west road, running further north than its predecessors, was remetalled at this time and was found to incorporate a central drain[7]—a feature similar to contemporary roads at Pevensey and Portchester. Rough cobbling was laid along the line of Road 4 leading to the north postern and there is some evidence that Road 2, continuing this axis to the south postern, was also remetalled. Thus

[1] *Richborough I*, 29–33.
[2] *Richborough III*, 31.
[3] *Richborough I*, 33–34.
[4] *Ibid.* 34.
[5] *Richborough IV*, pl. XVII.
[6] *Richborough III*, 31–32; *IV*, 66–75.
[7] *Richborough IV*, 58

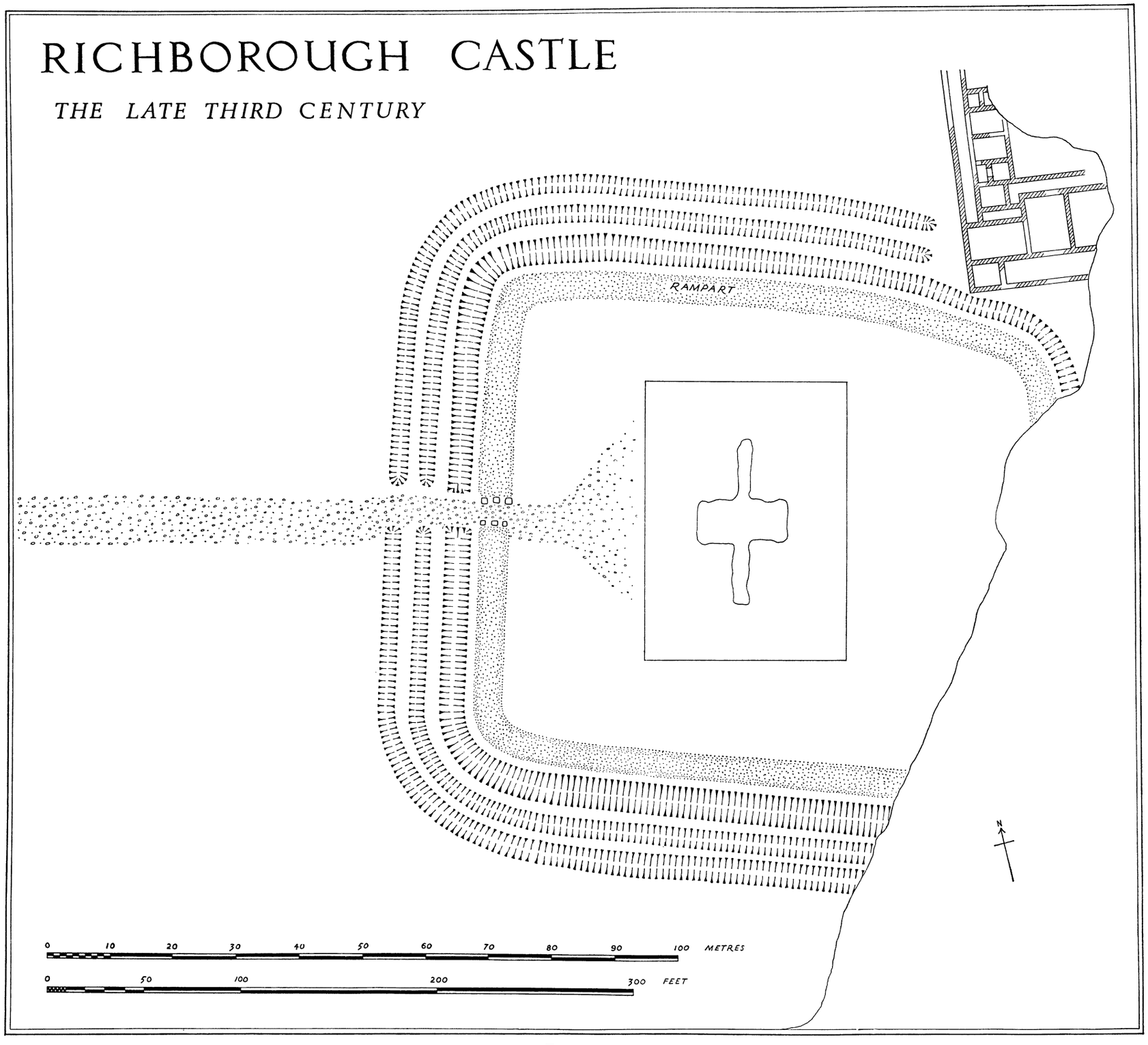

RICHBOROUGH CASTLE
THE LATE THIRD CENTURY
RAMPART
0 10 20 30 40 50 60 70 80 90 100 METRES
0 50 100 200 300 FEET
N

FIG. 32

the area of the fort was divided into two approximately equal parts by Roads 2 and 4, and the west half was divided again by the main east–west road.

The difficulty of recognizing late-third-century structures within the fort is considerable. Floors and walls were laid above a dark soil and covered by a similar material, and stratigraphy appears to have been discontinuous, frequently difficult to discern and seldom recorded. Where partly sealed deposits were dug the excavator makes it clear that too much reliance should not be placed on isolated coins. Postholes, and even shallow pits, could pass unrecognized under such conditions. It is therefore impossible with certainty to assign the masonry features about to be described to the late third century rather than to the early years of the fourth century.

In the north-east corner of the fort on site III the remains of a small bath block were uncovered.[1] It was roughly built and made use of the walls of earlier buildings over which it was erected. Its simple plan consisted of four rooms, including a combined vestibule and changing room, from which opened a small cold bath and a *tepidarium*. Beyond the *tepidarium* lay a *caldarium*. The building was clearly later than the coin of Tetricus I below it, and continued alterations show that it must have remained in use well into the fourth century. It was undoubtedly used by the garrison, or at least its officers, stationed in the fort and should be compared with a similar structure found by Roach Smith in the south-east corner of the fort at Lympne.

At the junction of the east–west road and Road 2, a small rectangular masonry structure with an eastern projection was uncovered.[2] The main room measured 21 ft. by 16½ ft. and was built of chalk blocks faced with a thick coating of gritty mortar. One coin of Tetricus and one of Claudius II were found below a cobbled layer in front of the projection, which appears to be contemporary with it. The evidence suggests that the building was not earlier than the late third century. To the south of the main east–west road, near the west gate, a larger structure of similar form and construction was excavated.[3] It measured 52½ ft. by 30 ft. and its north projection, possibly a verandah, was 9 ft. 6 in. wide. Detailed examination of the wall foundation showed that the shallow footings of rammed chalk were strengthened by pairs of regularly spaced short vertical piles—a form of construction noted previously in the wide footing along the east side of the fort. Dating is difficult, but pit 69, which cut through the floor level, contained coins up to Valentinian I. After the building had gone out of use a layer of flints was laid down, above which were found more than 200 Theodosian coins, showing that the building had been abandoned before the end of the fourth century. The function of the buildings is difficult

[1] *Richborough III*, 24–25. [2] *Ibid.* 32–33.
[3] *Richborough IV*, 75–76.

to determine, but if they were isolated they may have been the meeting-rooms of military guilds.[1]

Near the north wall of the fort a hexagonal tile-built basin with recessed and curved outer sides was uncovered.[2] As it had evidently held water and had once been served by a pipe, the excavator's suggestion that it was a water tank or fountain seems plausible. Evidence for its date is based solely on the fact that it lay just below the surface and was surrounded by late pottery and coins.

Of the military timber buildings, which must have filled the fort, practically nothing is known. Occasional references to hearths, clay floors and pebble layers are met with in the reports,[3] but it is only in the north-east corner that these features were adequately planned.[4] Here the several periods which are represented cannot be distinguished, but it is possible to recognize approximately the sites of four timber buildings about 25 ft. wide with their long axes north–south, each being separated from its neighbour by an open pebbled area. The exact size, nature and date of the structures cannot be determined, but it is possible that they are barrack blocks. Hearths and other features which may belong to this period are shown on the plan.

Excavation beyond the fort to the south has brought to light several features of late third- or early fourth-century date (fig. 25). The building, 280 ft. south of the fort wall, which was apparently constructed in the Antonine period continued in use well into the fourth century.[5] Further to the south, part of an early-fourth-century inhumation cemetery was uncovered,[6] and still further south two temples were discovered.[7] Both were of the normal Romano-Celtic type, consisting of a central cella surrounded by a rectangular ambulatory wall. Their masonry was similar to that of the two buildings south of the main east–west road within the fort, suggesting a late-third-century date for their construction.

To the west of the temples is the so-called amphitheatre, partly excavated by Rolfe. He discovered that the arena, measuring 200 ft. by 166 ft., was surrounded by a chalk and flint wall thickly rendered with coarse mortar. Three entrances were found, on the north, east, and south sides respectively. The description of the masonry suggests that it resembled that of late-third-century structures elsewhere on the hill, and this is supported by the numismatic evidence, for the published list includes nineteen late-third-century and thirteen fourth-century coins ranging up to Arcadius. The amphitheatre would thus appear to have been constructed at about the same time as the fort, probably as a military *ludus* or arms-training school. An inhumed body, associated with a coin of Constans, was found over the west entrance,

[1] I owe this suggestion to Sir Ian Richmond.
[2] *Richborough I*, 19.
[3] See, for example, *Richborough III*, 33–34.
[4] *Richborough IV*, fig. 21; *II*, pl. XLII.
[5] *Richborough IV*, 78.
[6] *Ibid.* 79.
[7] *Richborough III*, 34–36.

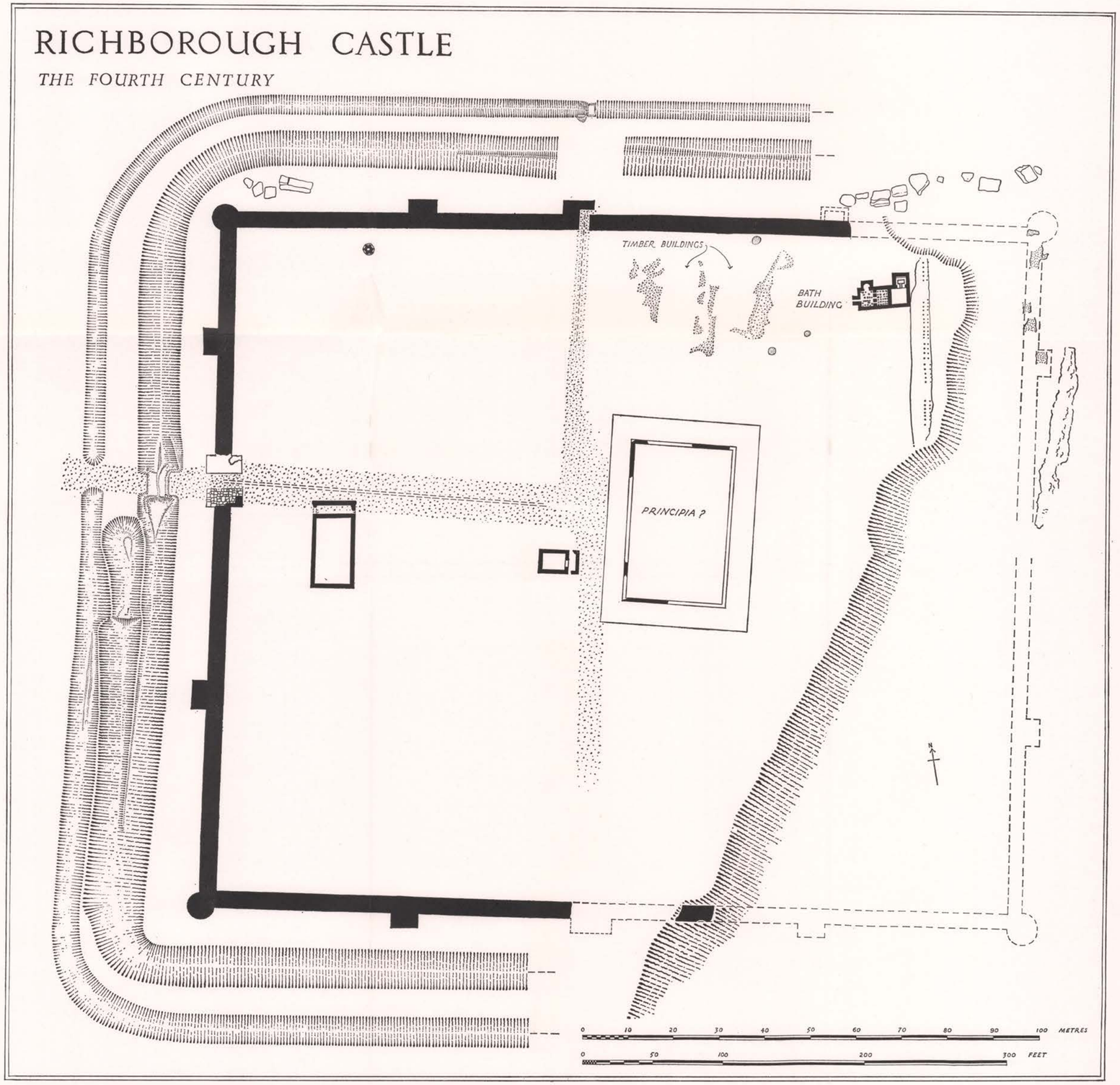

RICHBOROUGH CASTLE
THE FOURTH CENTURY
TIMBER BUILDINGS
BATH BUILDING
PRINCIPIA ?
0 10 20 30 40 50 60 70 80 90 100 METRES
0 50 100 200 300 FEET

FIG. 33

as if the building had gone out of use by this date or soon after. The later coins may be the result of subsequent rubbish tipping.

Few late remains have been found north of the fort, probably because of the lack of intensive excavation. However, two lime kilns were discovered[1] over the Claudian ditches, 288 ft. north of the wall, and traces of a building came to light when a cliff-face was examined. Both features were of late third- or fourth-century date and it is tempting to relate the lime clamps to the actual construction of the fort, but there is no definite evidence for this.

The elements of the Saxon shore-fort have now been described. More is known of this fort than of any other of comparable date, but much was undoubtedly lost in the excavation. The building of the fort can be placed with some certainty in the reign of Carausius. The large numbers of his coins, together with clear evidence for the deliberate demolition of the earlier fort at this time support a building date about A.D. 285. This makes Richborough an integral part of the new system of coastal defences, as reconstituted by Carausius, stretching from Brancaster on the Wash to Portchester in the Solent. What little is recorded of the internal buildings has been summarized above, the most notable feature being the relative scarcity of masonry buildings. The bath block was, of necessity, stone built as was the bath at Lympne, and if the walls built on the Monument foundation belonged to the *principia* this too compares in structure with the masonry *principia* at Lympne.

Far too little is known of other forts of this date to assess the conformity or otherwise of the Richborough layout. However, the presence of the Great Monument foundation and the extension to the east of the fort during building are unique features, and extra-mural buildings, such as the amphitheatre and temples, have not yet been recorded elsewhere.

The Fourth and Fifth Centuries

During the fourth century, and no doubt well into the fifth, the fort continued to be manned as a military base although the coin evidence suggests a period of neglect from A.D. 300 to 330 (pp. 213–4). Structural evidence is slight—probably because the late buildings continued to be constructed of timber—but pits, hearths and layers of fallen daub testify to intensive occupation. Richborough remained important as a port of entry into Britain: in 360 Lupicinus landed here with his troops,[2] and eight years later Count Theodosius used the site as a disembarkation base when, as a result of the concerted barbarian attack on Britain, in 367 he and his troops drawn from the northern boundaries of the Empire arrived in Britain to restore the situation.

[1] *Richborough III*, 36–38.

[2] Ammianus Marcellinus. Lib. xx, 1, 3.

Writing of this event, Ammianus Marcellinus described Richborough harbour as safe and quiet.[1]

The effects of the Theodosian reorganization were felt in many parts of the country, and there is some evidence of rebuilding and troop movement around the southern and eastern coasts. The details of structural work of this period at Richborough are very limited, but the main east–west road was remetalled[2] and the stone building in *Insula* III seems to have been destroyed.[3] The recutting of the inner ditch to the north of the fort wall may belong to this period.[4] Details of the internal buildings, which must have existed, are completely lacking.

The nature of the garrison raises several interesting problems. The *Notitia Dignitatum* states that the *leg II Aug* (presumably meaning part of it) was stationed at Richborough, and since the document seems to have been compiled towards the end of the fourth century it is probably referring largely to the deployment of troops at this time. However, Stevens has shown that some of the entries derive from earlier army lists, and it may be that the reference to Richborough is one of them. Although it is clear that a contingent of the II Legion was stationed at Richborough during the fourth century, the garrison may have been replaced towards the end of that century; it is impossible to go further on the little evidence surviving.

A recent study of late-Roman military bronze work by Sonia Chadwick Hawkes and Gerald Dunning has added considerably to our knowledge of the period.[5] Their work has shown that there is present at Richborough a group of bronze equipment of the type used by soldiers employed by the Romans to police the North-European frontiers. In addition, one actual burial of such a soldier was accidentally found to the north of the fort complete with sword, shield, spear, and a pewter bowl.[6] It may well be that a cemetery of the period existed in this area. It has been reasonably suggested that the soldiers to whom the equipment belonged were brought into the country by Theodosius in 368, and remained to garrison strategic sites, of which Richborough was one. Whether this implies that at this time the II Legion garrison was replaced, or whether it means merely a strengthening of the existing garrison by more troops, must remain unknown. At any event, the official nature of the garrison would have ceased in 410 with the withdrawal of troops from this country. Whether German troops remained after 410, and to what extent they were strengthened by new incomings of mercenaries, is a problem to which no firm answer can be given at present, but the existence of locally made military bronze equipment based on the imported types goes far to suggest that yeomanry continued to guard towns and other

[1] Ammianus Marcellinus. Lib. xxviii, 8, 6.
[2] *Richborough IV*, 59.
[3] *Ibid.* 75.
[4] See the profile on section 60, fig. 12.
[5] *Med. Arch.* v, 1–70.
[6] *Richborough IV*, 155.

strategic points, including perhaps Richborough, well into the fifth century.

The Sixth Century and After

The series of coins found at Richborough and belonging to the period from the late fifth century until the medieval period is almost continuous, though the actual numbers are few. Traditionally, St. Augustine was supposed to have landed here in A.D. 597 and a small chapel is said to have been erected on the spot.[1] Certainly by the late Saxon period a masonry chapel with a rectangular chancel was in existence, and continued in use, with modest rebuilding from time to time, until the seventeenth century. It may well be that the first masonry chapel replaced an earlier timber structure dating back to the seventh century.

The picture which emerges from these scattered remains is one of an anchorage, used frequently by travellers to and from the continent, remaining in operation until such time as silting, and the consequent growth of Sandwich, left the hill isolated among its surrounding marshes. Traditional associations with St. Augustine and the existence of the chapel, which became the parish church, ensured that the site was not entirely abandoned during the Middle Ages.

The beginning of antiquarian interest (early in the sixteenth century), was marked by the visit of Leland who wrote 'Withyn the Castel is a lytle paroche chirch of S. Augustine, and a heremitage. I had antiquites of the heremite the which is an industrius man.'[2]

The History of Excavation at Richborough

By B. W. Pearce, F.S.A.

The series of excavations undertaken from 1922 to 1938 by the Society of Antiquaries and the Ministry (Office) of Works have left but little more to be done inside the stone fort. It has therefore been decided to put on record a history of the excavations which brought its secrets to light. Roach Smith has already noted some of these in his *Antiquities of Richborough, Reculver and Lymne*, but the manuscripts of Mr. George Dowker have recently come to hand and it is now possible to review the whole series of excavations step by step.

It must be remembered that the present ground level of the stone fort is that which obtained when its walls were completed in the late third century, and that when visited by Leland in the time of Henry VIII the ground was much higher and all that could be seen was the stone fort wall within which was the Cross, its top being then roughly on ground level, the Saxon chapel and, on the east face of the cliff, the mouth of a cave which served as the abode of a hermit. Leland also

[1] *Richborough II*, 34–40. [2] Leland, *Itinerary* (ed. Toulmin Smith), iv, 62.

noted a tunnel or cave where 'men had dug for treasure'. This was on the south side of the Great Foundation.

Boys (1792) was the first to discover that the Cross rested on a solid platform and gave the dimensions of the latter as 144 ft. by 104 ft. He noted that it was covered over, to its extreme edge, with a coat of the same mortar with which it was built and strewn with fragments of marble, many of which were moulded. He measured the depth of the flange which he gave as 6 ft., but was not aware of the central mass which goes down much lower.

In 1826 Mr. Gleig and others discovered the central mass. At a point 16½ ft. from the north-east corner he tunnelled below the flange, reached the central block and sank a shaft down to the 22 ft. level at which he was compelled to stop owing to the influx of water. He also explored the hermit's cave referred to by Leland which had got the name 'Smugglers' Hide'. Its entrance had become obliterated, but on its rediscovery was found to be 24½ ft. down, 140 ft. from the north-east inner angle of the Cross. The opening was 5 ft. 3 in. in height and the passage ran inwards and slightly downwards.

In 1843 Mr. Rolfe of Sandwich dug a subterranean tunnel under the flange round a portion of the central mass, exposing its eastern, northern, and part of the western sides. He also tried to penetrate it by an excavation 16 ft. deep on the east.

In 1865 the Revd. Mr. Drake and Mr. George Dowker completed this tunnel and so established the underground passage which for so long was the chief attraction of the site. It was found more recently that in several places sand from outside had begun to seep in, occasionally in some quantity and in 1934 the passage was blocked near its two eastern ends, the eastern arm being left open and two flights of steps constructed to allow access from the surface.

They also examined the surface of the platform and noted at each corner a cylindrical, vertical, sand-filled hole which extended downwards as far as excavations went. It is clear that at the beginning of the building of the foundation long wooden poles were set up at the four corners as guides to the builders, and then removed after the concrete had set. In digging a shaft *c.* 3 ft. from the south-east corner, the excavators found several slabs of Purbeck marble polished on their upper surface and about the thickness of a roofing tile. White marble was also found, much of which was taken away from the site.

Mr. Drake and Mr. Dowker examined the whole surface of the platform and the foundations of the Cross, coming to the conclusion that the Cross was of later date than the rest of the platform. They discovered the remains of the wall on the northern side but suggested that it was of Saxon date. In the south-east interior angle of the Cross they noted that an attempt had been made, probably by treasure hunters, to penetrate into the body of the foundation. They also dug trenches to the north-east of the Cross exposing large blocks of stone,

and graves, the latter from the graveyard of the Chapel of St. Augustine.

That there were other buildings, besides the fort, on Richborough Island is obvious. Roach Smith notes that when the railway was constructed, the workmen cut through the foundations of a Roman house at the bottom of the hill, and later railway operations have probably destroyed still more evidence. A section of the fallen east wall now in the river Stour is said to have been dumped there by workmen at this time. Mr. Boys had noted that in dry seasons the lines of several trackways could be seen in the crops in the field to the west of the main gate. Two of these, M and N, ran southwards of the Roman road and one, L, northwards. In 1887 Mr. Dowker, acting for the Kent Archaeological Society, investigated these. Nothing could be found of N but the track of M, which was 428 ft. from the fort wall, was found to lead towards the amphitheatre and to have been constructed of rammed flint pebbles. Road metal of a similar kind was uncovered along the line of the trackway L, north of the Roman road and 112 ft. west of the fort wall. Much broken white pottery was discovered near this, as well as remains of other buildings built of flint, ragstone and oolite, and a floor paved with tesserae laid on a bed of pebbles. A series of trenches were also dug north of the fort along the slope on the east side. Among material found here was much carbonized wheat resting on a flat bed of sand, and also burnt remains of some buildings.

In 1900 John Garstang conducted a series of excavations on the site, largely in connexion with the fort walls and its entrances. Searching for a postern in the south wall he found a large stone hollowed out to receive a square beam, but no direct evidence of the one-time entrance. Some evidence of the original position of the east wall was obtained which would place the north postern midway between the north and east walls. One of his trenches was rediscovered inside the fort in 1934. He cleared out the south guard chamber of the west gate and examined the surface of the Great Foundation, where he found a small area of marble pavement *in situ*, connecting this with the fragmentary walls still standing. Another interesting piece of marble was a slab inscribed /AVIT. Lastly, he came across a silver ingot of the same type as the one illustrated on pl. L, no. 243, but inscribed EX OFFI ISATIS. This is now at Canterbury.

In 1922 the present series of excavations began.

Richborough: the Present State of the Site

By S. E. Rigold, F.S.A.

Consolidation and preparation for display followed closely on excavation and were completed during the 1930's. Any subsequent work has been in the nature of maintenance.

Nearly everything that remains of the defences of the stone fort is now exposed: the outer ditches were completely emptied and turfed in 1930, and the walls, including the footings of the west gate and bastions, are visible to their lowest courses, thus re-creating, as far as pure conservation allows, the *external* aspects of the fort. A short section of the abandoned foundation for the original east wall has been marked out. From the position of the fallen sections of wall, which remain unconsolidated, it would seem that the east wall was re-aligned from the same south-east angle to a forward-set north-east angle, where erosion would have been less imminent. Within the stone fort no consistent ground-level of any period has been re-created, but a representative selection of features of various periods has been laid out, each in a limited environment of its own proper level.

The ditches of the earth fort have been totally excavated except along the escarpment, while the area that they enclose has generally been left at the surface-level of the Great Foundation, which remains stripped of turf, but has proved difficult to consolidate. Thus, building E,[1] which stands to several courses, is exhibited at its proper horizon, partly athwart the banks of the earth fort, and two only of the Claudian granaries, just south of the Foundation, have been lined out in concrete a little above their true floor-level. The burrowings around the Foundation, reopened by Rolfe in the 1840's, remain accessible. Exceptionally, building K1 is lined out on an isolated hump, showing the ground-level of the stone fort, which is also maintained along the eastern fringe, where the chapel has been lined out—perhaps over-confidently.

Between the earth fort and the stone fort the peripheral levels are even more anomalous and the position must be regarded as provisional. The high level remains in the north-west, where the little polygonal structure L is preserved in a box in its proper context, and also in the extensive and still largely unexplored south-western sector and along the south margin. In the north-east corner a not altogether satisfactory attempt has been made to show the second-century house, D, and the bath-block of the stone fort, in superimposition. About the line of the east–west road the high level is only maintained around building K2, which is lined out on a hummock. North of this a short section of the Claudian ditches has been opened and the timber elements of one Claudian granary (B4) have been lined out very precisely. The cellar, N, which was always subterranean, remains in a pit.

Outside the ditches of the stone fort no features are exposed. The amphitheatre still awaits the first excavation since Rolfe and Roach Smith explored it in the 1840's. A general survey, using air-cover, of the whole vicinity of the fort is much needed.

[1] The letters refer to those used to identify the buildings in the guide book published by the Stationery Office.

The small museum, attached to the custodian's house and completed in 1930, is in gradual process of reorganization. It contains a good representation of small finds, the outstanding pieces having generally gone to the British Museum. A proper *musée lapidaire* would be a valuable addition.

The British Fleet

By Barry Cunliffe

It will be seen from the above discussion that the history of Richborough throughout the Roman period is closely bound up with the development of sea power. Since the topic has not been discussed more recently than Atkinson's admirable account of 1933,[1] it has been thought worth-while to reconsider here the evidence for naval activity in the light of recent discoveries.[2]

I

It is clear that throughout the period of military conquest, from A.D. 43–85, the navy served an important role. The elaborate preparations at Gesoriacum (Boulogne) under Gaius in A.D. 40, including the construction of a lighthouse[3] and the amassing of a great invasion fleet,[4] give a vivid insight into the problems inherent in the invasion of the British Isles—problems which had closely tried Caesar almost a century earlier and which were to confront Aulus Plautius when, in A.D. 43, he led the Claudian attack on the Kentish coast. Dio's account of these events[5] describes in some detail the embarkation of the troops, the plan for a three-pronged attack, the troubles at sea and the eventual successful landings. Although the landfalls are not named, archaeological evidence makes it virtually certain that Richborough played a vital part in the early stages of the campaign, first as a bridge-head and later as a vast supply depot in the rear of the campaigning armies. After the initial landings the fleet is unlikely to have remained idle. The advancing troops had to be kept supplied with stores and reinforcements, and to this end new supply bases sprang up around the coasts: at Fingringhoe[6] to serve the XX Legion at Colchester, at Fishbourne[7] and Hamworthy[8] to support Vespasian's

1 Classis Britannica, *Historical Essays in Honour of James Tait* (1933). There is also a brief survey of the evidence in C. G. Starr, *Roman Imperial Navy* (1941), 152–6.

2 I am grateful to Professor S. S. Frere for reading the following account in typescript and for making many helpful comments.

3 Suetonius, *Vit. Cal.* 46: 'in indicem victoriae altissimam turrem excitavit, ex qua ut Pharo noctibus ad regendos navium cursus ignes emicarent.'

4 *Ibid.* 47; Dio 59. 25 2. 5 Dio 60. 19 15–20. 6 *V.C.H. Essex*, iii, 130–2.

7 For a general summary of the first four years' work see B. Cunliffe, *Antiquity*, xxxix (1965), 177–83; also *Antiq. Journ.* xliii (1963), fig. 4; *Antiq. Journ.* xliv (1964), 2; and *Antiq. Journ.* xlv (1965), 2–3.

8 Summarized by G. Webster, *Arch. Journ.* cxv (1958), 57.

forces advancing across the West country, and perhaps at Topsham[1] to supply the garrisons along the southern end of the newly formed Fosse frontier.

In the uneasy quiet which followed the initial consolidation, the navy appears to have remained active. In the Bristol Channel—a region open to Silurian attacks—the presence of naval patrols is indicated by signal stations erected high on the cliffs of the North Devon coasts at Martinhoe[2] and Old Burrow.[3] Excavation has shown that occupation at the latter site was temporary and that it was probably replaced, in about A.D. 55, by the permanent station of Martinhoe.[4] It would be reasonable to suppose that patrols extended well up the Severn estuary, perhaps as far as Aust where traces of pre-Flavian occupation may indicate the presence of another signal post.[5] A naval detachment, capable of patrolling the occupied coastline, would necessarily have been based on a military-controlled port. Such a site may well be situated at Sea Mills, lying in the suburbs of Bristol at the confluence of the Avon and its tributary the Trym, for which a Claudian military origin has been claimed.[6]

Little is known of the part played by the navy in the Neronian campaigns in Britain. It is probable that the fleet was used in the various advances into Wales; and during the aftermath of the Boudiccan rebellion Tacitus mentions[7] the loss of a few ships.[8] In the rather more complete picture of Agricola's campaigns in the north Tacitus tells us that 'The war was pushed forward simultaneously by land and sea, the infantry, cavalry and marines often meeting in the same camps.'[9] The well-known narrative goes on to describe how the navy was also used as a means of reconnaissance—'The coast of that remotest sea was first rounded at this time by a Roman fleet which thus established the fact that Britain was an island. At the same time it discovered and subdued the Orkney Islands, hitherto unknown.'[10]

[1] Evidence of military activity at Topsham is slight, but pre-Flavian pottery and a well-chosen position are suggestive.

[2] A. Fox and W. Ravenhill, *Antiquity*, xxxix (1965), 255–8. [3] *Ibid.* 253–5.

[4] A third signal station of similar form is known in South Devon, above the Exe estuary at Stoke Hill (A. Fox and W. Ravenhill, *Trans. Devon Ass.* 91, 71–82). Excavation has yielded a single sherd of late third- early fourth-century pottery and a late-third-century coin. These finds need not date the construction of the station.

[5] Information from Mr. W. Solley, who kindly showed me the site and the finds.

[6] G. Boon, *Trans. Bristol and Glos. Arch. Soc.* lxxi (1945), 294.

[7] Tacitus, *Annals*, xiv, 39. 'quod postea paucas naves in litore remigiumque in iis amiserat.'

[8] It was possibly Vespasian's awareness of the importance of the navy, based on his British experiences, which led to the drafting of the *Legio II Adiutrix* to Britain. The legion was recruited in A.D. 69 from marines of the Adriatic fleet, and arrived in Britain at the time of an advance north in which an understanding of, if not a participation in, naval support was essential.

[9] Tacitus, *Agric.* 25. 'cum simul terra, simul mari bellum impelleretur, ac saepe isdem castris pedes equesque et nauticus miles mixti copiis.' [10] Tacitus, *Agric.* 10.

II

In the consolidation of the province in the early second century the navy played its part alongside the army. The presence of a *ped(atura) cl(assis) Brit(annicae)* at both Netherby and Birdoswald[1] in the region of Hadrian's wall is demonstrated by building inscriptions, and similar evidence shows that a *vexillatio c(lassis) Britan(nicae)* was at work in the fort at Benwell.[2] It may well be that at this time permanent detachments were based on the forts lining the Cumberland coast, perhaps at Carlisle and Maryport, and at Tynemouth. In Southern Britain and Northern France, where the rarity of good building stone demands the copious production of tiles, the position and extent of naval activities can be gauged from the distribution of their stamped tiles bearing the abbreviations CL.BR., and occasionally CLASSIS. BRIT. The duration of the technique of stamping is difficult to date with precision, but there is no evidence for the existence of stamped tiles before the early second century or after the mid third century.[3] This does not, of course, mean that the fleet was absent from the south in the first century. Indeed, it seems likely that the Channel was continuously policed from the time of the invasion to the end of the Roman occupation.

Since the presence of stamped tiles in quantity is likely to reflect naval activity it is worth considering their occurrence in some detail. The excavations in the late-third-century stone fort at Lympne have brought to light a large number of fragments,[4] all of which appear to have been re-used, suggesting that they came from a nearby structure of earlier date—perhaps an earlier naval base. This view is strongly supported by the discovery, in 1850, of a barnacle-encrusted altar, originally dedicated by *Aufidius Pantera Prefect(us) Clas(sis) Brita(nnicae)*, re-used in the foundations of the east gate.[5] If the commander was the same L. Aufidius Panthera who led an *ala* of lancers on the Danube frontier in A.D. 133,[6] it is probable that the altar was set up in the Antonine period. This would imply not only that a naval base existed at Lympne in the second century, but that it may possibly have been, for a period at least, the headquarters of the fleet in Britain. The abandonment of the original site and its removal to the new position on the hill-slope may well have been caused by a rise in relative sea-level.

[1] *R.I.B.* 1944 and 1945.

[2] *J.R.S.* xxviii (1938), 200; *R.I.B.* 1340.

[3] The only stratified examples known have come from layers of this period in Dover. L. M. Threipland, *Arch. Cant.* lxxi (1957), 29.

[4] Roach Smith, *Richborough, Reculver and Lymne* (1850), 258; and the same author's *The Roman Castrum at Lymne* (1852), pl. vi.

[5] *C.I.L.* vii, 18; and Roach Smith, *The Roman Castrum at Lymne* (1852), 24–27; *R.I.B.* 66.

[6] *Prosop. Imp. Rom.* i, 184 no. 1158: Pflaum, *Les Carrières procuratoriennes équestres sous le haut Empire romain* (Paris, 1960), no. 133.

The existence of a naval base at Dover in the second–early third century now seems certain. Stray finds of stamped tiles from beneath the modern city have been known for many years,[1] and more recently examples have been found in stratified contexts of this date associated with masonry buildings:[2] jetties and wharves have also been discovered.[3] How much is naval and how much civil development is difficult to assess, but there is no reason to assume that both aspects of the occupation did not continue side by side. The two lighthouses on the heights flanking the harbour must also have been an integral part of the naval installations.[4]

The fourth-century fort at Pevensey has also produced fragments of stamped tiles,[5] which might be expected to belong to a naval station of earlier date. The discovery of samian ware and of coins of Domitian, Faustina II, and Marcus Aurelius are an added indication of second-century occupation, but further evidence is wanting. Yet another base may lie between Pevensey and Lympne, at Bodiam Station on the River Rother where five examples of stamped tiles have recently come to light.[6] The site, though now well inland, is thought then to have adjoined an arm of the sea.

The evidence quoted above strongly suggests that the north Channel coast was lined with a string of at least four naval bases in the second and early third centuries, spaced at a distance of between 15 and 20 miles from each other. The possibility that a fifth base lay somewhere in the neighbourhood of Richborough cannot be ruled out. Indeed, a single example of a stamped tile was found during the excavations,[7] but if a base existed here it must have lain outside the excavated area.

Two inland sites have yielded stamped tiles: at Bardown near Ticehurst a single fragment was found associated with iron-working debris,[8] and at Cranbrook large quantities were recovered from a bath building at what appears also to have been an industrial site.[9] The association of stamped tiles with workings such as these is an interesting indication of the range of activities in which the navy was engaged. It may well be that much of the Sussex iron industry was under official control at this time.[10] One further site yielding CL.BR tiles must

1 A. G. J. Amos and R. E. M. Wheeler, *Arch. Journ.* lxxxvi (1929), 47–58.

2 L. M. Threipland, *Arch. Cant.* lxxi (1957), 15–37; and L. M. Threipland and K. A. Steer, *Arch. Cant.* lxiv (1951), 130–49.

3 P. A. Rahtz, *Arch. Cant.* lxxii (1958), 111–37.

4 R. E. M. Wheeler, *Arch. Journ.* lxxxvi (1929), 29–46.

5 L. F. Salzman, *Excavations on the site of the Roman Fortress at Pevensey* (1907), 12–13; and the same author's *Excavations at Pevensey* (1908), 11–12.

6 J. Darrell Hill, *Sussex Notes and Queries*, xv (1960), 190–2.

7 *Richborough IV*, pl. LXXI *b*.

8 I. D. Margary, *Antiq. Journ.* xxxii (1952), 73–74.

9 M. C. Lebon, *Arch. Cant.* lxxvi (1962), lvi.

10 I. A. Richmond, *Roman Britain* (2nd ed. 1963), 158.

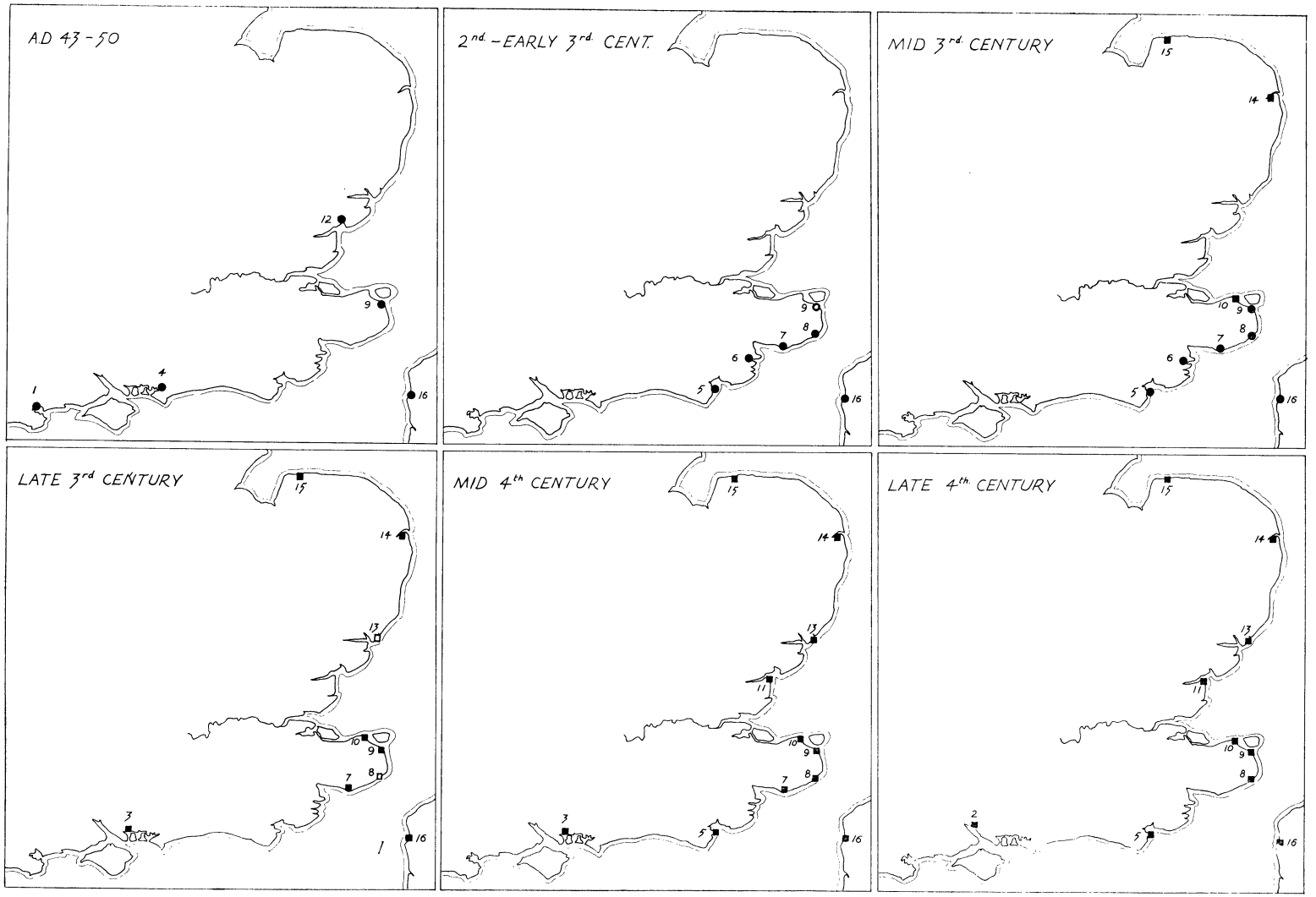


FIG. 34. The development of shore defences in Britain: 1. Hamworthy; 2. Bitterne; 3. Portchester; 4. Fishbourne; 5. Pevensey; 6. Bodiam; 7. Lympne; 8. Dover; 9. Richborough; 10. Reculver; 11. Bradwell; 12. Fingringhoe; 13. Walton; 14. Burgh; 15. Brancaster; 16. Boulogne. Squares represent rectangular masonry forts, circles represent other sites.

be mentioned—the villa excavated by Winbolt on the cliffs above Folkestone.[1] The buildings seem to have been erected in the second century and to have undergone one major phase of reconstruction. Several of the stamped tiles recovered from the excavation were complete and are unlikely therefore to have been reused from another building. The suggestion that this building, with its superb view across the Channel, belonged to the Fleet Commander has much to commend it.

The picture which emerges is one of close naval control exercised over the British Channel coast and extending perhaps to the oversight of certain of the Wealden industries. It should, however, be stressed that the control was not so much of the land but of the sea—a fact which emphasizes the equal significance of the French coast. Although our knowledge of this region is not extensive, it is clear from stamped tiles[2] and inscriptions[3] that Boulogne, the base fitted out by Gaius, remained an important centre. Similar tiles have also been recorded from other French sites including Desures.

III

The Severan campaigns, consequent upon the troubles on the northern frontier at the end of the second century would, no doubt, have been attended by renewed naval activity. It may fairly be supposed that the navy played an important part in the subsequent reconquest of Scotland between 208 and 211, since foremost among its tasks would have been the shipment of food and supplies to the advancing troops. It was at this time that the fort at South Shields on the Tyne was converted into a vast granary, and in about 209 the fortress at Carpow on the Tay, within easy reach of both sea and land communications, was constructed to act as a forward base possibly in conjunction with the more southerly fort of Cramond.[4] The existence of these three sites alone is sufficient to imply active naval participation in the campaigns.

Not long after the northern settlement attention appears to have turned to the east coast, where two new stone-built forts were erected at Reculver,[5] in Kent, and Brancaster,[6] in Norfolk. Both forts were closely similar in structure with rounded corners, internal corner turrets and a rampart—features which, together with the absence of external bastions, serve to distinguish them from later forts in the

[1] S. E. Winbolt, *Roman Folkestone* (1925).

[2] V. J. Vaillant, *Rev. Arch.* 12 (1882), 367–71.

[3] *C.I.L.* xiii, 3540–6, mentioning Roman officers of the fleet.

[4] *P.S.A.S.* xcvi (1962–3), 184–207.

[5] R. F. Jessup, *Antiquity*, x (1936), 188–90; F. H. Thompson, *Arch. Cant.* lxvi (1953), 52–59; B. J. Philp, *Arch. Cant.* lxxi (1957), 167–84; lxxii (1958), 160–6; lxxiii (1959), 96–115; lxxvi (1961), lii–liii; lxxvii (1962), xlvii; lxxviii (1963), xlix–l; lxxix (1964), xlix–l; I. A. Richmond, *Antiq. Journ.* xli (1961), 224–8.

[6] J. K. S. St. Joseph, *Antiq. Journ.* xvi (1936), 449–60.

area. It had long been recognized on typological grounds that they were early,[1] but it was not until a building inscription was recovered from the *principia* of Reculver[2] that a firm date in the period A.D. 220–30 could be assigned to its construction. Although good dating evidence is still lacking from Brancaster, its closeness in form to Reculver strongly argues for a similar date. The erection of the two forts at this time may have been caused by the threat of pirate attacks on the east coast, and it is perhaps significant that they appear to protect two important points of entry—the Thames estuary and the Wash.

The presence of the new coastal forts indicate that the British fleet must have been active during the third century, although little is heard of it. In the reign of Philip, however, an officer of the *Classis Britannica Philippiana* set up an altar at Arles.[3] It was probably at about this time that work began on the fort at Burgh[4] which appears to have been planned and begun in the style of Reculver and Brancaster but, as building proceeded, was modified by the addition of external bastions. Two observations bear out this view: first, the lower part of the bastions are butted up to the wall whilst the upper courses are bonded, and second, Mr. Charles Green in his recent excavations has found evidence to suggest that the internal corner towers were unfinished.[5] This curious transitional example of military architecture should, on typological grounds, be assigned to the middle of the third century, but it must be emphasized that no direct dating evidence for its origin has yet come to light. Whether or not it is the only fort of its period is difficult to say. Bradwell in Essex[6] has several structural similarities, but in the absence of further direct evidence and in the light of the coin histogram discussed below it is at present best assigned to a fourth-century date. Excavation alone will tell.

The erection of Burgh must soon have been followed, in the third quarter of the third century, by the construction of the one-acre fortlet around the Richborough monument,[7] which by now presumably functioned as a lookout and signal station. The implications are that the pirate attacks were becoming more serious. So serious, in fact, were they that in 285 Maximian commissioned Carausius 'to pacify the sea in the region of Belgica and Armorica which Franks and Saxons were raiding'.[8] That Carausius was successful is indicated by the fact that at the end of the year Diocletian was able to assume the title *Britannicus Maximus*.[9] Carausius' position was strong but for

[1] R. G. Collingwood, *The Archaeology of Roman Britain* (1930), 54; R. E. M. Wheeler, *V.C.H. Kent*, iii (1932), 19–24; J. K. S. St. Joseph, *Antiq. Journ.* xvi (1936), 451.

[2] I. A. Richmond, *Antiq. Journ.* xli (1961), 224–8. He suggests a Caracallan date, but for a more recent opinion see *J.R.S.* lv (1965), 220.

[3] *C.I.L.* xii, 686.

[4] A. J. Morris, *Proc. Suffolk Inst. of Arch.* xxiv (1948), 102–11. C. F. C. Hawkes and A. J. Morris, *Arch. Journ.* cvi (1949), 68.

[5] Information from Mr. Charles Green.

[6] *V.C.H. Essex*, iii, 52–55.

[7] Summarized in this volume p. 244–5.

[8] Eutropius ix, 21.

[9] *C.I.L.* vi, 1116.

political and personal reasons he sailed from his base at Boulogne in 286 and set himself up as Emperor of Britain.[1]

It is generally assumed, with good reason, that it was Carausius who re-shaped the hitherto haphazard coastal defences into a unified and consolidated system. The existing third-century east coast forts of Brancaster, Burgh and Reculver continued to be occupied, but the south coast with its antiquated second-century naval bases had to be more drastically modified. It is clear, too, from the nature of his commission[2] that the war with the pirates had spread through the straits of Dover and was by now menacing the southern coasts of Britain, thus making refortification all the more necessary. Carausius met the onslaught by replacing the old installations at Richborough, Lympne, and possibly Dover, with new masonry forts and by constructing a fort in similar style at Portchester on a virgin site. Since reasons will be put forward later for believing that Pevensey is of fourth-century date, no fort of Carausian date is known between Lympne and Portchester—a distance of 100 miles. Tactically this is nonsense and we can only assume that more sites remain to be found along the Sussex coastal plain or, more probably, that coastal erosion has removed them. The same comments apply to the large gaps in the east coast system and it is no surprise to remember that the fort at Walton, Suffolk, on dry land 250 years ago, is now beneath the sea.[3]

The evidence for the Carausian date of Portchester, Lympne, and Richborough must be briefly summarized. At Portchester[4] two coins, one of Saloninus and one of Gallienus, were found in construction levels giving a *terminus post quem* of A.D. 268. The coin histogram (fig. 35) strongly suggests that the earliest intensive occupation fell in the reign of Carausius. At Lympne,[5] however, no stratified coins were found associated with building levels, but the coin histogram is closely similar to that of Portchester and carries with it the same implications. The dating of Richborough[6] is based on the absence of Carausian coins from the filling of the earth fort ditches (thought to have been filled immediately before the stone fort was constructed), and their abundance in occupation layers belonging to the stone fort. Short of very large-scale excavations it is unlikely that better evidence will ever become available.[7]

The three Carausian forts are basically similar in size, but all differ considerably in detail—principally in the construction of gates and

[1] Eutropius ix, 21.

[2] *Ibid.*, 'to pacify the sea in the region of Belgica and Armorica.'

[3] *V.C.H. Suffolk*, i, 287–91.

[4] B. Cunliffe, *Antiq. Journ.* xliii (1963), 227; and xlvi (1966).

[5] Roach Smith, *The Roman Castrum at Lymne* (1852), 31–33.

[6] Summarized in this volume, pp. 245–9.

[7] Mr. S. E. Rigold, F.S.A., has, in conversation, thrown some doubt on the Carausian origin of these forts. He points out that there is nothing in the coin evidence to argue against a pre-Carausian construction date, possibly during the reign of Probus.

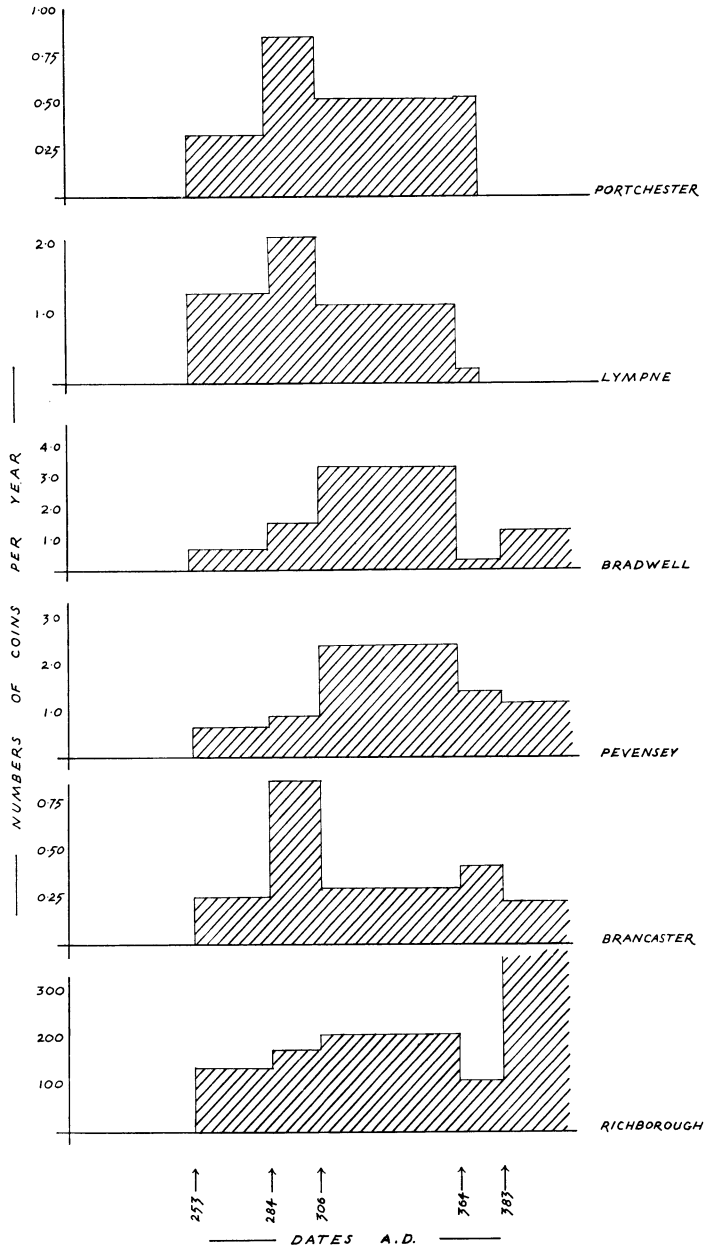


FIG. 35. Comparative coin histograms from some of the shore forts

bastions. Why this is so is not apparent, but it need imply no more than the loose interpretation of generalized building instructions at a time when rigid standardization was breaking down. Little can be said of the arrangement of buildings within the forts. The *principia* in Lympne is known in plan,[1] and that in Richborough is thought to have been built on the foundation of the monument. Both of these forts also contained small internal bath buildings.[2] Portchester and Richborough have yielded traces of regularly spaced timber buildings divided by gravelled streets,[3] and Richborough contained two masonry structures which may have been guild rooms.[4] In spite of variations the general impression gained is one of order and permanence.

If the south coast forts can be assigned to Carausius it remains to consider when they were built. Two possibilities emerge: either they were put up in A.D. 285 when he was responsible to the Emperor or after 285 after he had set himself up as ruler of Britain. White has put forward the view that Carausius erected the forts not as a protection against pirates, but as a defence against attacks organized by the central government after his usurpation.[5] The theory is attractive, but is totally beyond proof. There is nothing inherently difficult in supposing that all of the forts were erected in the single year 285 and the demonstration that Carausius was responsible for the construction of fewer forts than White has supposed, together with the discovery of a similar structure on the Belgian coast at Oudenburg,[6] tend to undermine White's argument which is based largely upon the uniqueness of the Carausian achievement.

The subsequent history of the usurper's empire is well known.[7] In the winter of 288 Maximian's troops were constructing a fleet in the river mouths of Western Gaul and in the following spring it put to sea, only to be severely damaged by a storm and finally defeated by Carausius[8] who had considerably increased his own strength by enlisting barbarians and building more ships. The setback was so great that Maximian and Diocletian reluctantly recognized Carausius as Augustus over Britain and part of Western Gaul, and left him in control of the Channel.[9] When, in 293, Rome was sufficiently strong to turn once more to the problem of the west, Constantius Chlorus

[1] Roach Smith, *The Roman Castrum at Lymne* (1852), 19.
[2] Roach Smith *op. cit.* (1852), 21, and *Richborough III*, pl. XLII.
[3] *Richborough III*, pl. XLII; and *Antiq. Journ.* xlvi (1966), 43.
[4] This volume pp. 246–7.
[5] D. A. White, *Litus Saxonicum* (1961), 28–30.
[6] J. Mertens, 'Oudenburg et le Litus Saxonicum en Belgique', *Helinium*, ii (1962), 51–62.
[7] The best descriptions are: D. Atkinson, 'Classis Britannica', *Historical Essays in Honour of James Tait* (1933), 7–10; D. A. White, *Litus Saxonicum* (1961), 19–32; and R. A. G. Carson, *J.B.A.A.* xxii (1959), 33–40.
[8] *Paneg. Lat.* viii (V), 12.
[9] Eutropius ix, 22.

was given the task of regaining the provinces.[1] His first action was to remove the enemy from Gaul, which he accomplished by defeating the garrison at Boulogne.[2] It was in this year that Carausius was murdered by his lieutenant Allectus, who in turn took control of Britain.[3] After three more years of preparation and ship-building Constantius was ready and his fleet sailed in two divisions for Britain. One section, commanded by Asclepiodotus the praetorian prefect, outflanked Allectus' fleet and landed somewhere on the Solent shore. The troops disembarked and marched on London but before reaching the town they met Allectus and his army, whom they fought and defeated. Frankish mercenaries from the usurper's shattered force then fell back on London, but they were met by a second detachment of Constantius' fleet and annihilated.[4]

The history of the period 287–97 emphasizes the great importance of supremacy at sea for the maintenance of power in the western provinces at this time. The land troops, though necessary, were not infrequently subsidiary to an effective navy.

IV

In the absence of large-scale excavation it is difficult to assess the nature of the shore-forts in the early fourth century. Without stratigraphical evidence and without close pottery dating the only approach to the problem is through the distribution patterns of coins. A comparison of the coin histograms from Portchester and Richborough (fig. 36) underlines a considerable scarcity of issues minted in the early part of the century—a lack far greater than can be explained in terms of normal circulation. It can only imply that the sites in question were not intensively occupied at this time. How widespread this phenomenon is cannot be gauged without far more evidence, but it might be suggested that, following his victory, Constantius would have been wise to have pruned considerably the force previously stationed by the usurpers in coastal regions. If his military reforms were as successful as they appear to have been, a large and potentially dangerous navy based on Britain would have been unnecessary. He might have felt safer with the defence of the Channel entrusted to loyal troops stationed in continental ports within easy reach of the central administration.

Towards the middle of the fourth century there appears to have been renewed activity along the defended coastal region. The only structure which can definitely be assigned to this period is the fort at Pevensey,[5] which differs from the others of the series in that its

[1] Victor, *De Caess.* 39, 30.

[2] *Paneg. Lat.* viii (V), 6–7.

[3] Eutropius ix, 22.

[4] *Paneg. Lat.* viii (V), 16–18. An alternative explanation of these events has been put forward by D. E. Eichholz, 'Constantius Chlorus' invasion of Britain', *J.R.S.* xliii (1953), 41–46.

[5] No detailed account of the Roman fort at Pevensey has yet been published. The

walls follow the irregular contour of the hillock on which it is built. Bushe-Fox first put forward the view that Pevensey was constructed towards the middle of the fourth century on the basis of the coin evidence.[1] Although subsequent excavations have brought to light

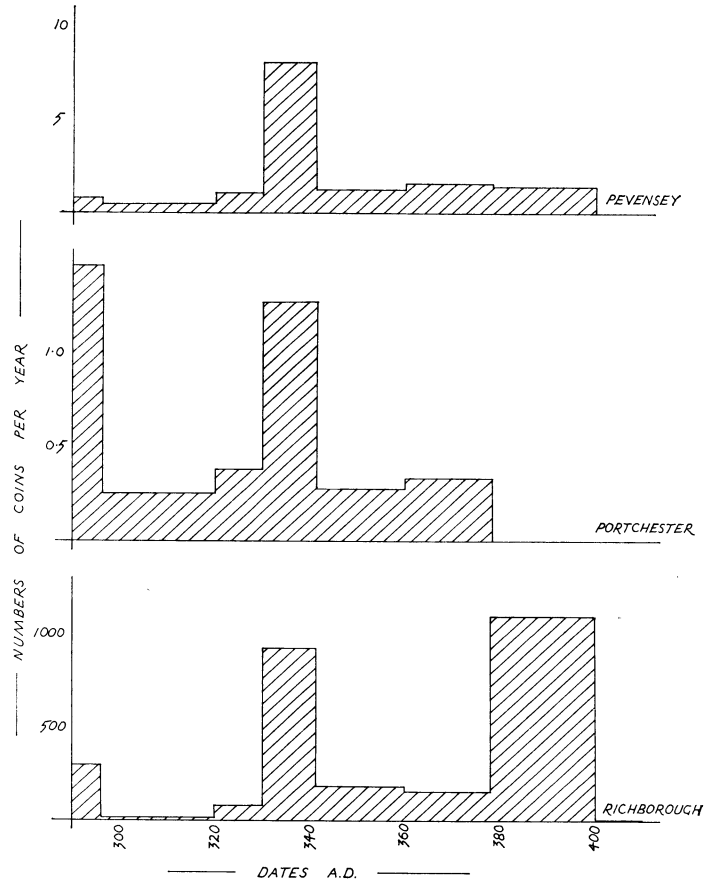


FIG. 36. Comparative coin histograms from some of the shore forts

many more, they only support the implications of the first series which can forcefully be demonstrated by comparing the Pevensey histogram with those from the Carausian forts of Portchester, Lympne, and Richborough. Moreover, a coin of 330–5 was found in a beam socket 3–4 ft. under the thickness of a bastion.[2] Admittedly it could possibly

excavations of 1906–8 were described fully in two reports published by Salzman (*opp. citt.* 1907 and 1908), and the details discovered during the Ministry of Works' conservations in 1930–1 were referred to by Bushe-Fox in *J.R.S.* xxii (1932). The large-scale excavations carried out in 1936–9 have not yet been published, but the present writer has been able to make use of the manuscript records.

[1] J. P. Bushe-Fox, *J.R.S.* xxii (1932), 70.

[2] *Ibid.* 67. Not 'suspiciously near the base of a wall foundation' as White says, *Litus Saxonicum*, 41.

have reached that position after the beam had rotted, but in the light of the general coin pattern this is special pleading.

Turning to the other forts, it might appear on coin evidence alone that the construction of Bradwell[1] should be assigned to this period. Typologically, however, it would seem to be earlier: excavation is needed to examine this point. At both Portchester and Richborough[2] there is clear evidence of a sudden increase in coinage after about 330. Structural evidence for the period is sparse, but at Portchester the remetalling of a road after a phase of squalor may point to a re-garrisoning at this time.

From this limited evidence it seems that, after a period of virtual abandonment in the early part of the fourth century, the shore fort system was thoroughly overhauled resulting in the renewed occupation of some forts and the construction of at least one new one, possibly two. The cause of this activity is not certain, but it is tempting to associate it with the visit of the Emperor Constans in the winter of A.D. 342[3] and to suggest that one of his tasks may have been the total reorganization of the coastal defences in the face of increasing barbarian raids. It may well have been at his hand that the control of the fleet was placed under the command of the Count of the Saxon Shore.

No mention has yet been made of coastal defences along the shores of western Britain. The evidence is sparse, but the forts of Caergybi (Holyhead)[4] and Cardiff[5] are usually considered to have been constructed in the latter part of the Roman period, although precise dating evidence is not forthcoming. Cardiff, in particular, is very similar in form to the south coast forts and its coin series shows it to have been occupied until the reign of Gratian. It seems likely that the refurbished fort of Segontium also played a part in coastal defence and the phase of large-scale rebuilding begun there in 340 or soon afterwards might well have been initiated by Constans.[6]

The presence of a fleet in the Bristol Channel in the fourth century is indicated by the inscribed mosaic found at Lydney,[7] dedicated by Flavius Senilis whose abbreviated rank, PR REL, is thought to be *pr(aepositus) rel(iquationi classis)*—the officer in charge of a naval supply depot. Where such a depot was situated is unknown, but it may be remarked that a considerable quantity of late third- and fourth-

[1] *V.C.H. Essex*, iii, 52–55.

[2] See the remarks made by Mr. Richard Reece in this volume pp. 213–4.

[3] *Cod. Theod.* xi, 74, 1. Firmicus, *De Error. Profan. Relig.* 28, 6.

[4] R. E. M. Wheeler, *Y Cymmrodor*, xxxiii (1923), 98–101.

[5] J. Ward, *Arch. Camb.* (1913), 159; and R. E. M. Wheeler, *Antiq. Journ.* ii (1922), 361–70.

[6] R. E. M. Wheeler, *Y Cymmrodor*, xxxiii (1923), 70–89. For Segontium II (the lower fort), *ibid.* 95–98 and *J.R.S.* xliii (1953), 104.

[7] R. E. M. Wheeler and T. V. Wheeler, *Excavation of the Prehistoric, Roman and Post-Roman site in Lydney Park, Gloucestershire* (1932), 102–3; and *C.I.L.* vi, 137.

century material has been found at Sea Mills,[1] situated in an ideal position on the north bank of the Avon. Other naval garrisons on the western coast would have been necessary if the coastal defences were to function successfully. Successive military remains of the second, third, and fourth centuries at Lancaster[2] may be connected with naval activity, and it can only be supposed that further sites on the Welsh, Cheshire, and Lancashire estuaries remain to be discovered.

V

The concerted barbarian attack on Britain in A.D. 367, in which the *comes maritimi tractus* was killed,[3] caused chaos as far south as the Thames, but by 369 Richborough was peaceful enough to allow Count Theodosius to land there without incident and to disembark troops brought from the northern frontiers of Europe to restore order in Britain.[4] The Theodosian restoration has left its mark on the coastal defences. The northern end of the system was extended along the Yorkshire coast by the addition of signal stations at Huntcliffe,[5] Goldsborough,[6] Ravenscar,[7] Scarborough,[8] and Filey,[9] each consisting of a tall masonry tower surrounded by a stone wall and ditch, and all linked by roads to the inland fort at Malton. Their function was to act as an early warning system against the approach of raiders.

Most of the existing coastal defences seem to have continued in use largely unchanged throughout the ensuing military reorganization, but there were several important modifications. On the Solent at this time, Portchester seems to have been replaced by a new fort at *Clausentum*.[10] The evidence for this view lies in the fact that the coin series of Portchester ends abruptly with the two examples of the *Securitas Reipublicae* issue of Valens and one *Gloria Novi Saeculi* type of Gratian. Out of a considerable number, no coin need date to after 370. At *Clausentum*, on the other hand, a badly corroded coin of Valens came from a layer immediately preceding the construction of the fort wall.[11] The new fort was built on the tip of a promontory projecting into Southampton Water and was protected by a masonry wall following the edge of the promontory on three sides and cutting across it on the fourth.[12] The wall originally bore projecting bastions and

[1] In the Bristol City Museum. Recent work by the Museum has uncovered remains of this date.
[2] *J.R.S.* xli (1951), 124 and *J.R.S.* xlix (1959), 106–8.
[3] Ammianus xxvii, 8.
[4] Ammianus xxviii, 3.
[5] W. Hornsby and R. Stanton, *J.R.S.* ii (1912), 215–32.
[6] W. Hornsby and J. D. Laverick, *Arch. Journ.* lxxxix (1932), 203–19.
[7] F. Haverfield, *J.R.S.* ii (1912), 210–12.
[8] A. Rowntree (ed.), *History of Scarborough* (1931), 40–50.
[9] F. Haverfield, *J.R.S.* ii (1912), 212–14.
[10] B. Cunliffe, *Antiq. Journ.* xliii (1963), 227.
[11] D. M. Waterman, *Antiq. Journ.* xxvii (1947), 157.
[12] M. A. Cotton and P. W. Gathercole, *Excavations at Clausentum, Southampton*, 1951–4 (1958). For a reinterpretation see I. A. Richmond, *J.R.S.* lii (1962), 271–2.

the land approach was protected by a further bank and ditch.[1] The reason for the change of siting from Portchester to *Clausentum* may be explained by the fact that, the combination of certain winds and tides makes it exceedingly difficult for small craft to reach the Solent from Portsmouth Harbour: *Clausentum* is better placed.

Most of the other coastal forts have produced post-Theodosian coins, showing that they remained in use for some time after the restoration. The collection of coins from Lympne, however, is very similar to that from Portchester.[2] Of the 153 identified the latest are recorded as one of Gratian and one of Valens, and since both could have been in circulation before 369 the series is consistent with the view that the fort was abandoned by Theodosius. This point is further emphasized by the comparison of the Lympne and Portchester coin histograms with those of the other forts. Admittedly, 108 coins were 'illegible from decomposition', and it could be argued that among these may have been issues dating to after 369. This is so but the 60 per cent. of the total that were recognizable surely represent a fair sample. If, then, we can assume the abandonment of the stone fort at Lympne it is necessary to look for an explanation. This may well be that the rise in sea-level, known to have occurred in the fourth century, activated the springs in the Gault clay slope on which the fort stands and initiated the series of landslips which have since so ruined the fort walls.

A further insight into the nature of the coastal defences is provided by Chapter XXVIII of the *Notitia Dignitatum* which lists, under the command of the *comes litoris Saxonici*, nine coastal sites and their garrisons.[3] These are:

Numerus Fortensium at Othona (Bradwell).
Milites Tungrecani at Dubrae (Dover).
Numerus Turnacensium at Lemanae (Lympne).
Equites Dalmatae Branodunenses at Branodunium (Brancaster).
Equites Stablesiani Garrianonensium at Garrianonum (Burgh).
Cohors prima Baetasiorum at Regulbium (Reculver).
Legio secunda Augusta at Rutupiae (Richborough).
Numerus Abulcorum at Anderidos (Pevensey).
Numerus exploratorum at Portus Adurni (Walton or Portchester).

It is now generally assumed that the *Notitia* was constructed from information contained in 'returns' sent at various times during the fourth and early fifth centuries to the office of the eastern *primicerius notariorum*, and that the return upon which the above list was based gave the deployment of troops after the Theodosian reorganization. There are, however, some minor points of conflict between the latter

[1] *J.R.S.* l (1960), 233.
[2] Roach Smith (1852), 31–32.
[3] For a discussion of the *Notitia*, see C. E. Stevens, *Arch. Journ.* xcvii (1940), 125–54, and D. A. White, *Litus Saxonicum* (1961), 45–55.

view and numismatic evidence. These may be summarized as follows: (*a*) If Chapter XXVIII refers to a period after 369, and if the Portchester coin series implies an abandonment by that time, *Portus Adurni* is not Portchester Castle. This point can, however, be explained—as Stevens has done[1]—by equating *Portus Adurni* with Walton Castle. (*b*) If we are forced to accept that the absence of post-369 coins at Portchester automatically means that the fort is not represented on the *Notitia* list, what of Lympne which has produced an almost identical coin pattern and does appear on the list? This anomaly could be explained by supposing that the site of the fort was moved, still retaining its original name, but since no suitable new site is known the argument lacks conviction. (*c*) If the new wall at *Clausentum* represents a shore fort superseding Portchester in the Theodosian period, why does its name not appear on the list (unless, of course, it is *Portus Adurni*, in which case Walton Castle is without mention)? A simple answer to this is that the wall at *Clausentum* is not a shore fort but simply a town defence, but if so was the entire south coast west of Pevensey without protection after 369?

Even though each of the above points can be explained by devious means, together they demand a reconsideration of the evidence upon which the post-369 date of Chapter XXVIII is based. The main supports to the theory are: first, the *numerus exploratorum* were thought to have been the *exploratores* whose existence on the northern frontier was brought to an end by the invasion of 367.[2] There is, however, no reason why they should not have moved south long before this time. Furthermore, *exploratores* are also known on the Rhine whence the British shore unit might have come at any time in the fourth century. Second, the presence of the *milites Tungrecani* is said by White to have been attested in Gaul by an inscription dated to 365.[3] This is presumably the inscription found at Laupersdorf in Switzerland, which records building operations carried out by a *pedatura Tungrecanorum seniorum*.[4] It is undoubtedly fourth century, but is otherwise undated. Professor Eric Birley has pointed out to me that although Ammianus mentions *Tungrecani juniores* and *Divitienses* together in the East in 365,[5] and later gives *Tungrecani* and *Divitienses* (presumably the senior units) at Châlons-sur-Saône in 367,[6] he sees no reason to equate either of these field units with the unit coming under the Count of the Saxon Shore. Third, it is argued that the *equites Stablesianorum* were in North Brabant in the middle of the fourth century.[7] Although it is true that a helmet labelled *Stablesia* was found in Holland with coins of Constantine I,[8] it is not necessarily the British unit, and even if it is, it could have arrived in Britain long before 369.

In summary, there is no good reason for dating the Notitia shore-

[1] Stevens, *op. cit.* 138, n. 2.
[2] *Ibid.* 137–8.
[3] White, *op. cit.*, 52–53.
[4] *C.I.L.* xiii 5190.
[5] Ammianus xxvi 6, 12.
[6] Ammianus xxvii 1, 2.
[7] White, *op. cit.*, 53.
[8] *A.E.* 1927, 153.

fort list to after 369 on internal evidence, indeed it could even be argued that the *milites Tungrecani* serving as *limitanei* on the British coast were later to become the *Tungrecani seniores* whom Ammianus places in Gaul in 367. That they were now *comitatenses* would support the view, as such a promotion was normal in the fourth century. In this context it should be pointed out that at least five of the Saxon shore units listed as *limitanei* in Chapter XXVIII appear to have been upgraded to the field army listed in Chapter VII.

If we can accept that the archaeological evidence demands, and the documentary evidence allows, that the Notitia list refers to the situation before 369 the problem arises as to which period it actually represents. Since *Anderidos* (which must be Pevensey) is listed as a fort, and since we have argued above that the construction of the Pevensey defences post-dates 330–5 and can possibly be assigned to the time of Constans' arrival in 342, it follows that the Notitia list represents the condition of the coastal garrisons between 342 and, say, 367 at the latest. This dating would allow Portchester to be *Portus Adurni*,[1] the shore fort of Lympne to be *Lemanae* and would explain why *Clausentum* is not mentioned. In fact, it is consistent with all the evidence at present available to say that the Notitia list probably describes the situation in Southern Britain after the visit of Constans and before the barbarian onslaught in 367.

VI

After the work of Theodosius, little can be deduced as to the fate of the shore defences, but rebuilding in good style is suggested by the discovery of two tiles from Pevensey stamped HON AVG ANDRIA[2] which presumably reflect the work of Stilicho between 395 and 399. Most of the forts, except Lympne and Portchester, have produced coins lasting to the early years of the fifth century, but this need no longer imply strict military use—the shore forts, like those on Hadrian's wall, may well by this time have become places of refuge for civilians and whole families, defended only by a small militia. One of the last references we have to naval activity is the description, by Vegetius,[3] of the small patrol boats called *pictae*, made light for speed and camouflaged sea-green, whose task it was to keep the main fleet informed of the enemy's positions. The picture is one of unexpected efficiency, but how long it lasted cannot be known.

[1] If we accept *Portus Adurni* as Portchester it implies that Walton Castle was either not built until later or that it was not garrisoned at this time. Perhaps by the middle of the fourth century it had already begun to collapse and had been replaced by Bradwell.

[2] Salzman, *op. cit.* (1907), 13.

[3] Vegetius, *De Arte Militari*. iv. 37.

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(Photo by J. K. St. Joseph, Crown Copyright)

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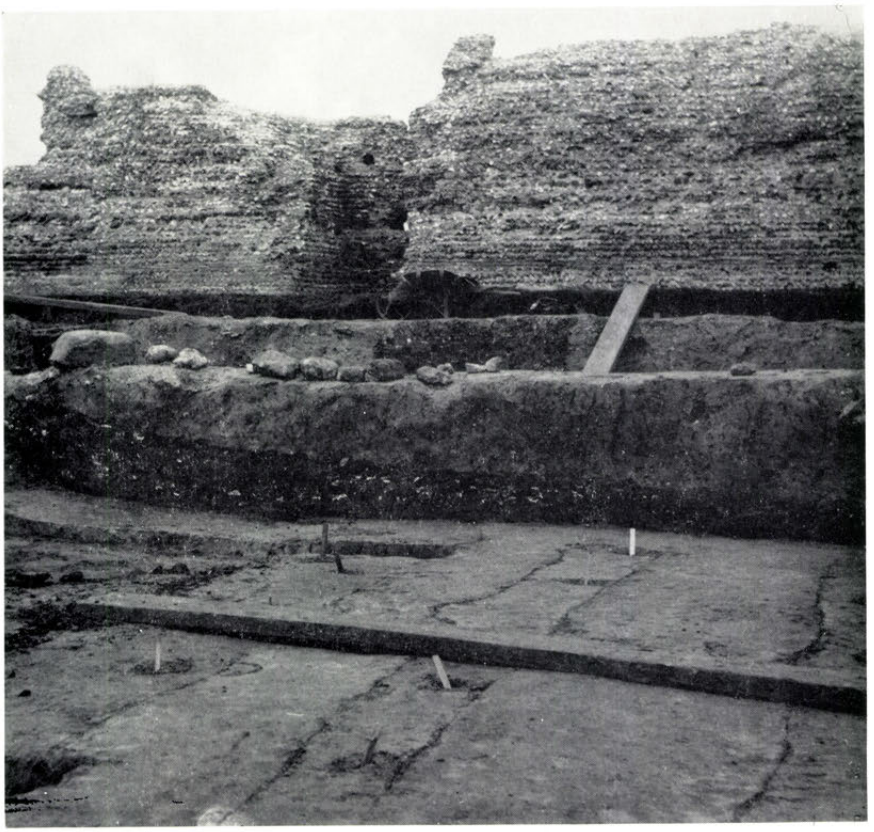

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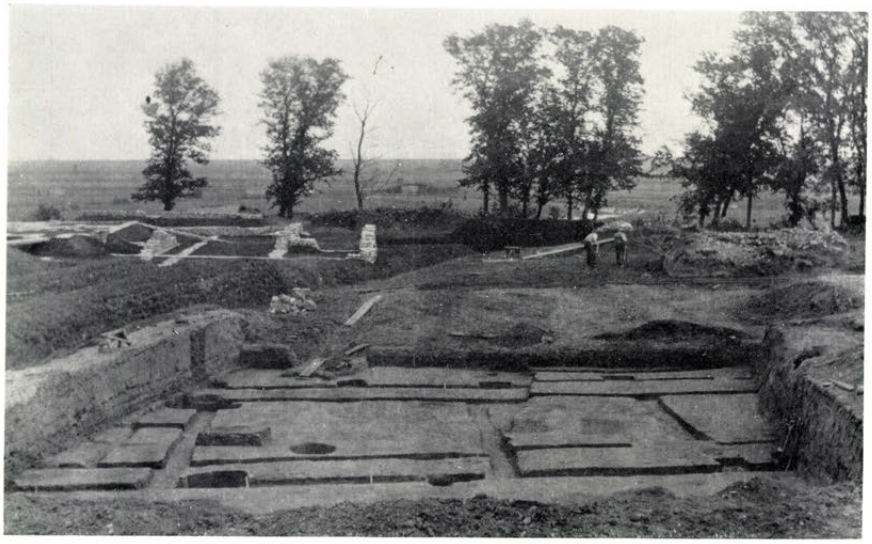

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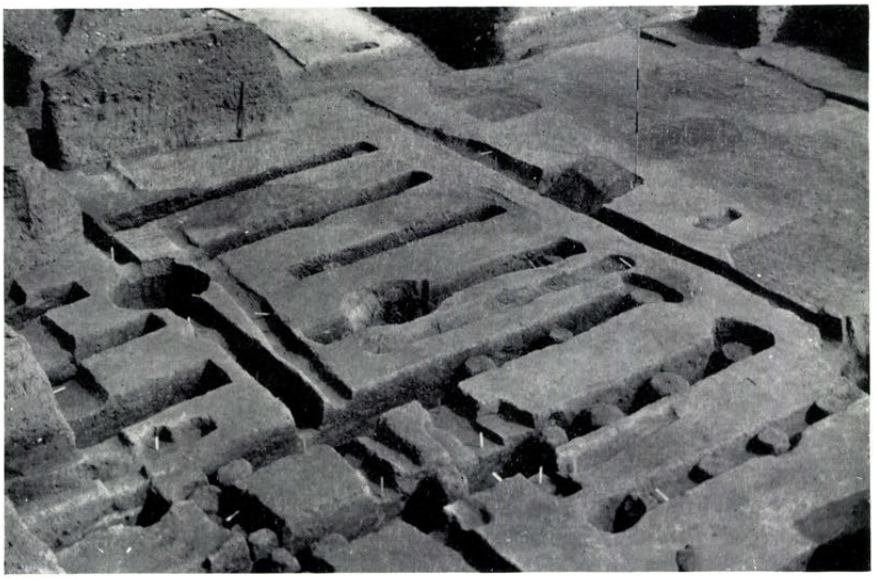

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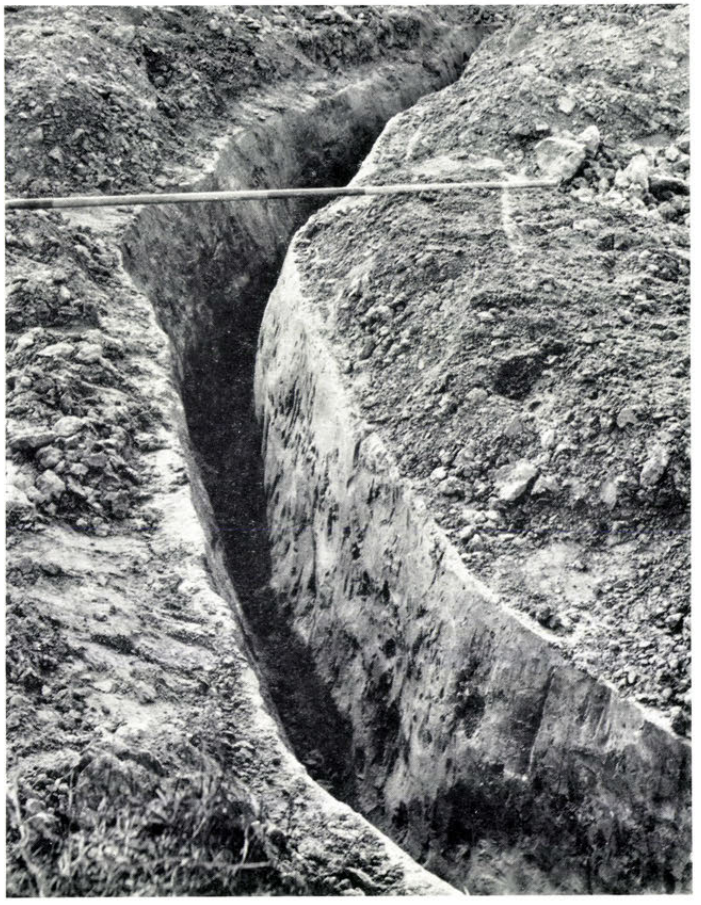

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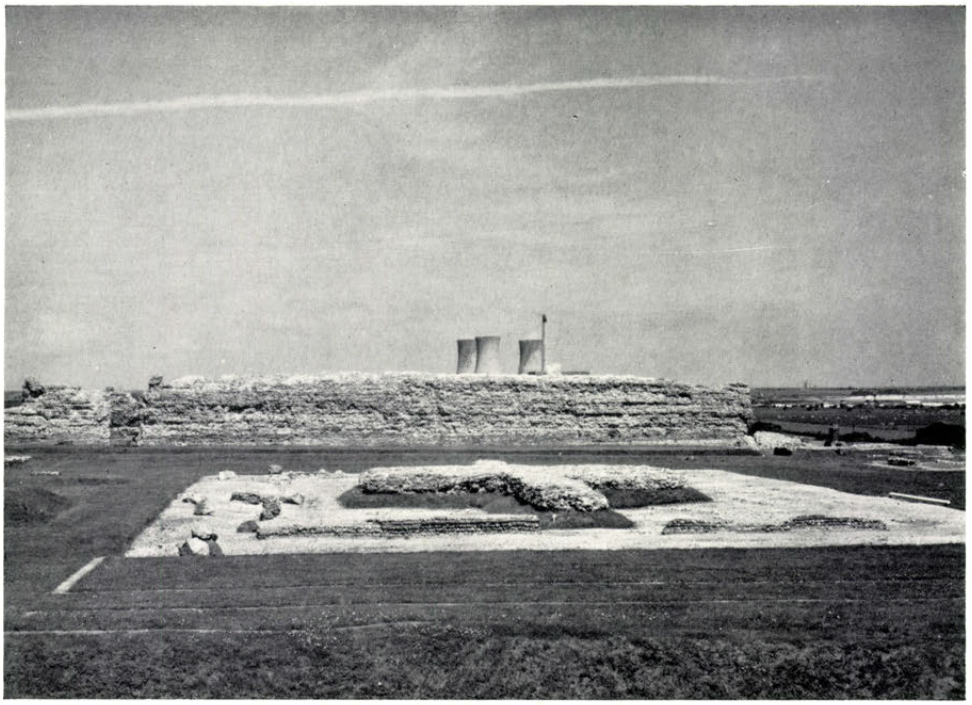

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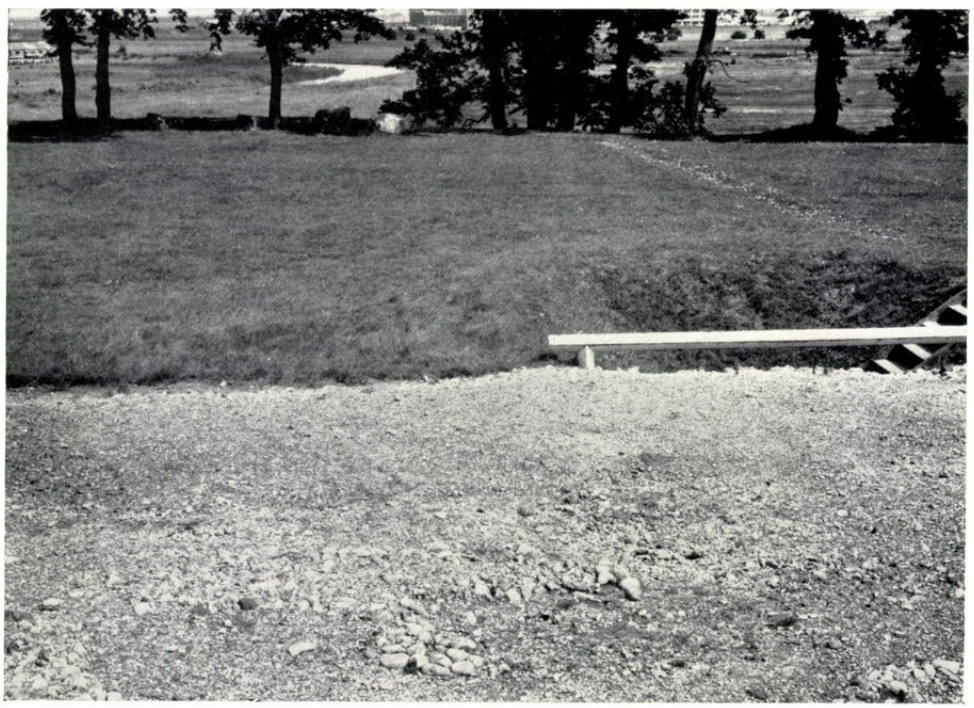
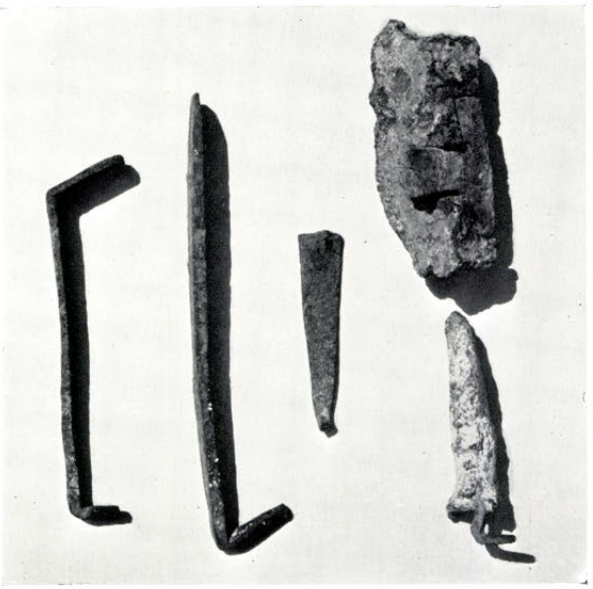
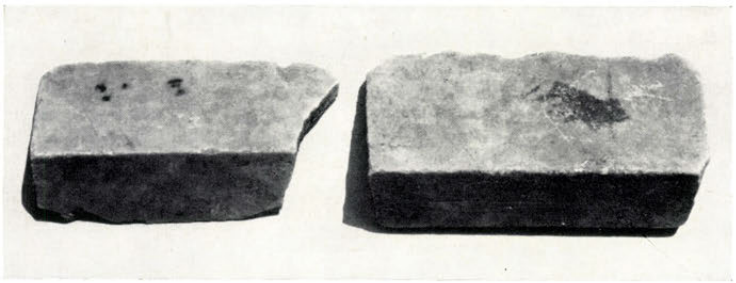


b. The surface of the foundation on the east side, p. 4.

a. Fragment of an engaged column of greensand ($\frac{1}{6}$).



b. Bronze cramps ($\frac{1}{4}$), p. 64.



a

c

b

e

d

Marble fragments from the Monument: *a*. no. 2; *b*. no. 3; *c*. no. 4*a*; *d*. no. 5; *e*. no. 6, ($\frac{1}{4}$), pp. 65–66.

a

b

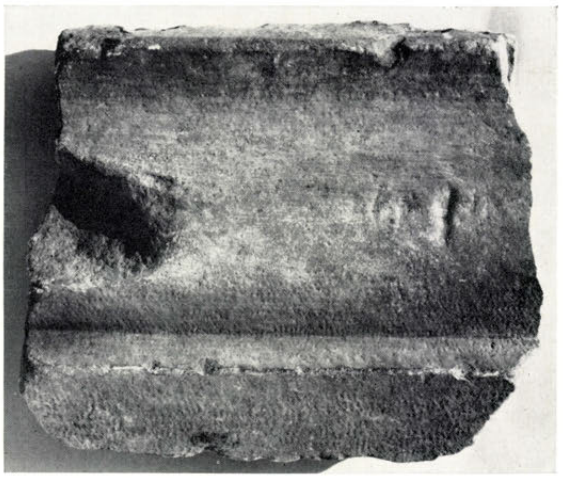
c

d

e

Marble fragments from the Monument: *a*. no. 7; *b*. no. 8; *c*. no. 9; *d*. no. 11*b*; *e*. no. 10, (¼), p. 66.

a



b

c

Marble fragments from the Monument: *a*. no. 11*a*; *b*. no. 12; *c*. no. 17, (¼), p. 66.

a

b

c

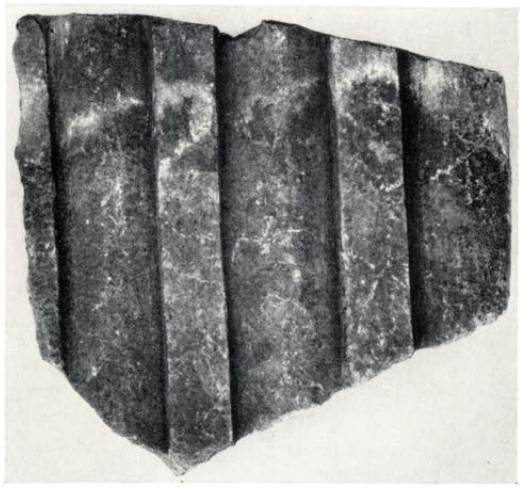
d

Marble fragments from the Monument: *a*. and *b*. no. 13 (two fragments); *c*. no. 14; *d*. no. 16 (left) and 15 (right), ($\frac{1}{4}$), p. 66.

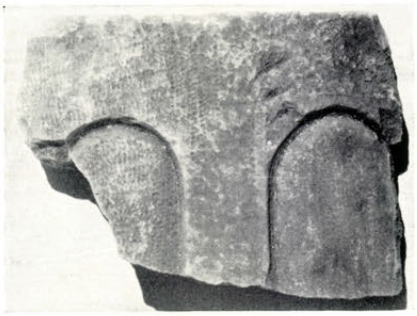
a

b

c



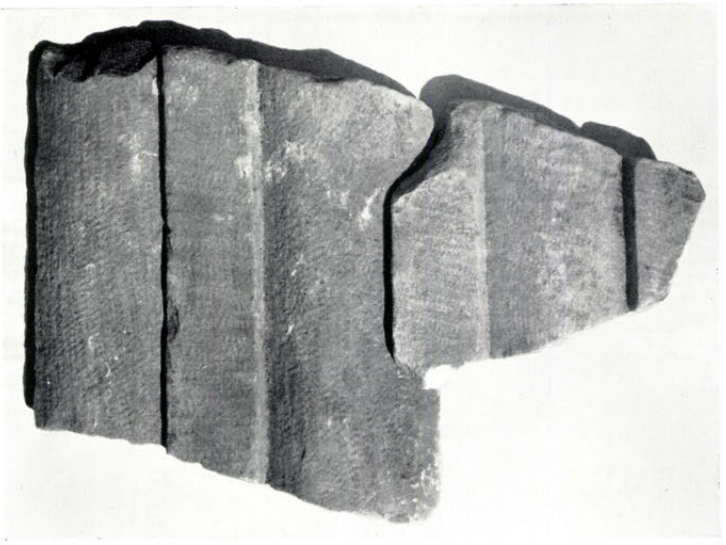
d



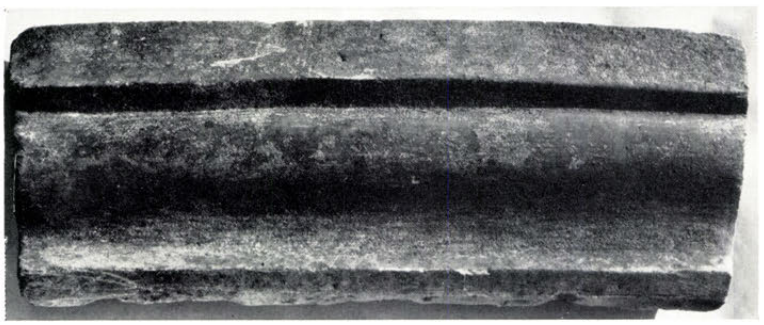
e

f

Marble fragments from the Monument: *a*. no. 18; *b*. no. 20; *c*. no. 22; *d*. no. 19; *e*. no. 19; *f*. no. 21, ($\frac{1}{4}$), p. 67.

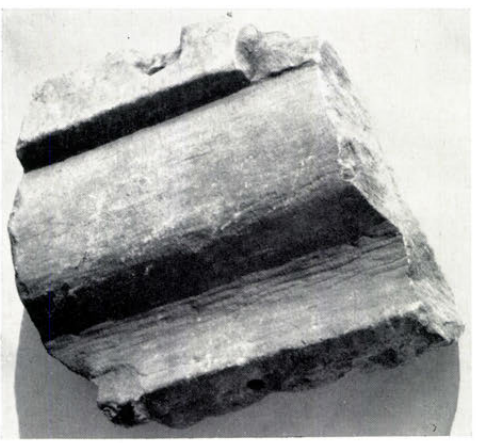


a



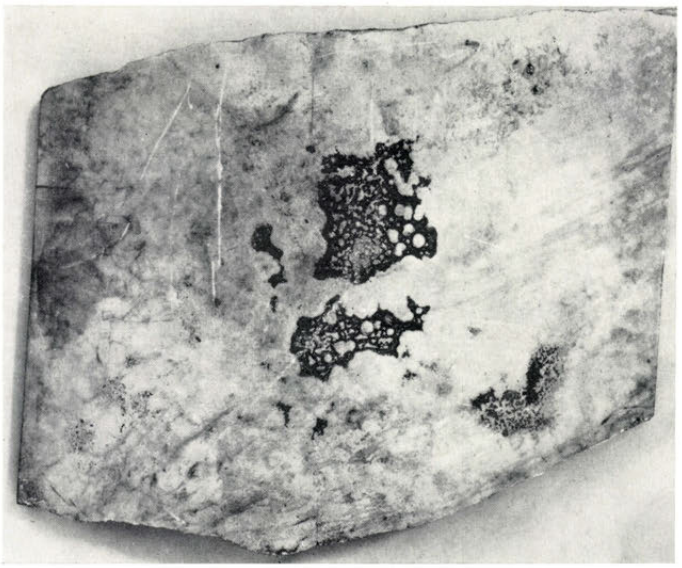
b

d



c

Marble fragments from the Monument: *a*. no. 19; *b*. no. 23; *c*. no. 23; *d*. no. 24, (¼), p. 67.



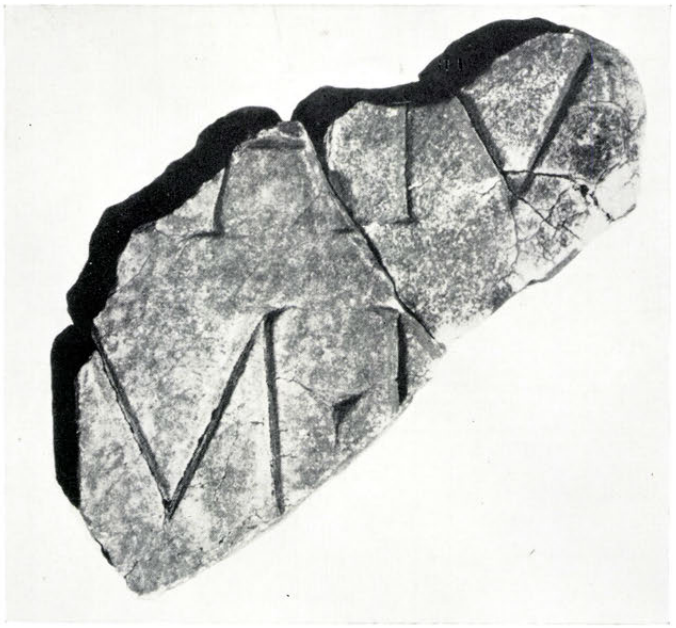
a

b

c

d

Marble fragments from the Monument: *a*. no. 25; *b*. no. 26; *c*. no. 27; *d*. no. 28, (¼), p. 67.



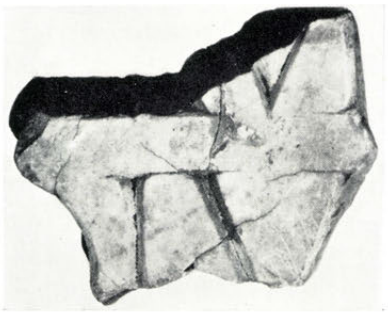
a

c

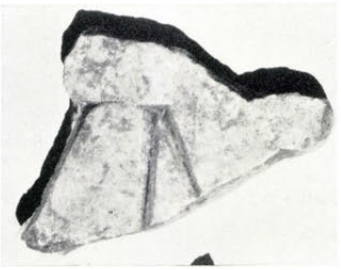
d

b

g

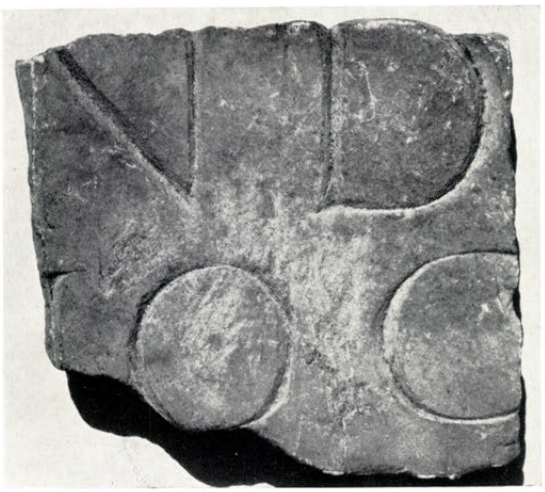


e



f

Inscriptions from the Monument: *a*. no. 1; *b*. no. 2; *c*. no. 3; *d*. no. 4; *e*. no. 5; *f*. no. 6; *g*. no. 7, ($\frac{1}{3}$), pp. 68–69.



a

c

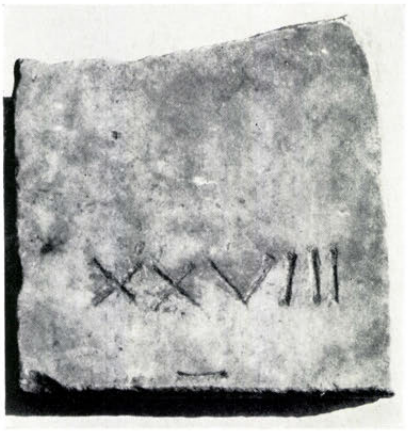
b

a. Inscription no. 8; *b*. Inscription no. 9; *c*. Bronze letter A, ($\frac{1}{3}$), p. 69.

a

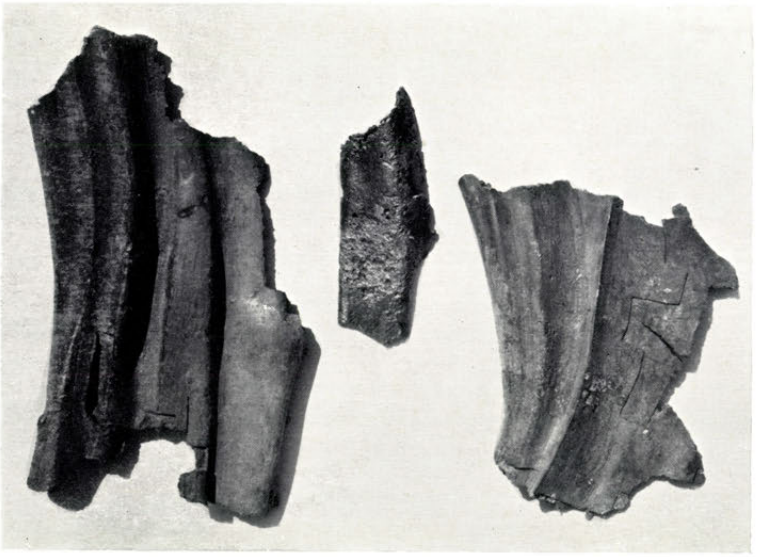
d

b



c

a. Fragment of sculpture no. 1; *b*. Fragment of sculpture no. 2; *c*. Inscription no. 9*a*; *d*. Gaming board, ($\frac{1}{4}$), pp. 69 and 72.

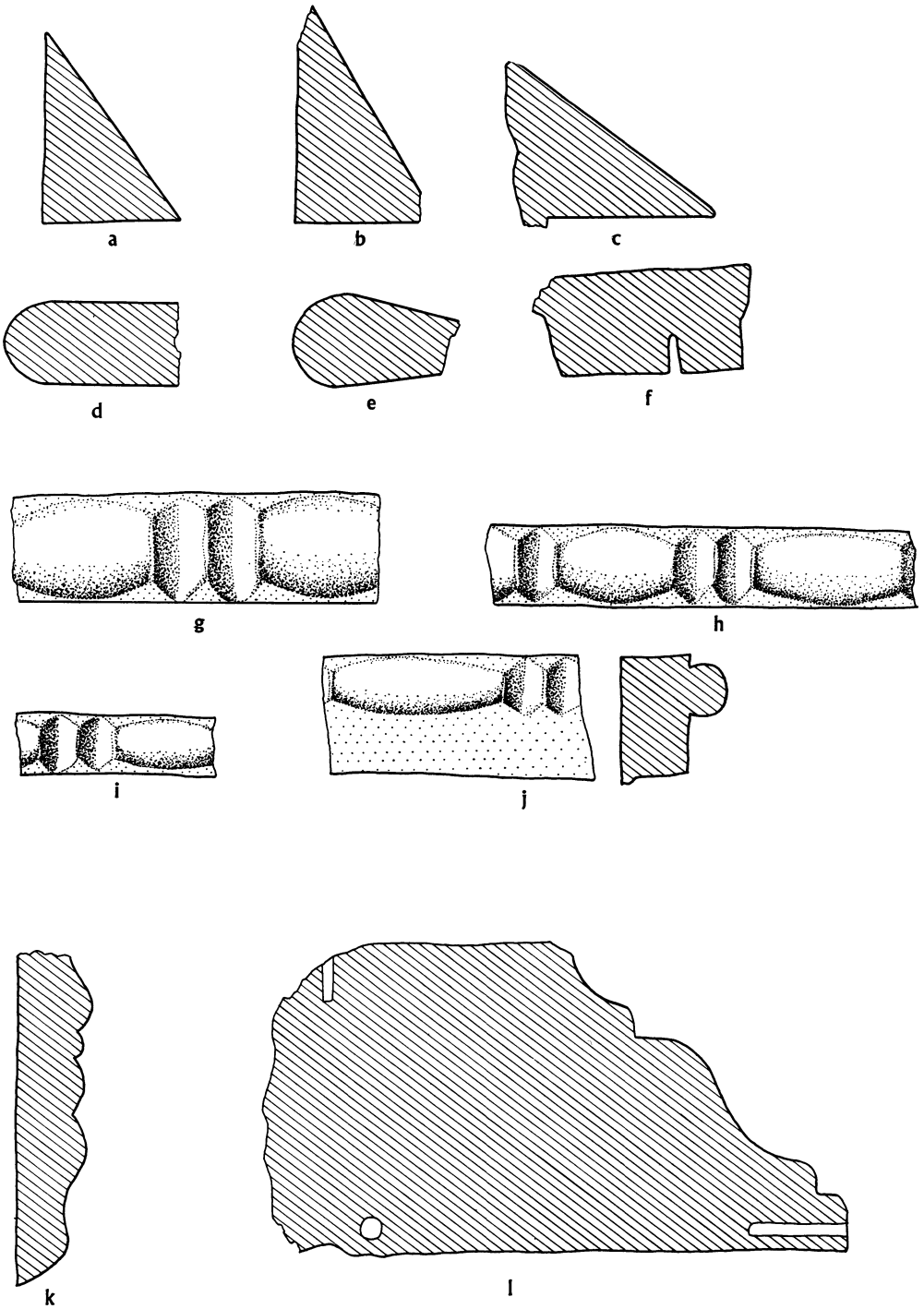


a

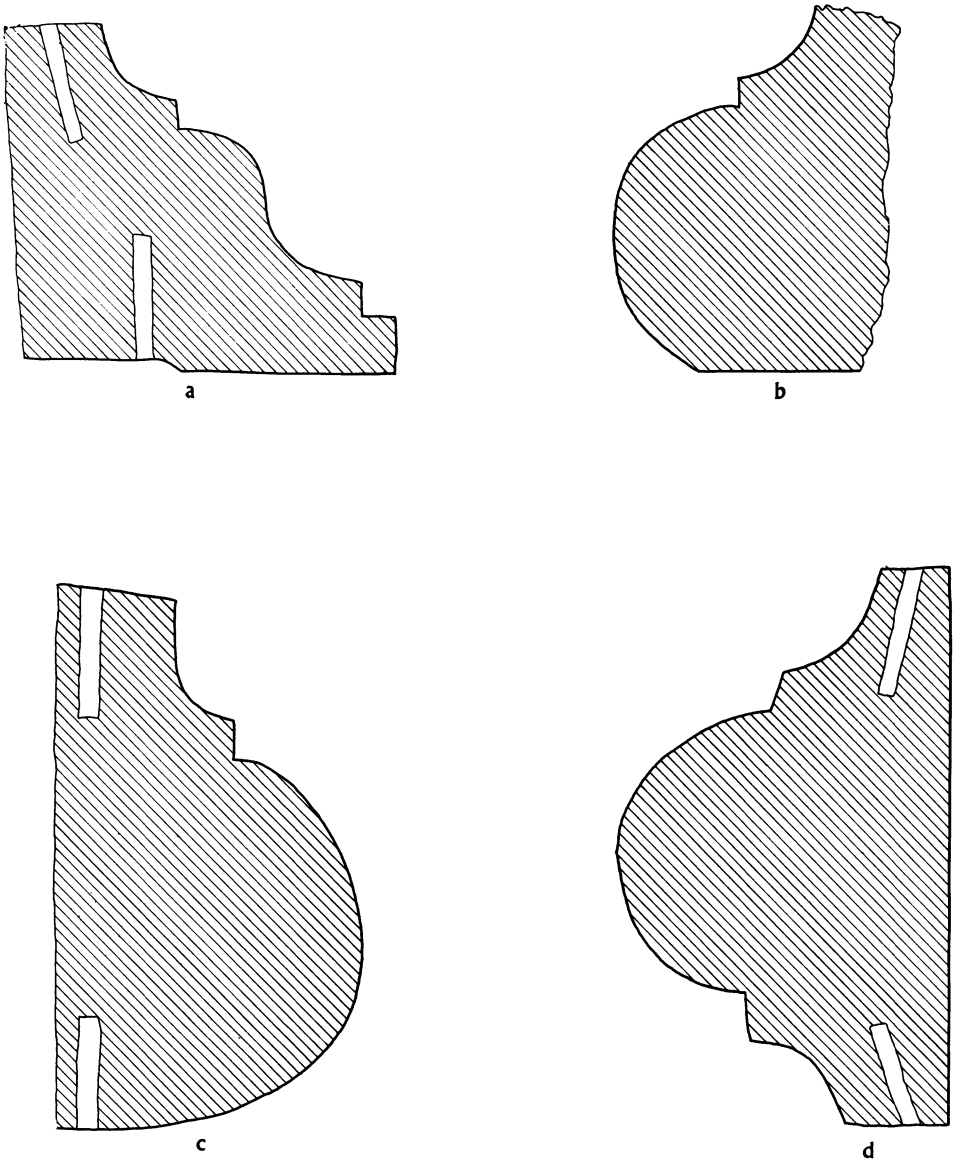
b

c

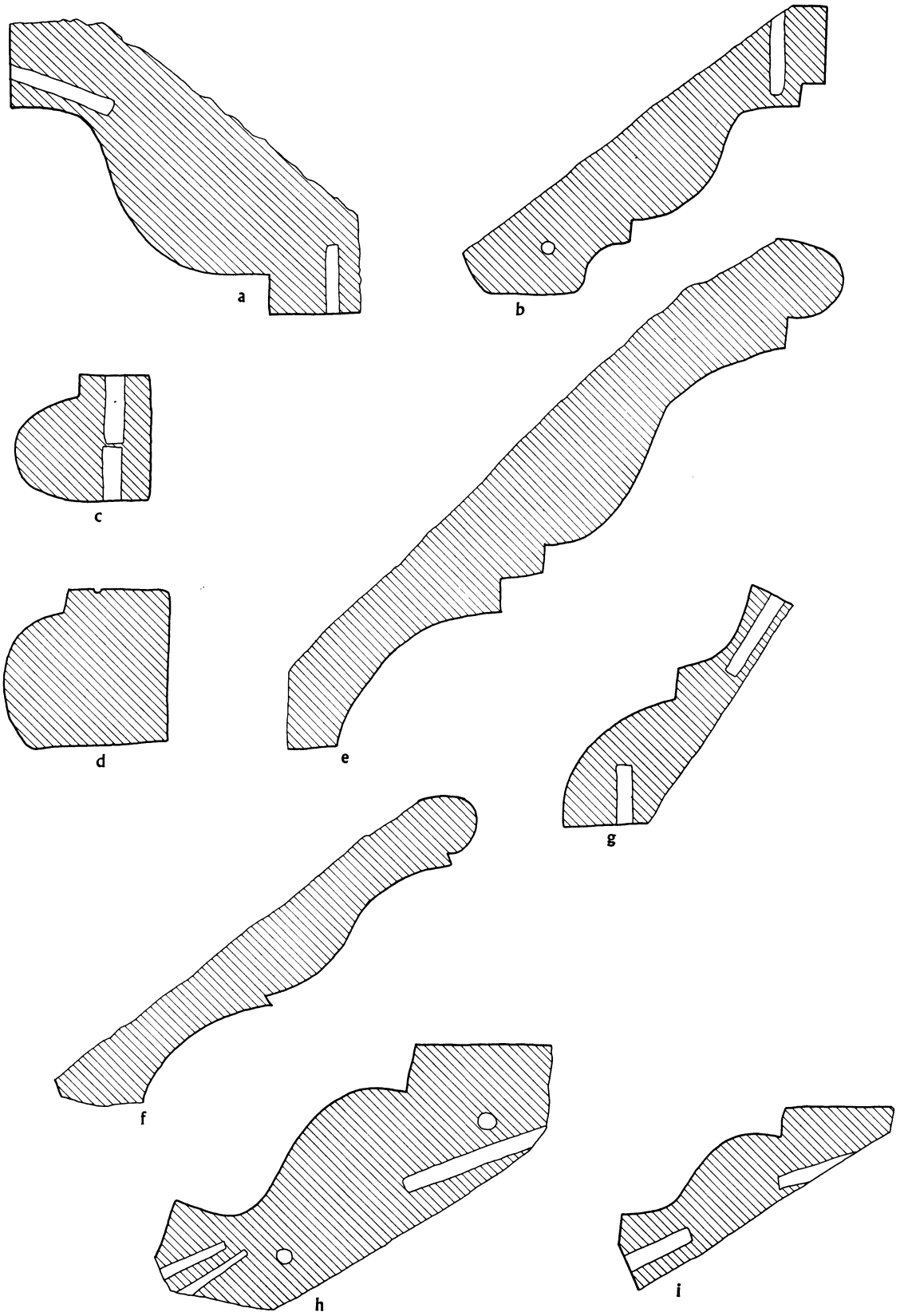
Bronze sculpture from the Monument: *a*. l.–r. nos. 1, 4, 2; *b*. top l.–r. nos. 3, 8, 5, 14; bottom l.–r. nos. 12, 13, 11, 10, 9; *c*. patches, ($\frac{1}{4}$), pp. 70–71.



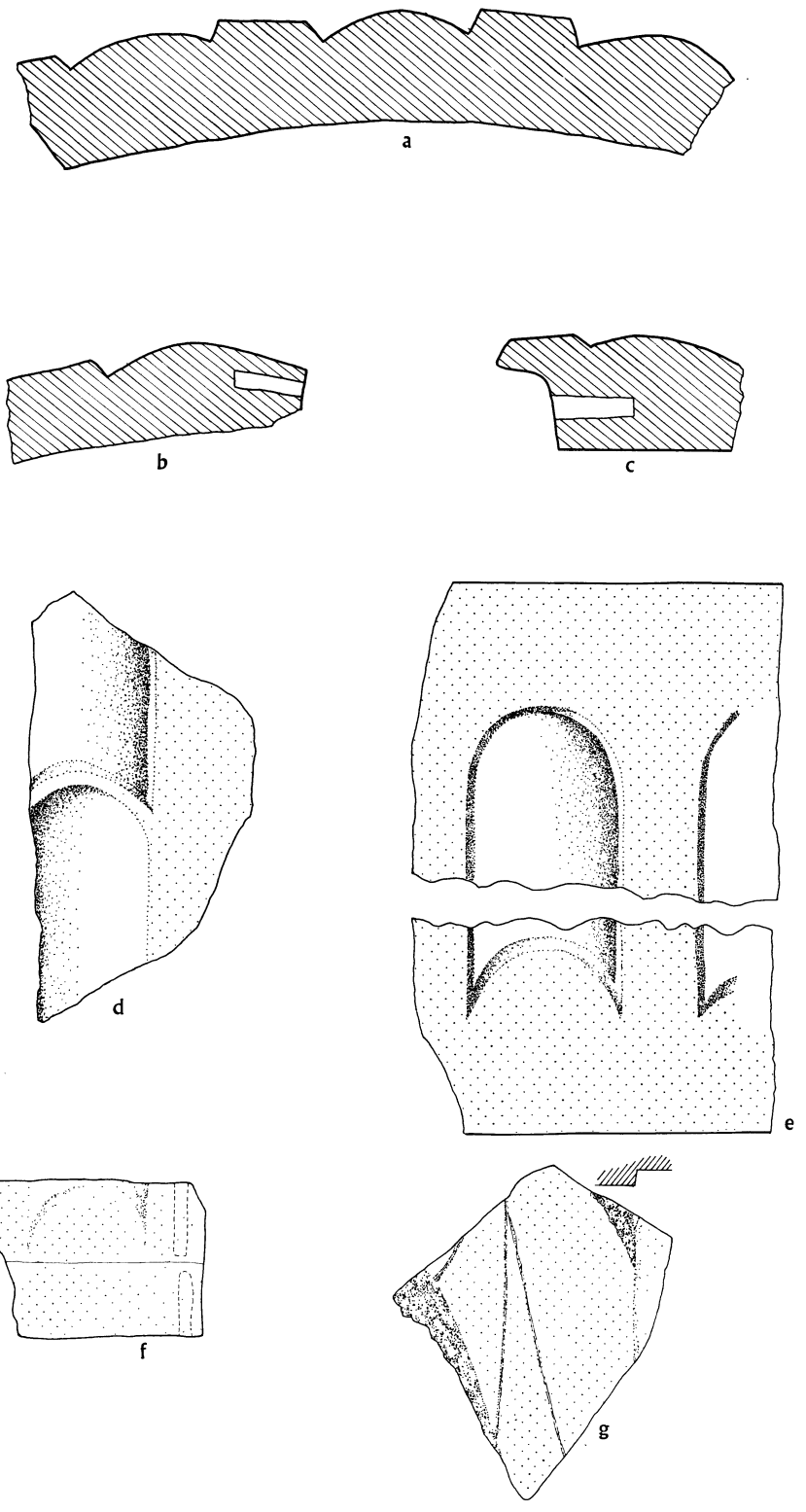
Marble fragments from the Monument ($\frac{1}{3}$), pp. 65–66.



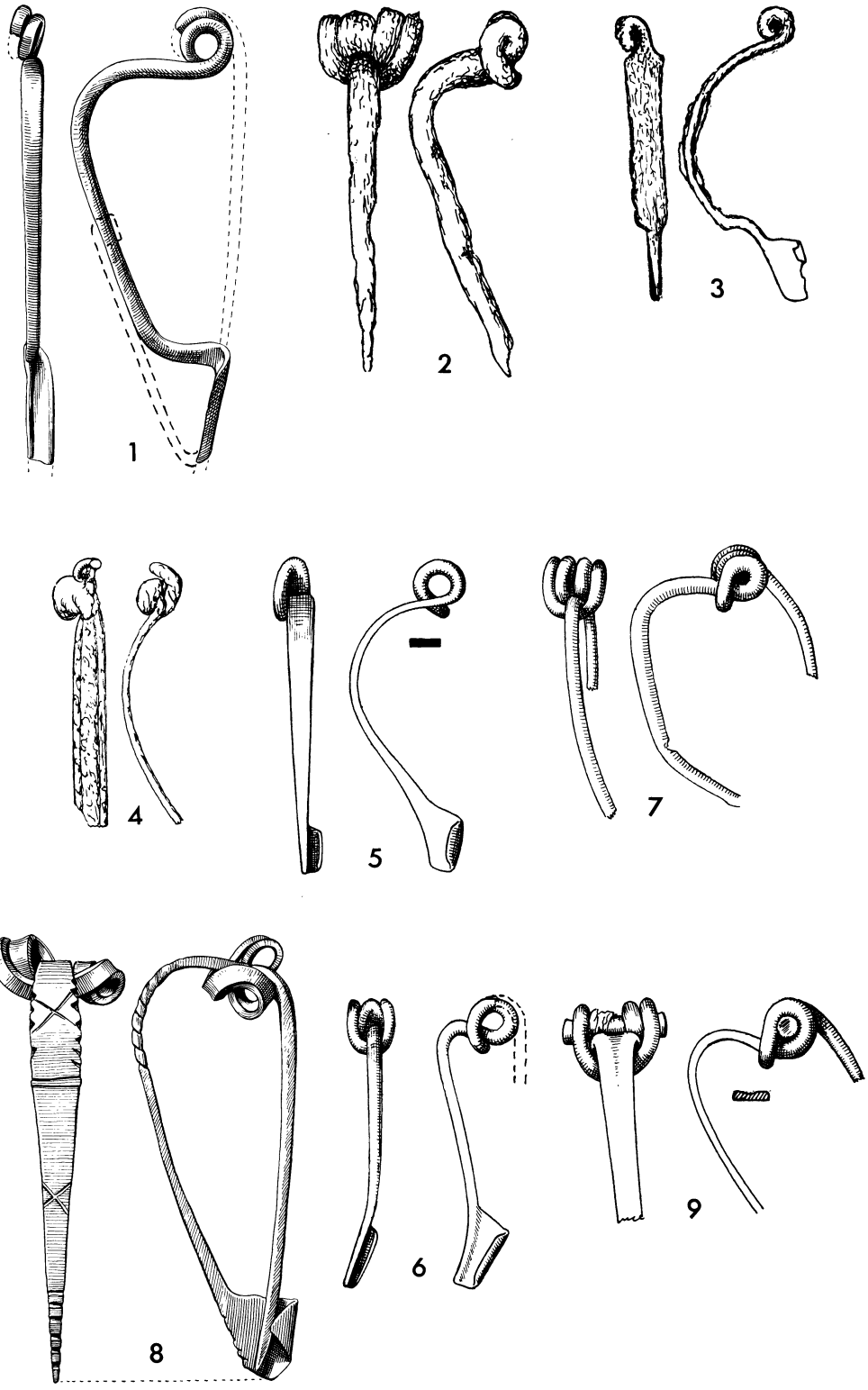
Marble fragments from the Monument ($\frac{1}{3}$), p. 66.



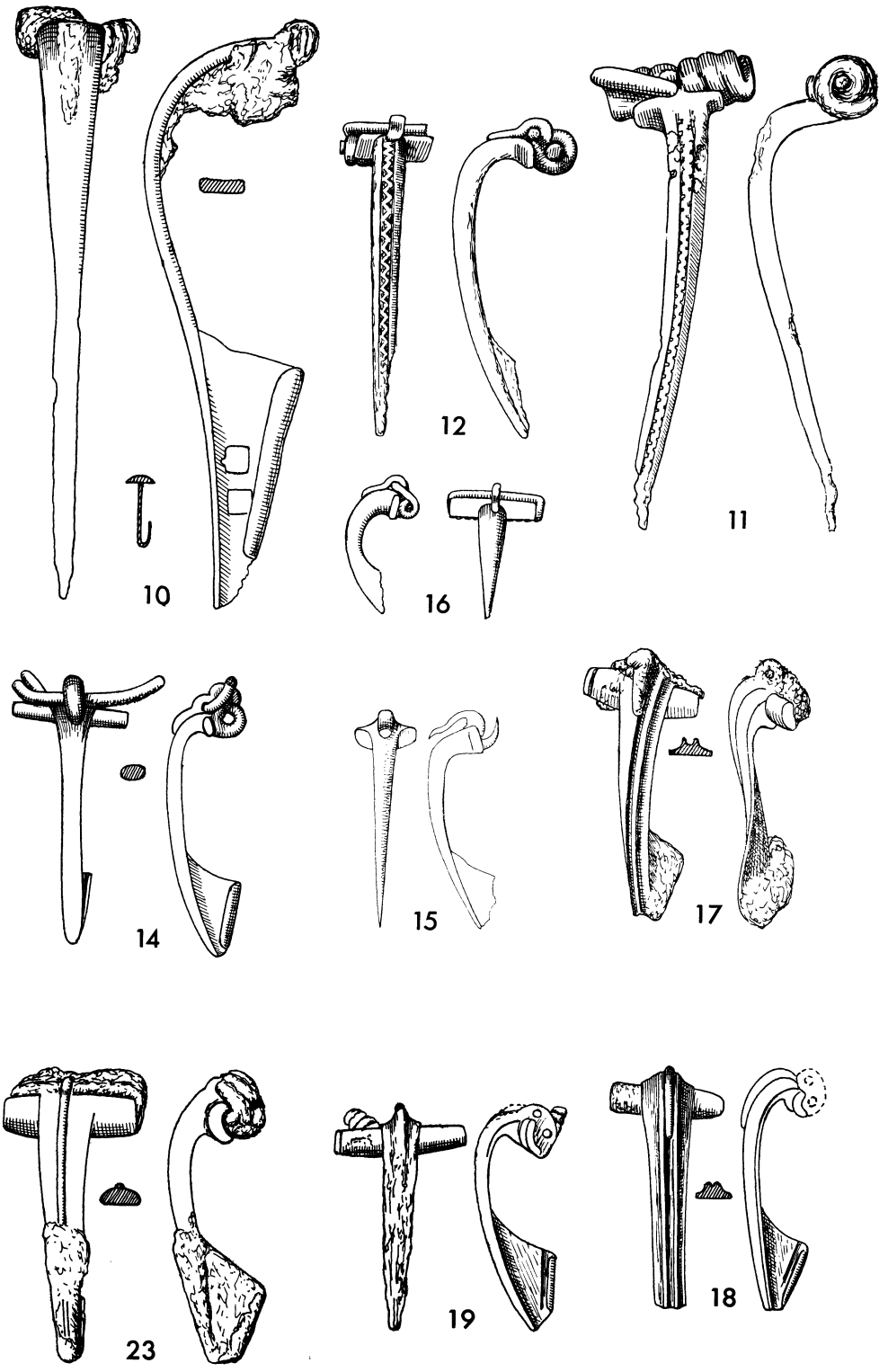
Marble fragments from the Monument ($\frac{1}{3}$), pp. 66–67.



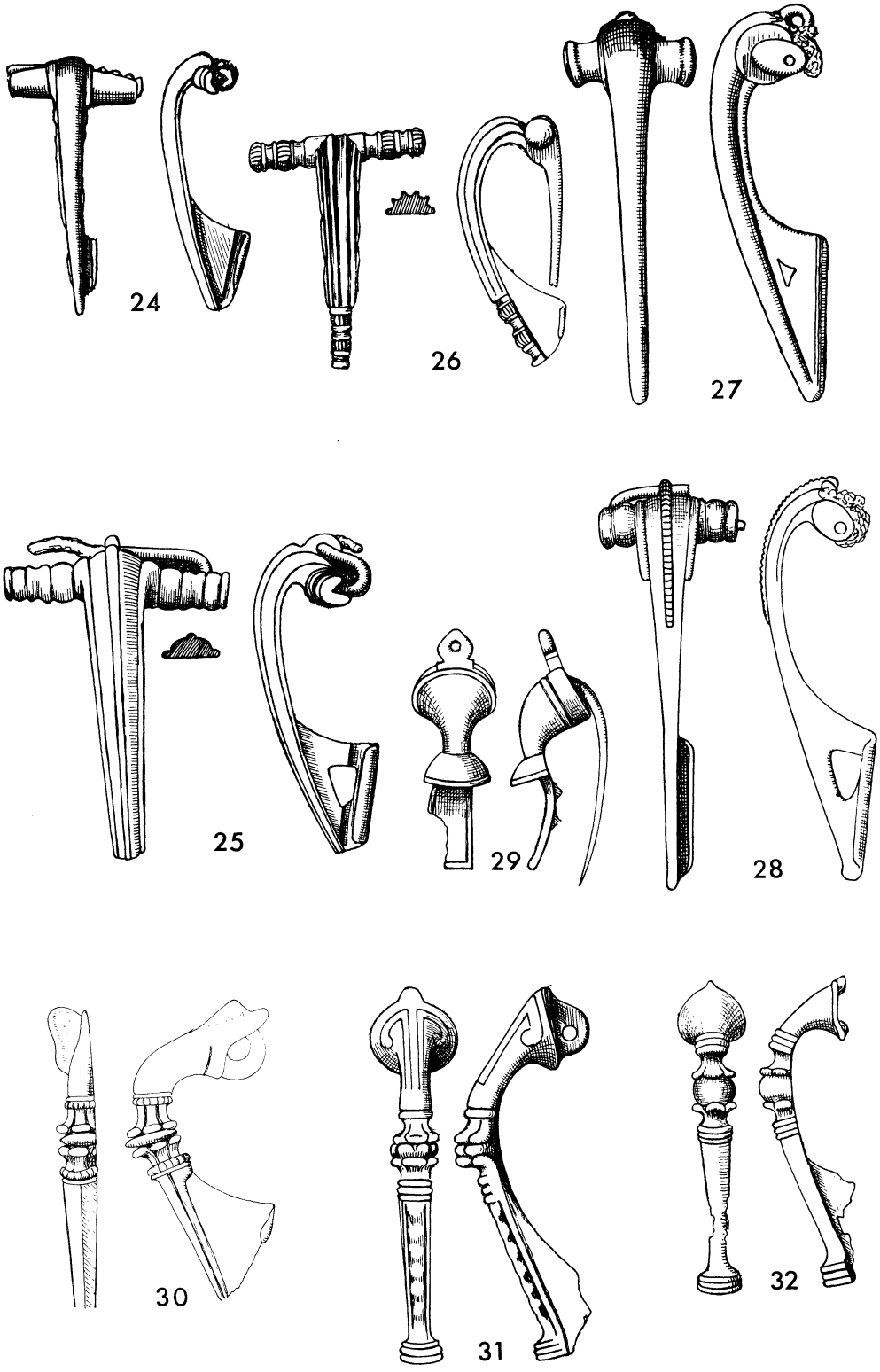
Marble fragments from the Monument ($\frac{1}{3}$), p. 67.



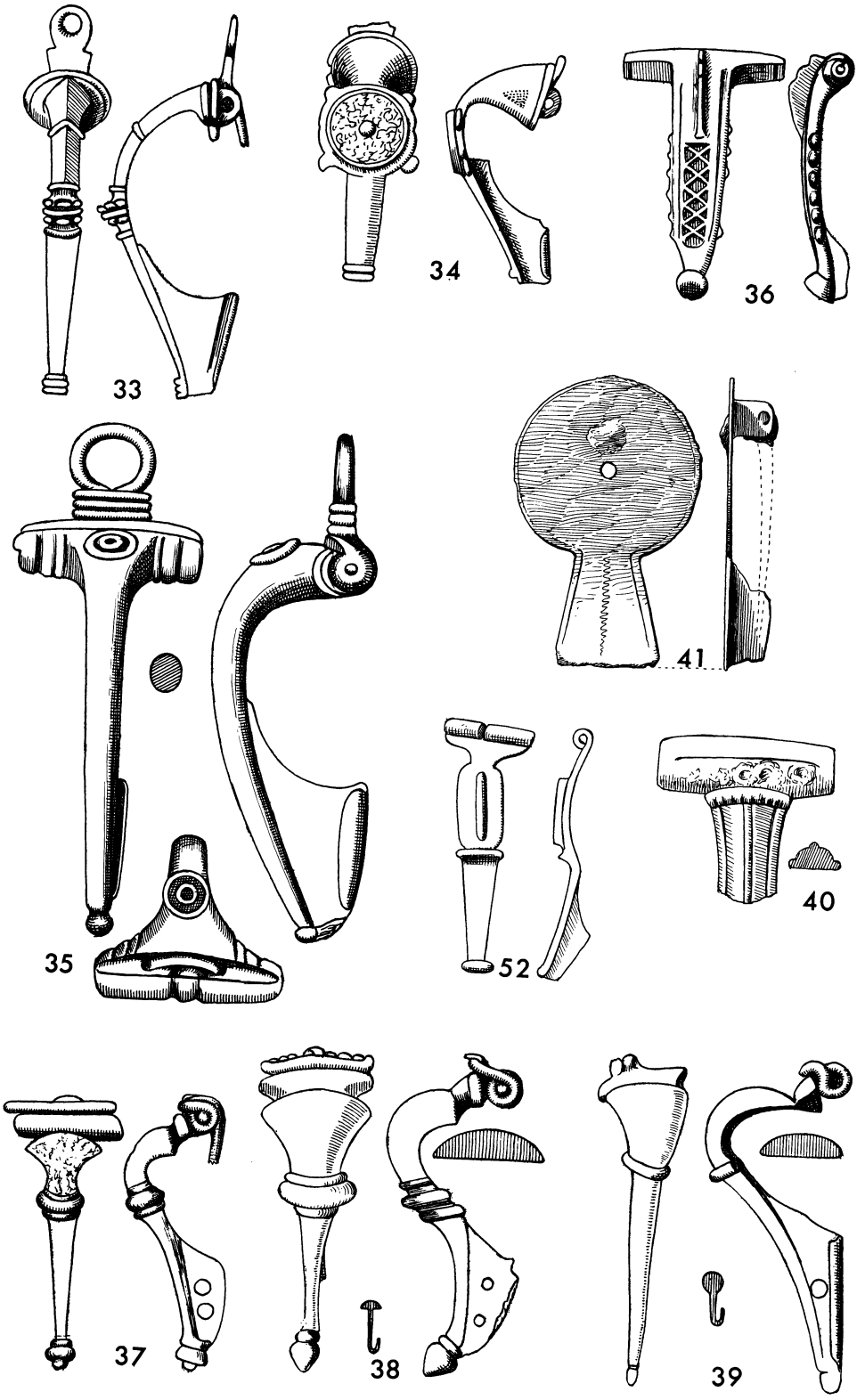
Brooches (¼), pp. 77–78.



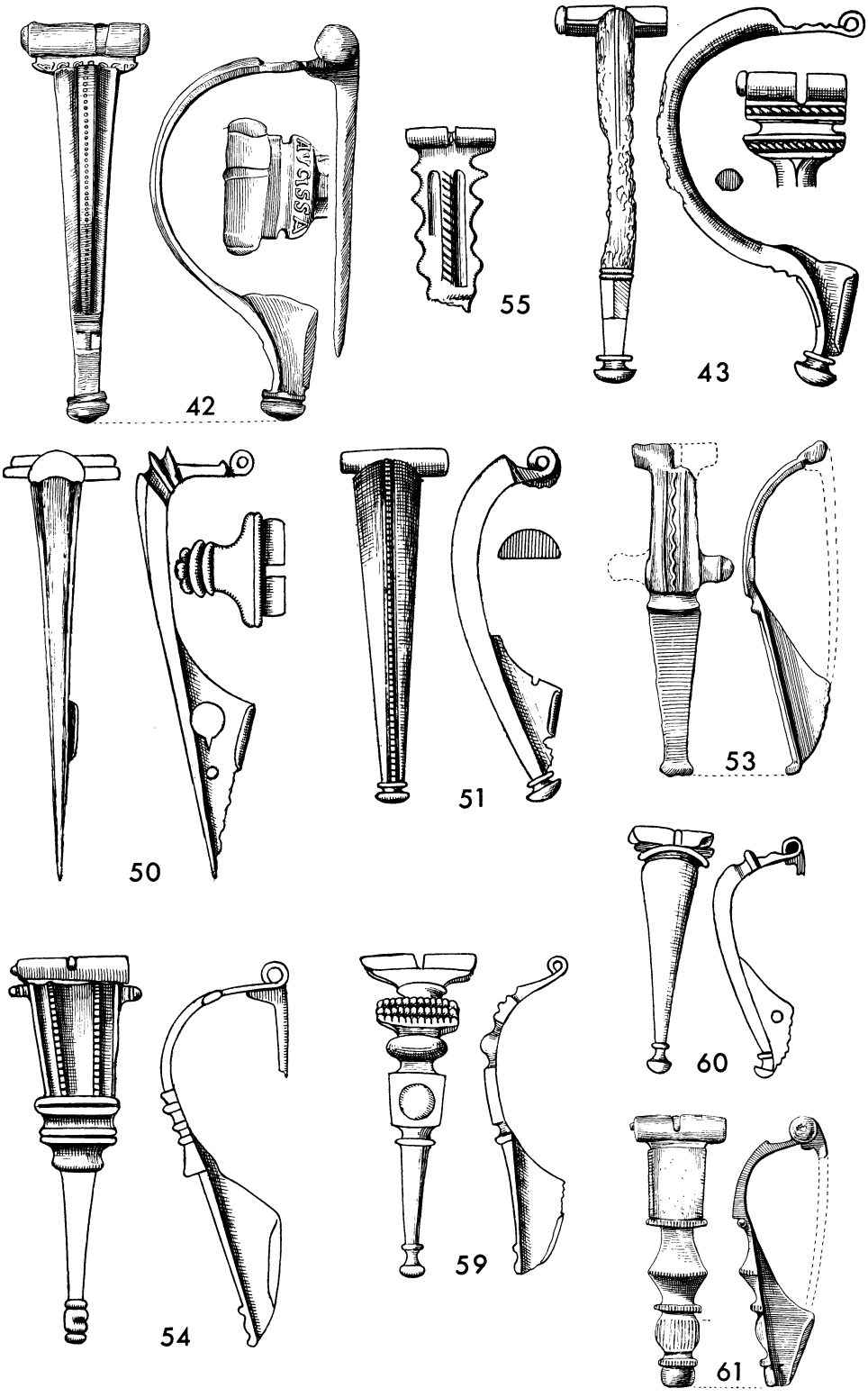
Brooches (1/1), pp. 78–79.



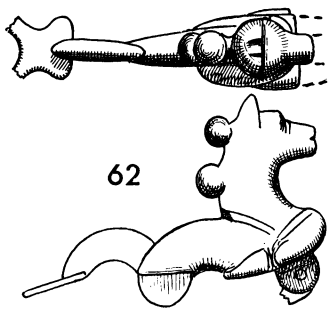
Brooches (¼), pp. 79–82.

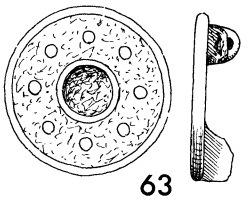


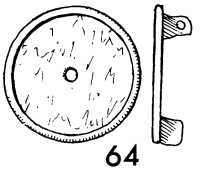
Brooches (1/1), pp. 82–85.

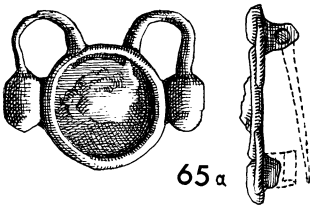


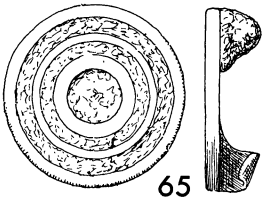
Brooches (1/1), pp. 84–87.

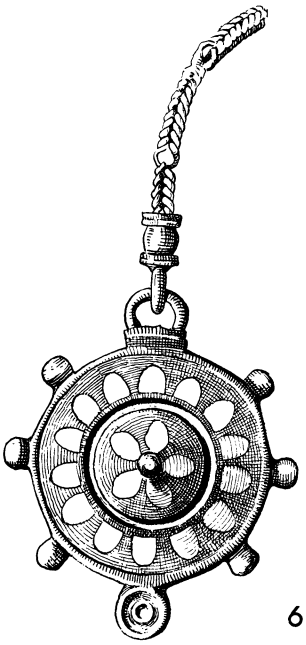


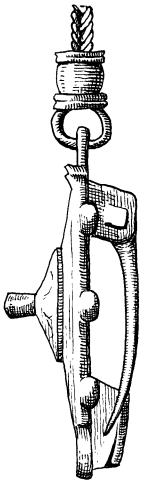


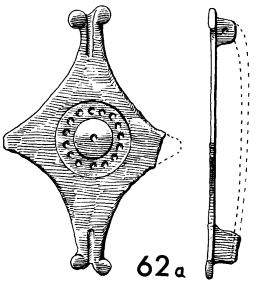


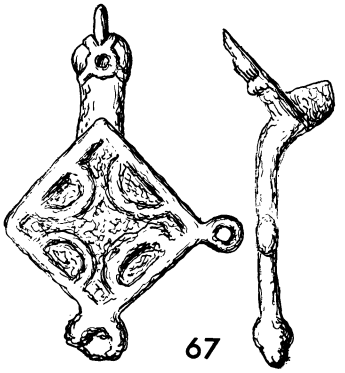


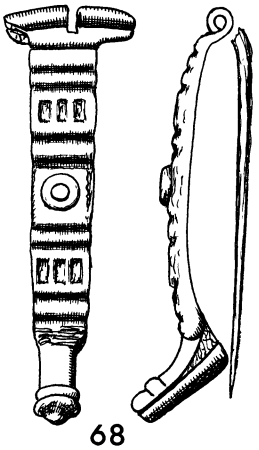


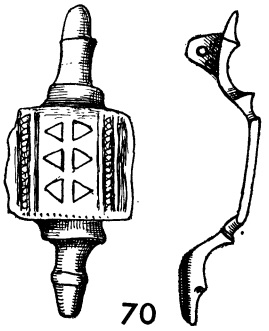


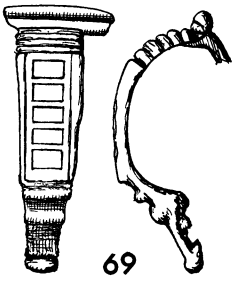




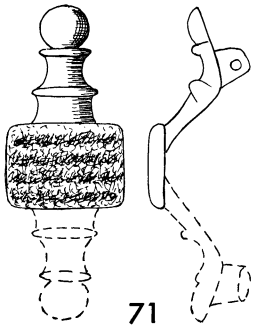


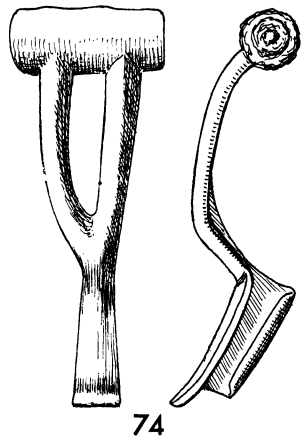


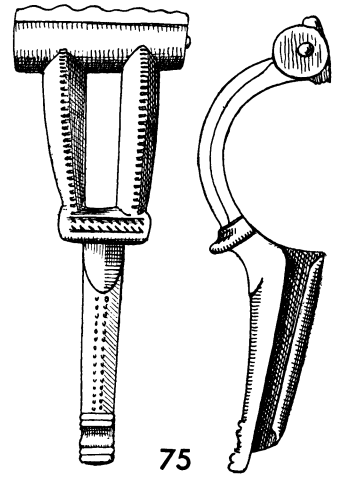


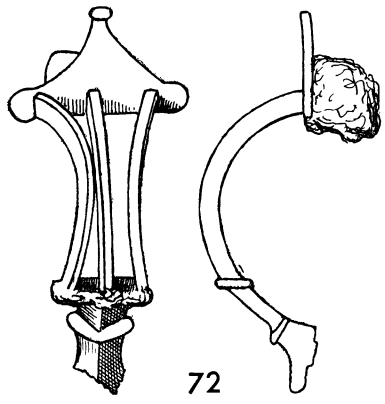


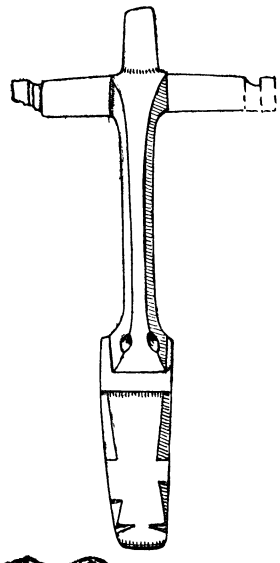
Brooches (¼), pp. 87–89.

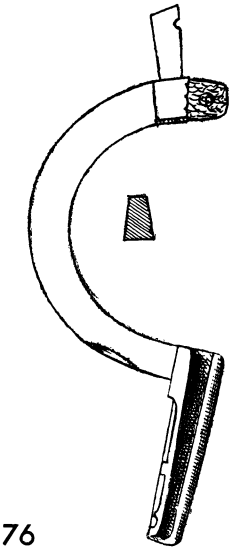


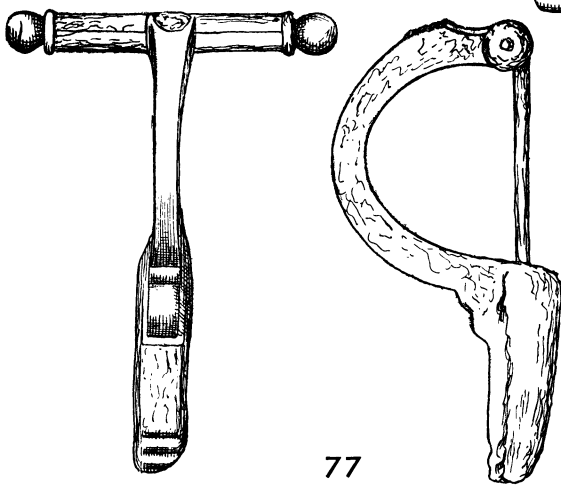




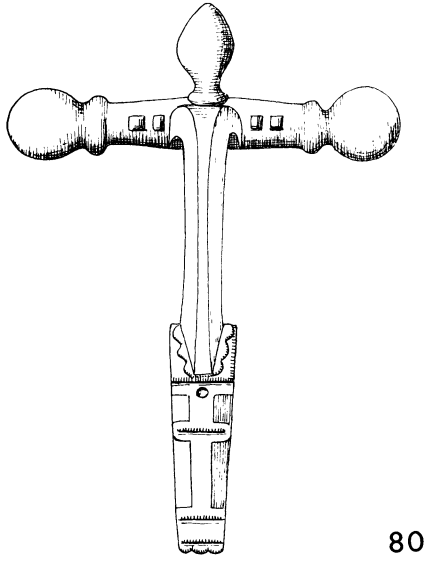




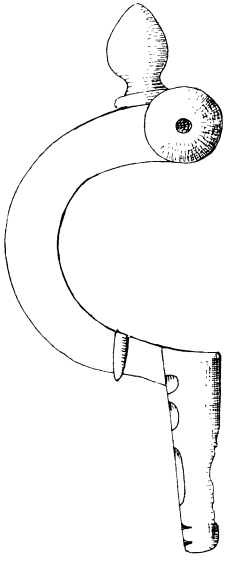


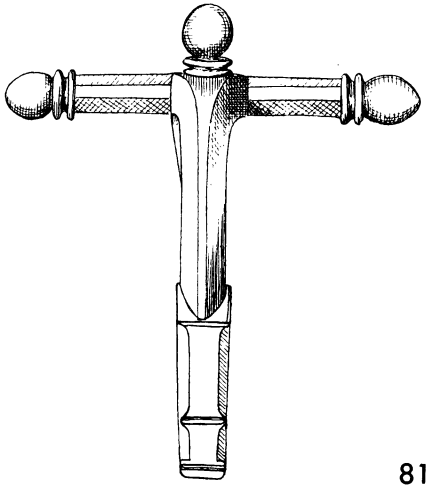


Brooches (½), pp. 89–91.

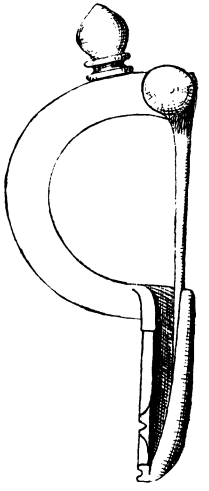


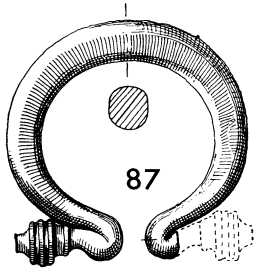
80



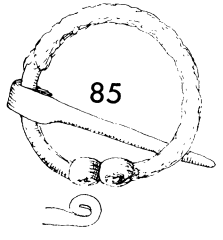


81

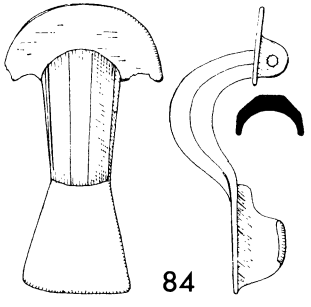




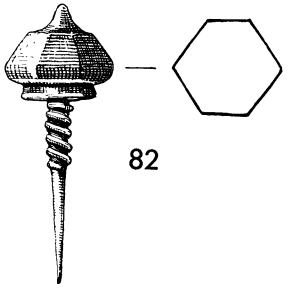
87



85

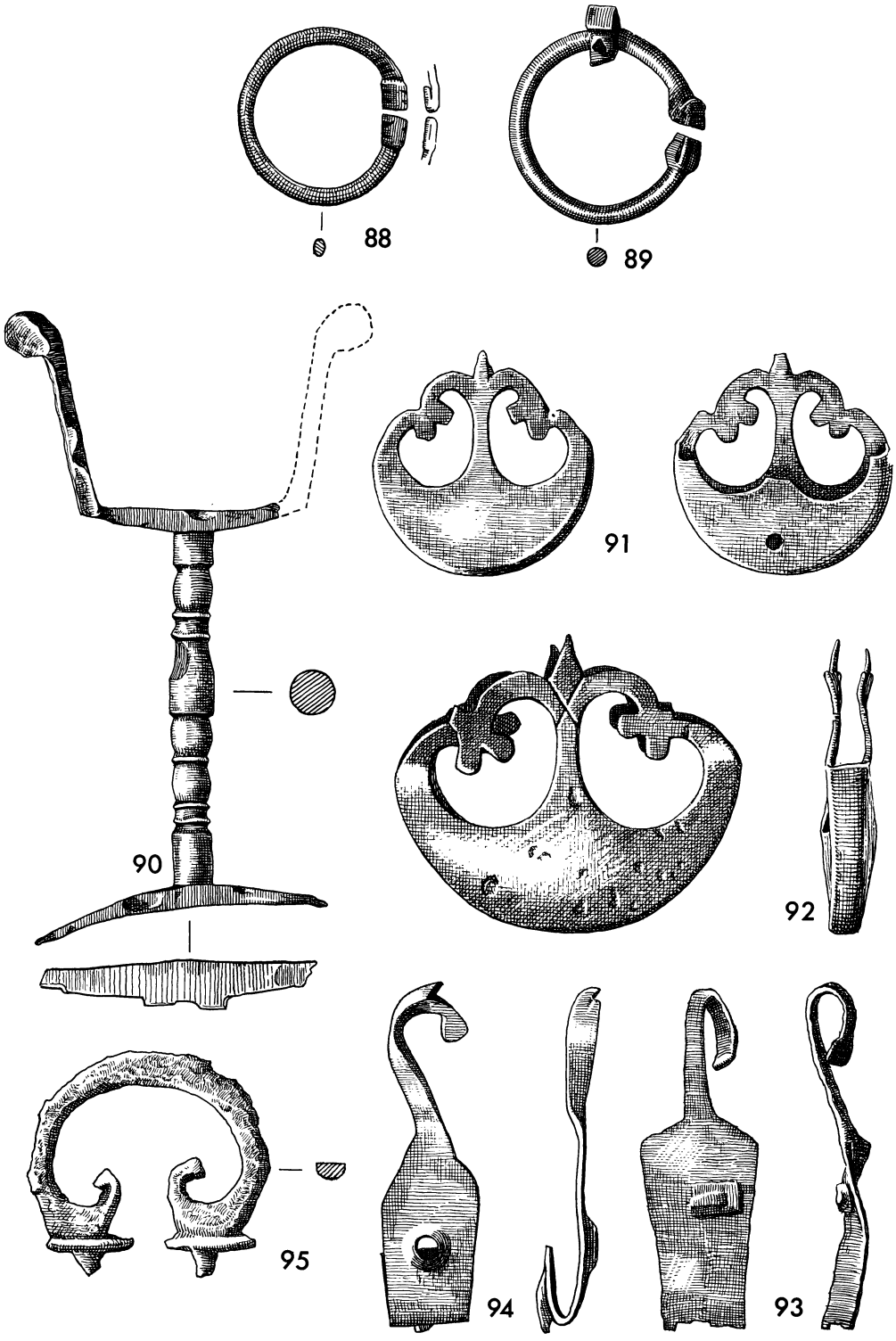


84

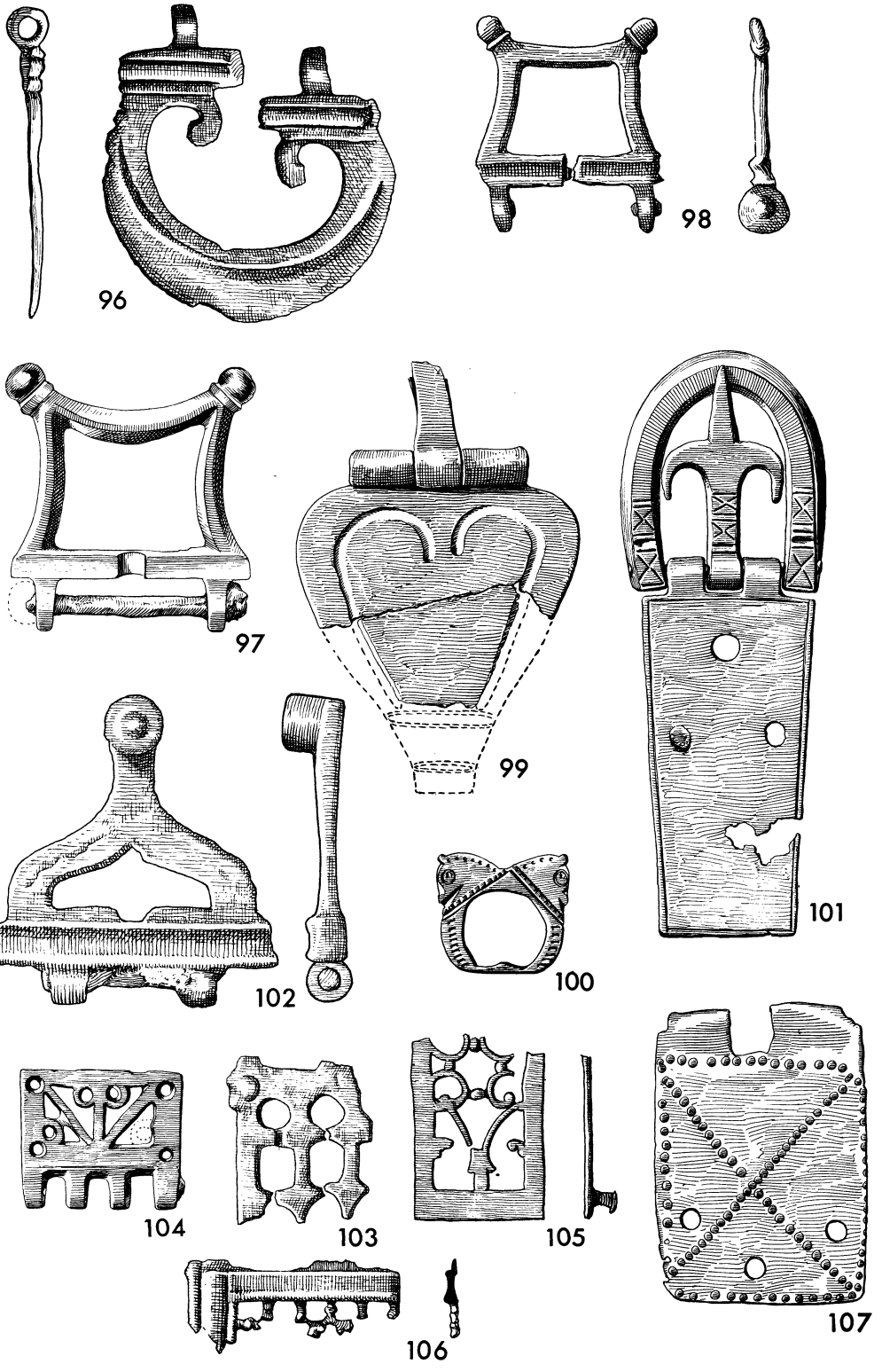


82

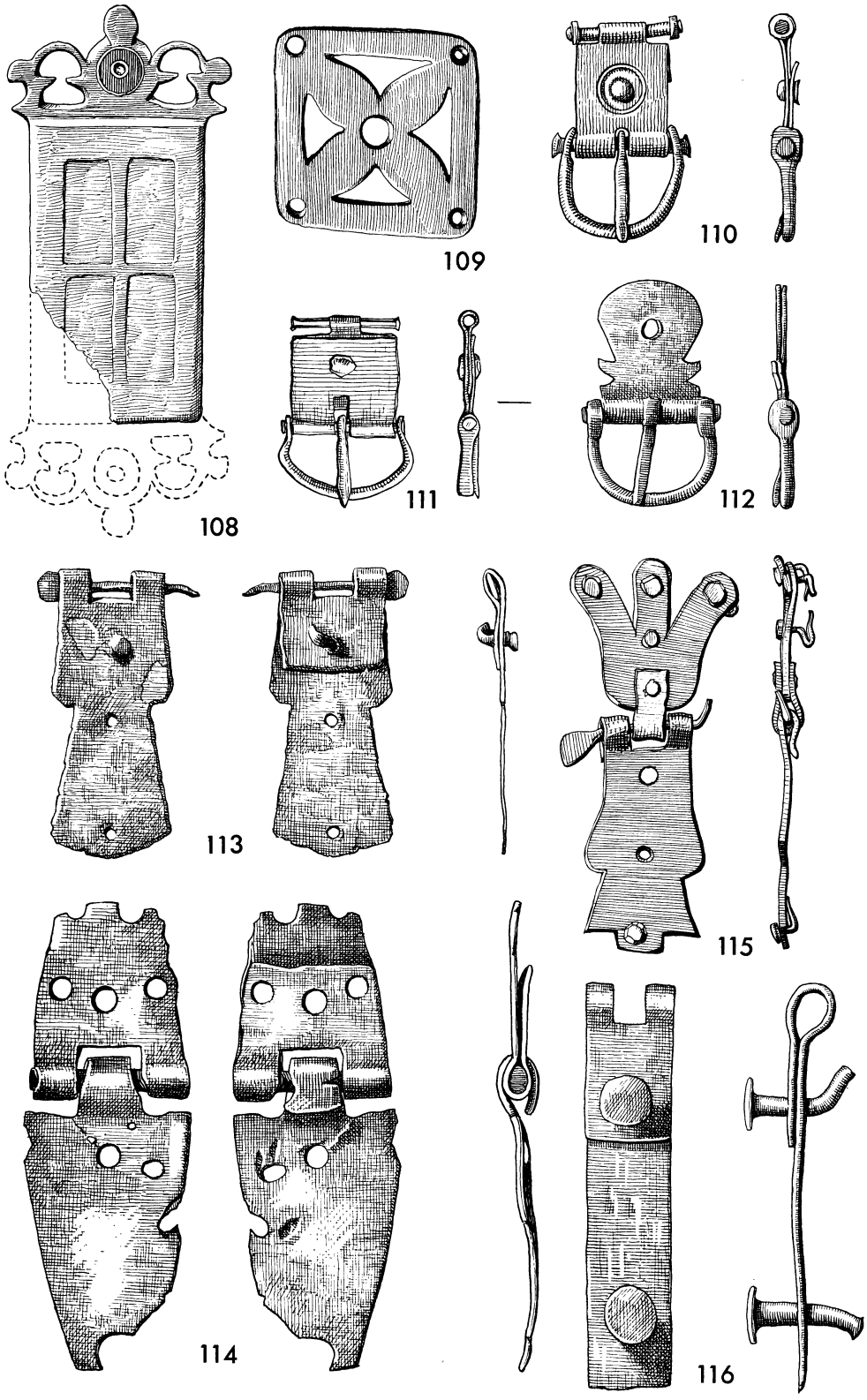
Brooches ($\frac{1}{1}$), pp. 91–93.



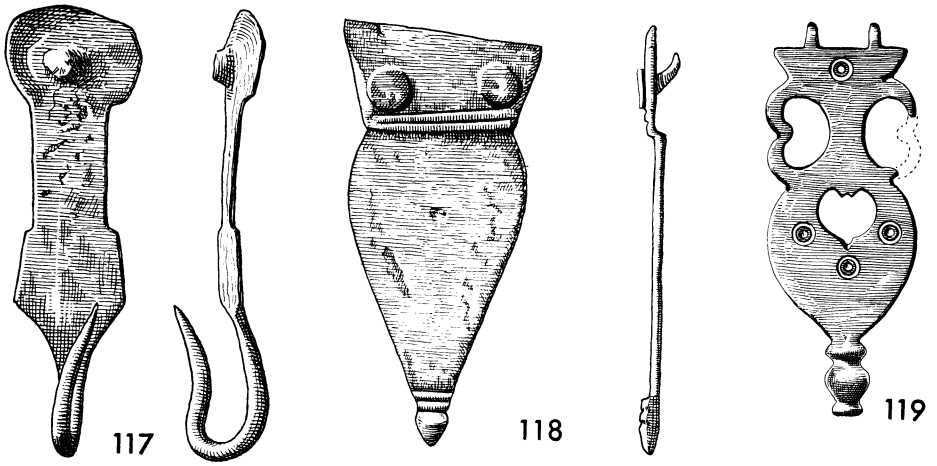
Small finds of bronze (1/1), pp. 92–93.

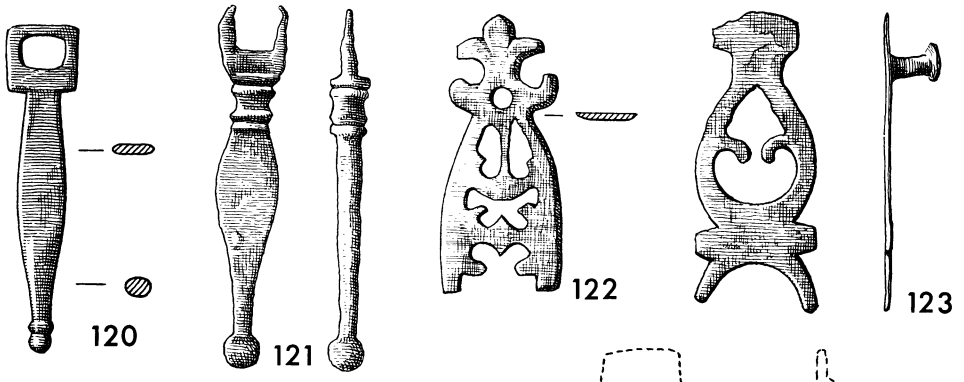


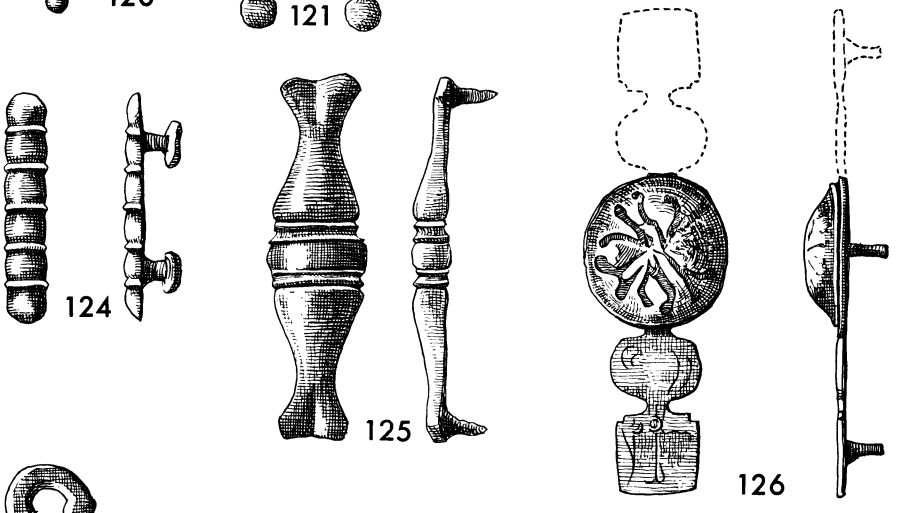
Small finds of bronze (½), pp. 93–94.

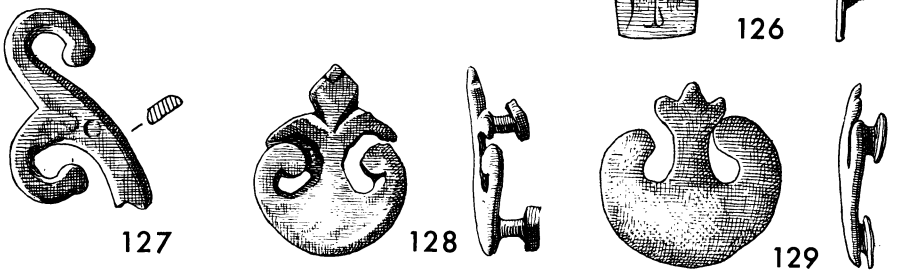


Small finds of bronze all $\frac{1}{1}$ except nos. 113 and 115 which are $\frac{1}{2}$, pp. 94–95.

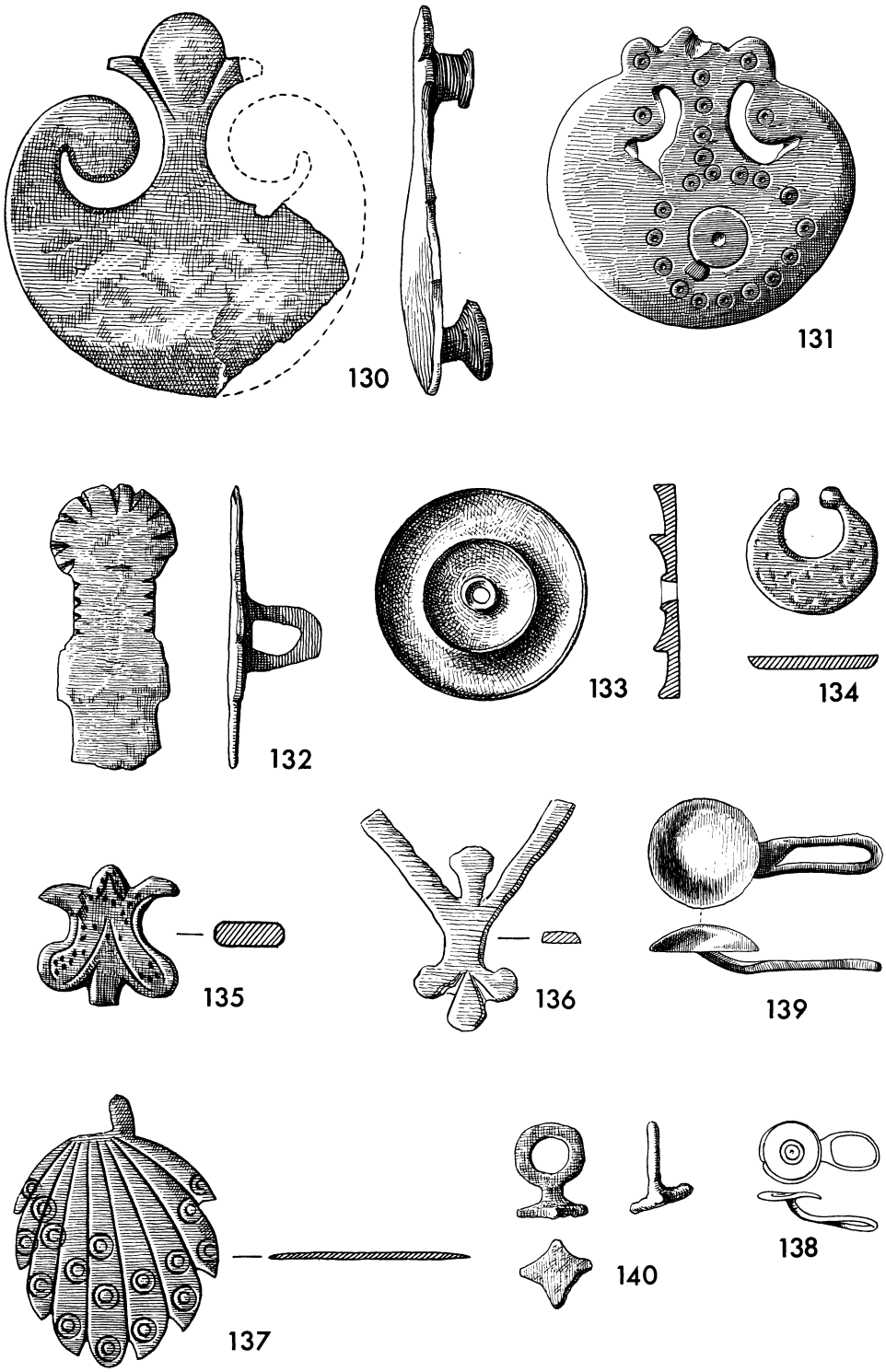




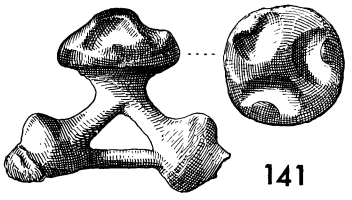




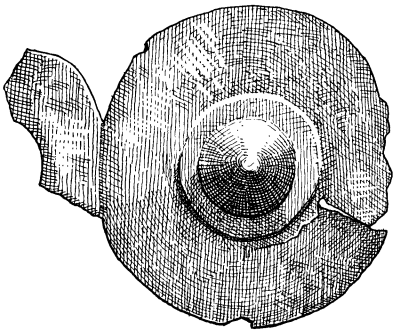
Small finds of bronze (½), pp. 95–96.

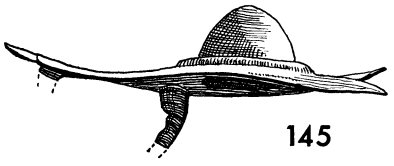


Small finds of bronze all $\frac{1}{1}$ except nos. 138 and 140 which are $\frac{1}{2}$, pp. 96–97.

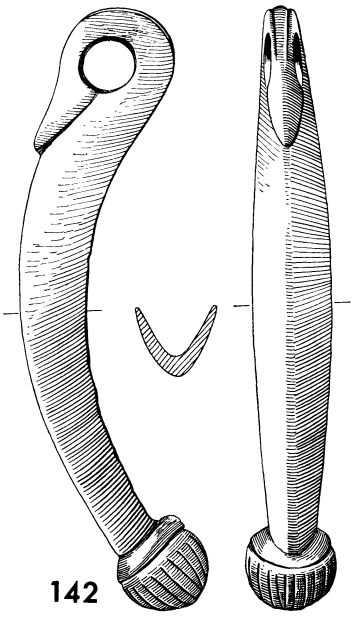


141



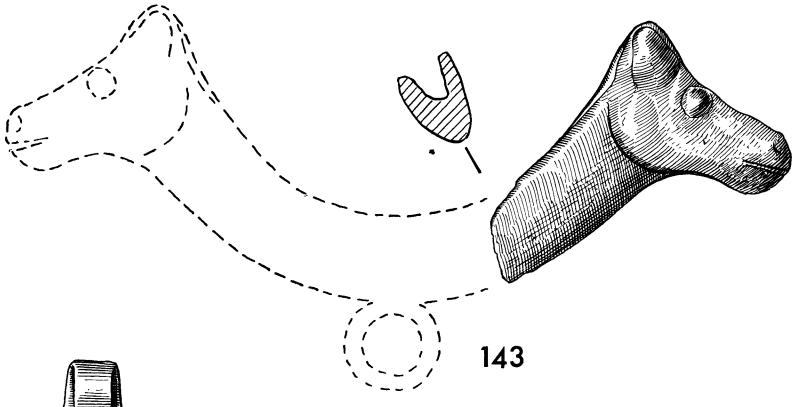


145

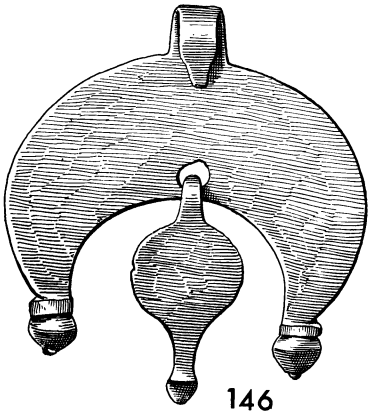


142

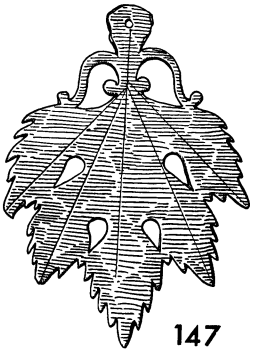
144



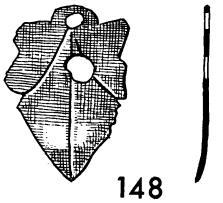
143



146

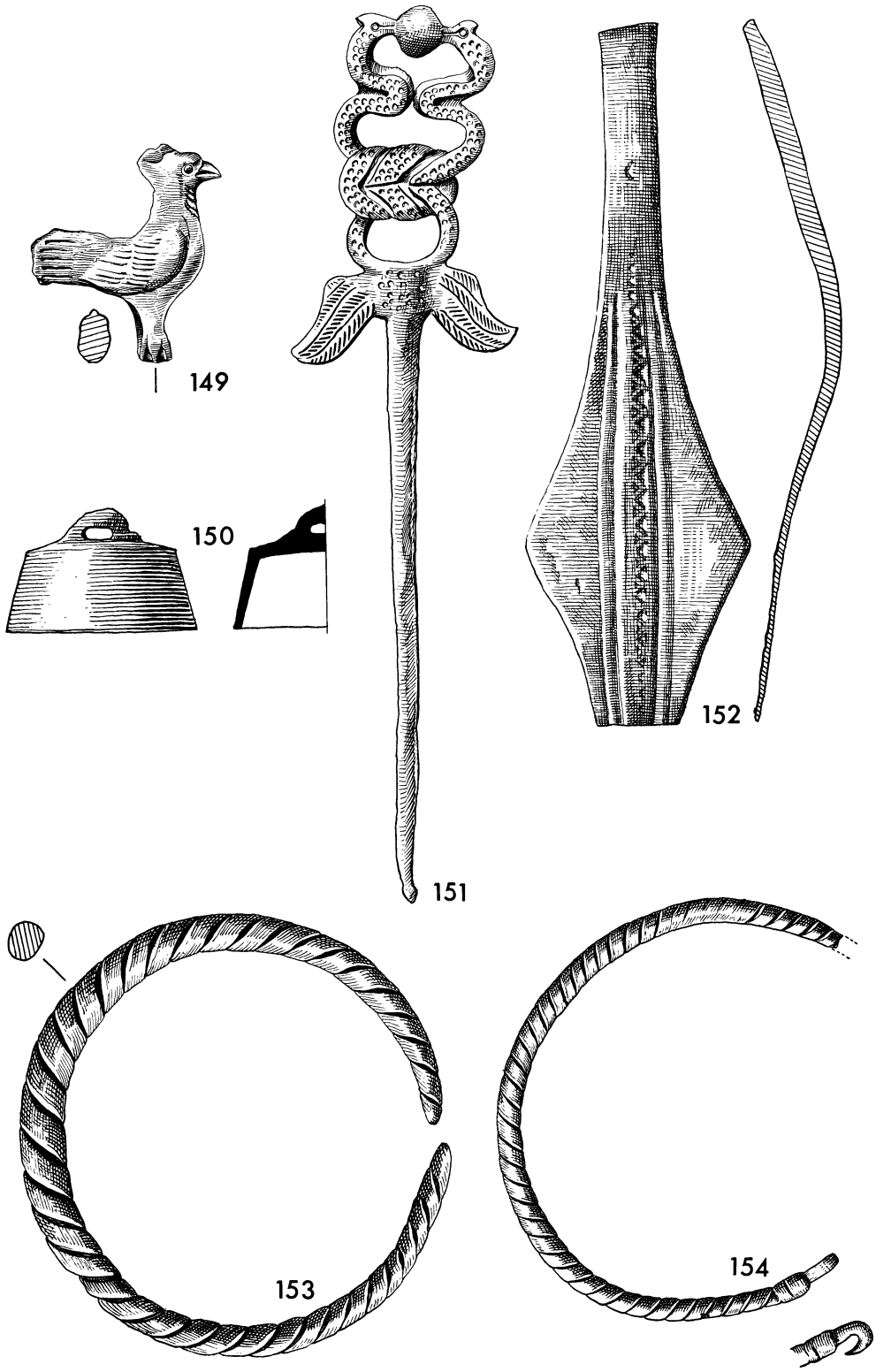


147

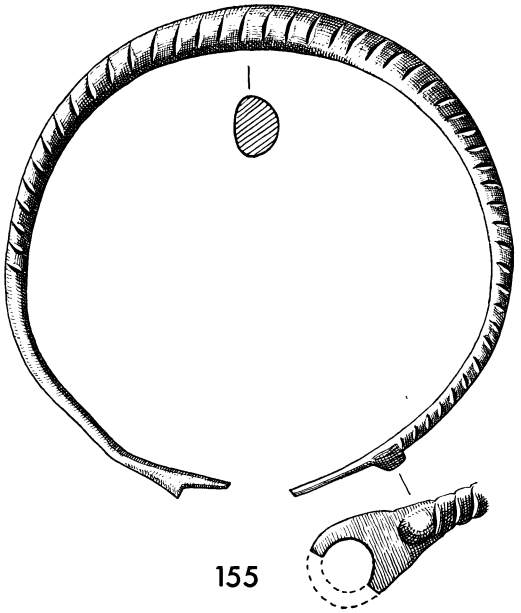


148

Small finds of bronze (¼), p. 97.

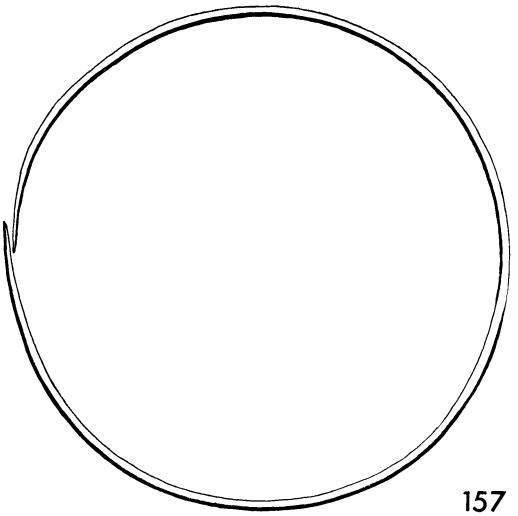


Small finds of bronze (¼), pp. 97–98.

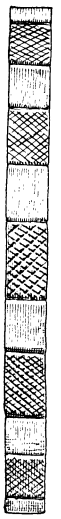


155

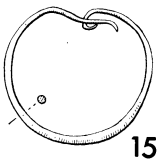
156



157



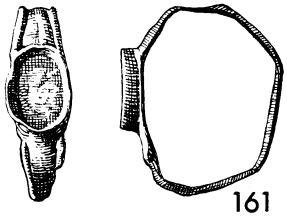
158



159

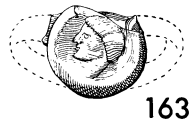
Small finds of bronze (¼), p. 98.

160



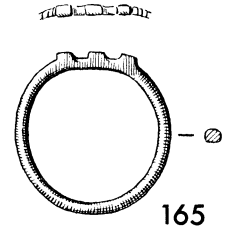
161

162

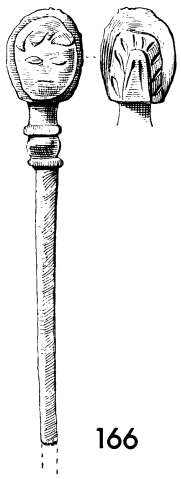


163

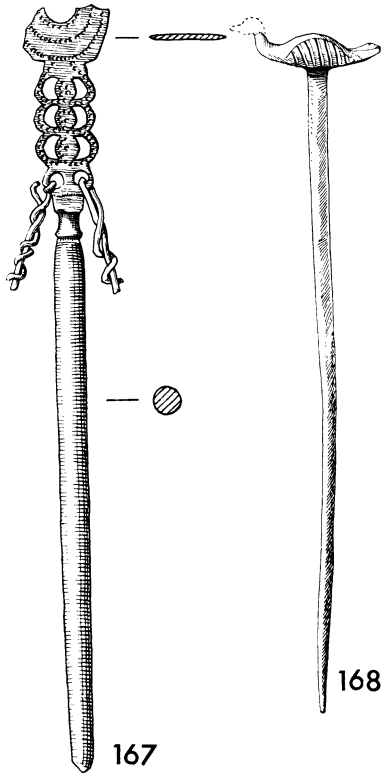
164



165



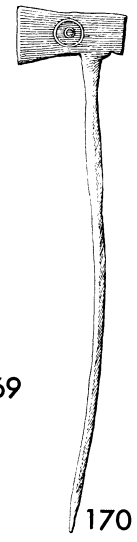
166



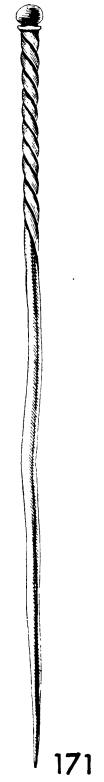
167

168

169

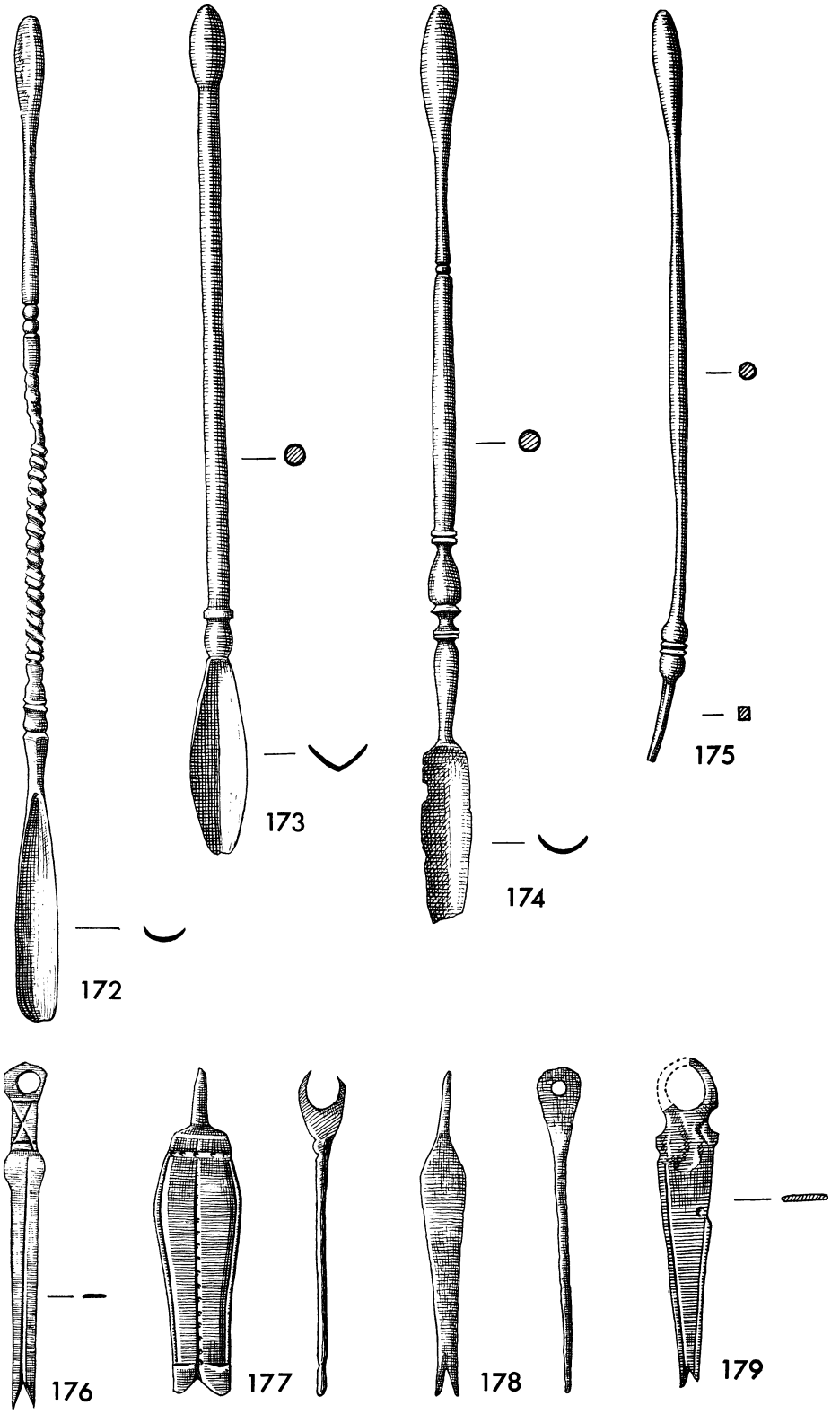


170

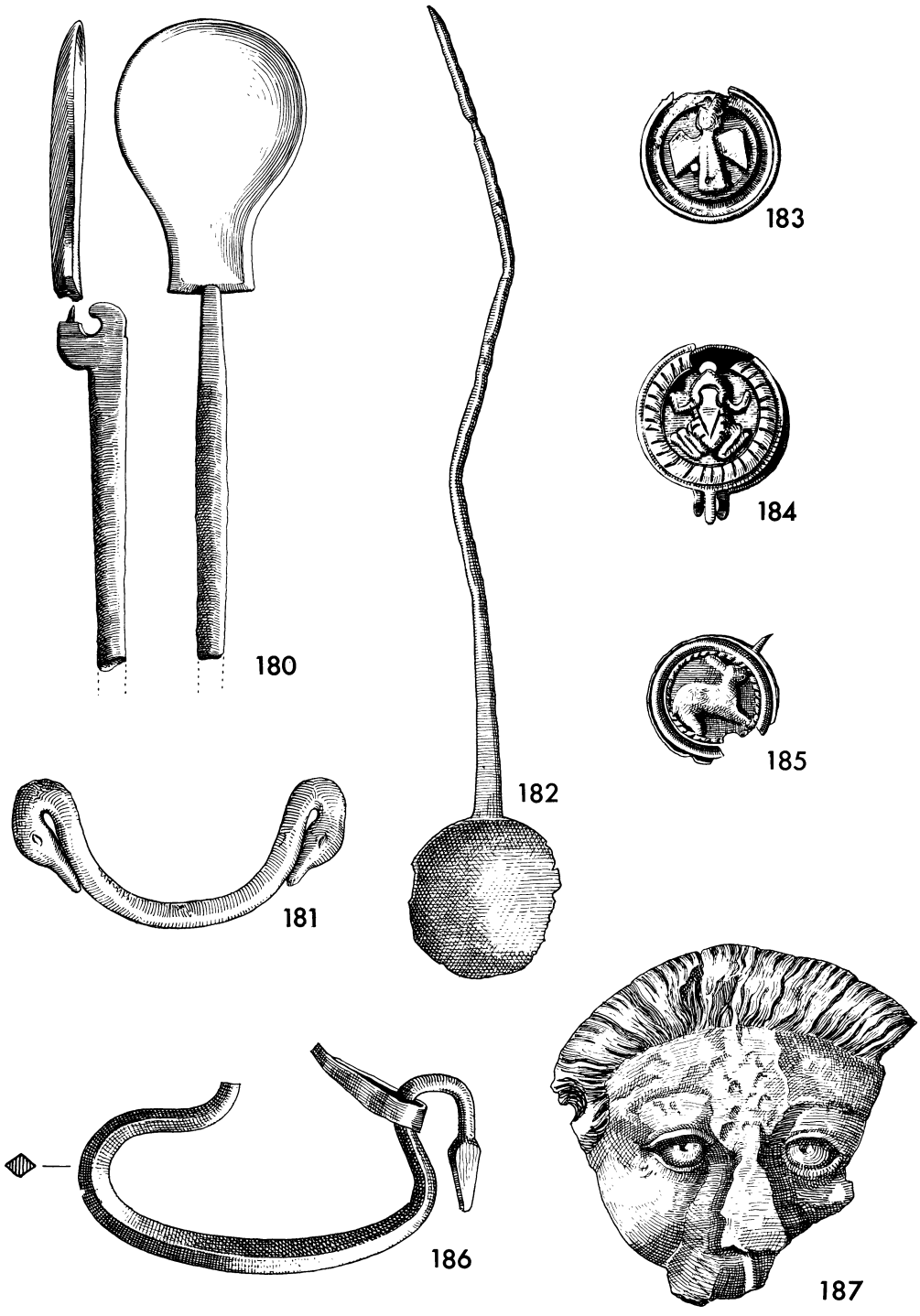


171

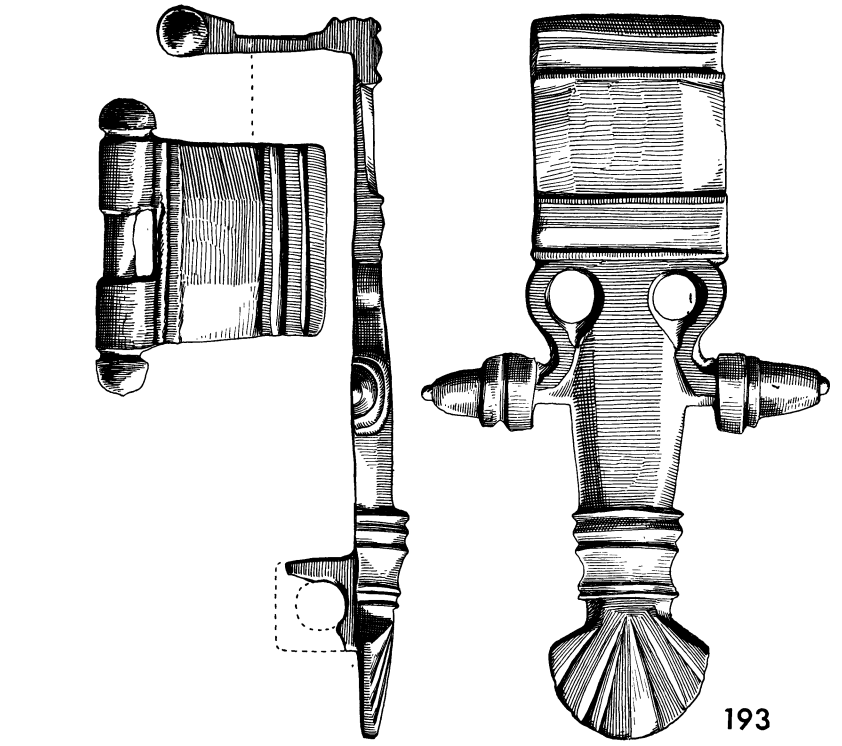
Small finds of bronze (1/1), pp. 98–100.

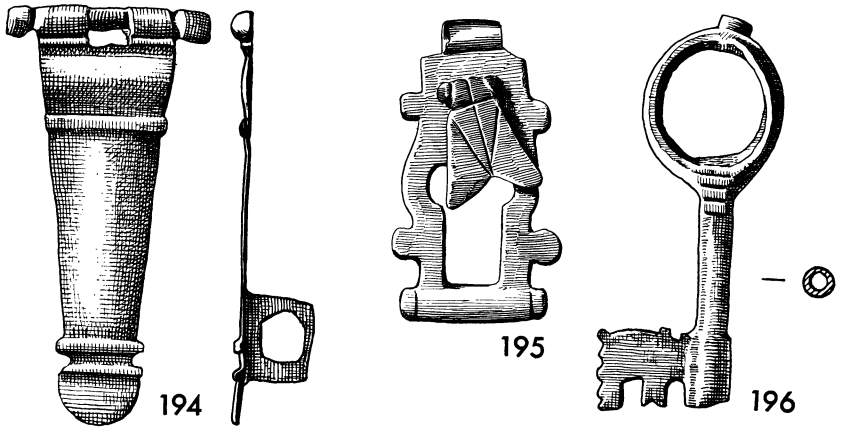


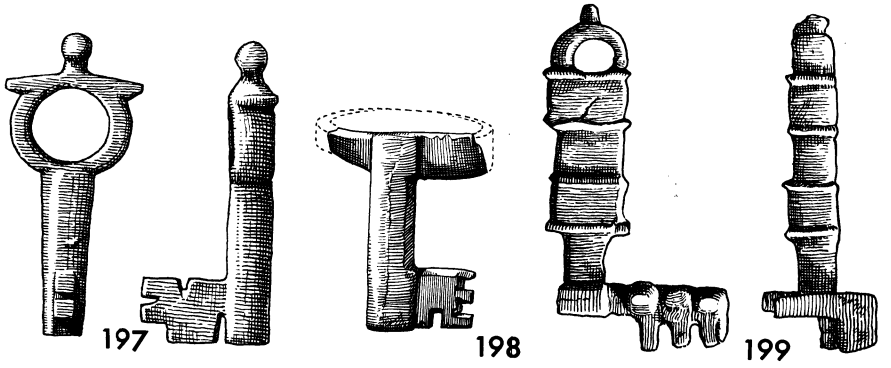
Small finds of bronze (1/1), p. 100.



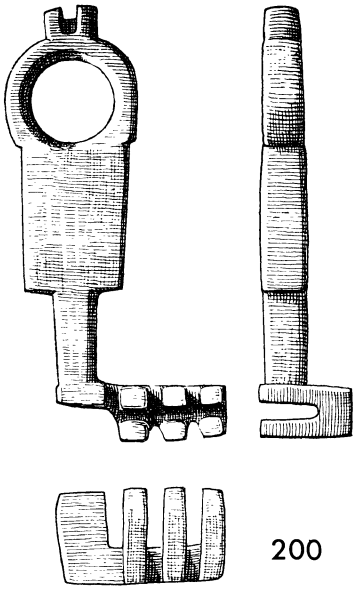
Small finds of bronze (¼), p. 101.



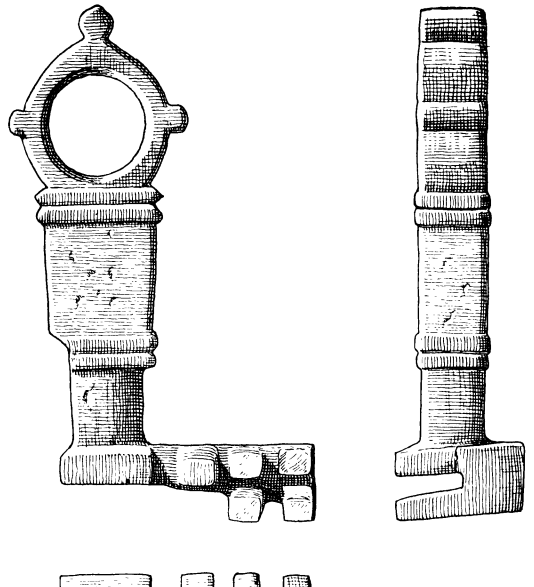




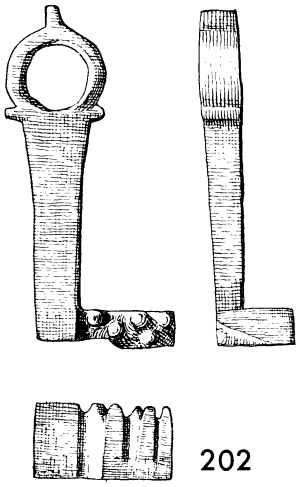
Small finds of bronze (½), pp. 103–4.



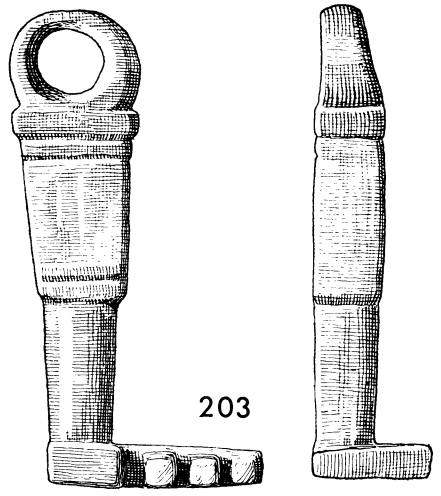
200



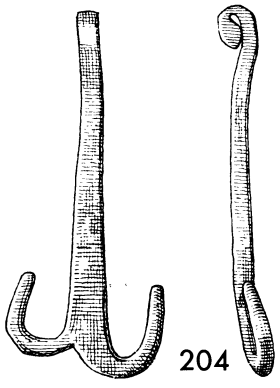
201



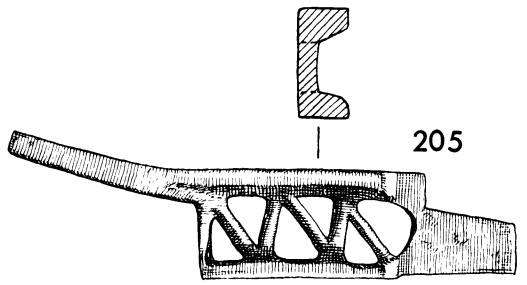
202



203

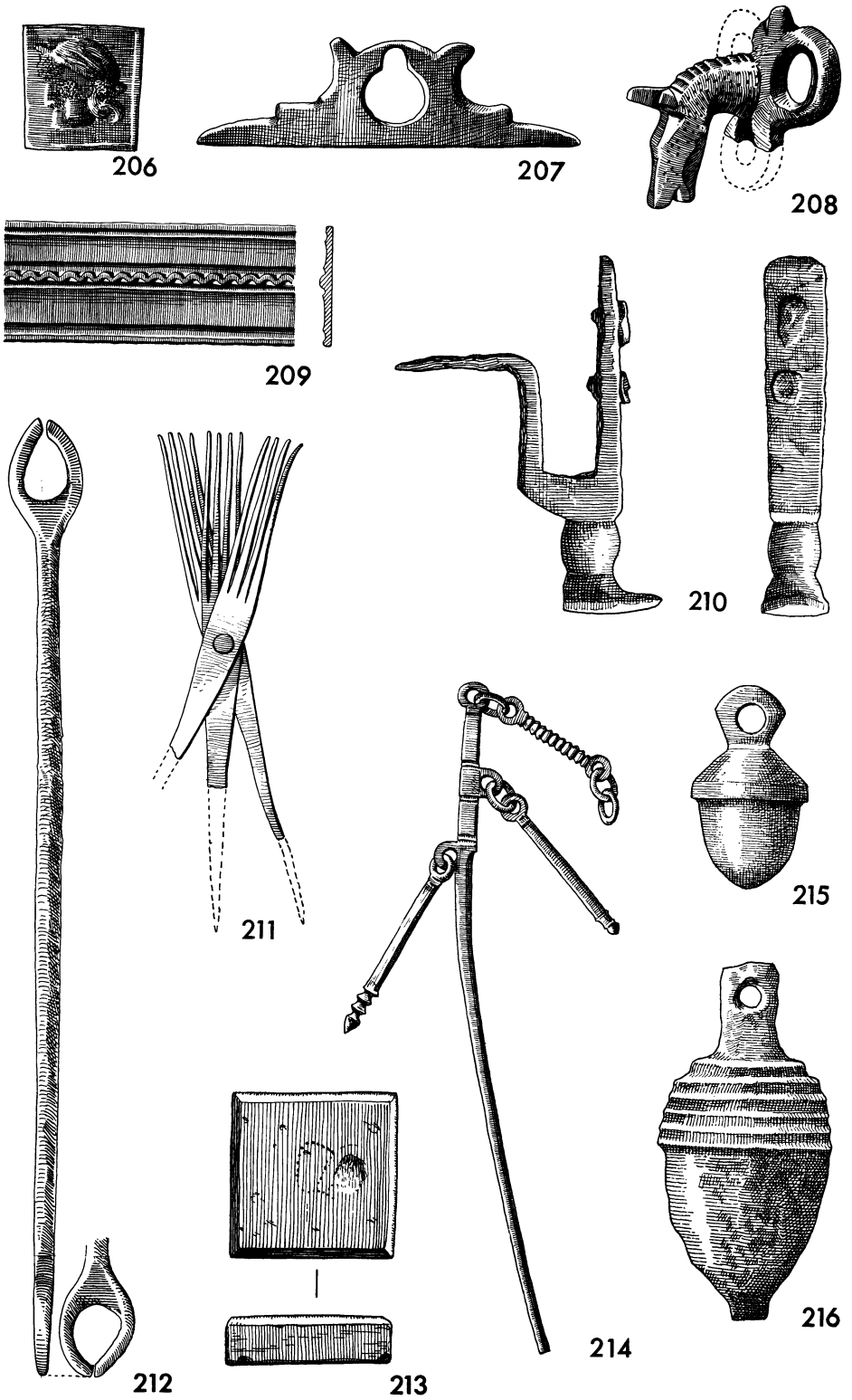


204

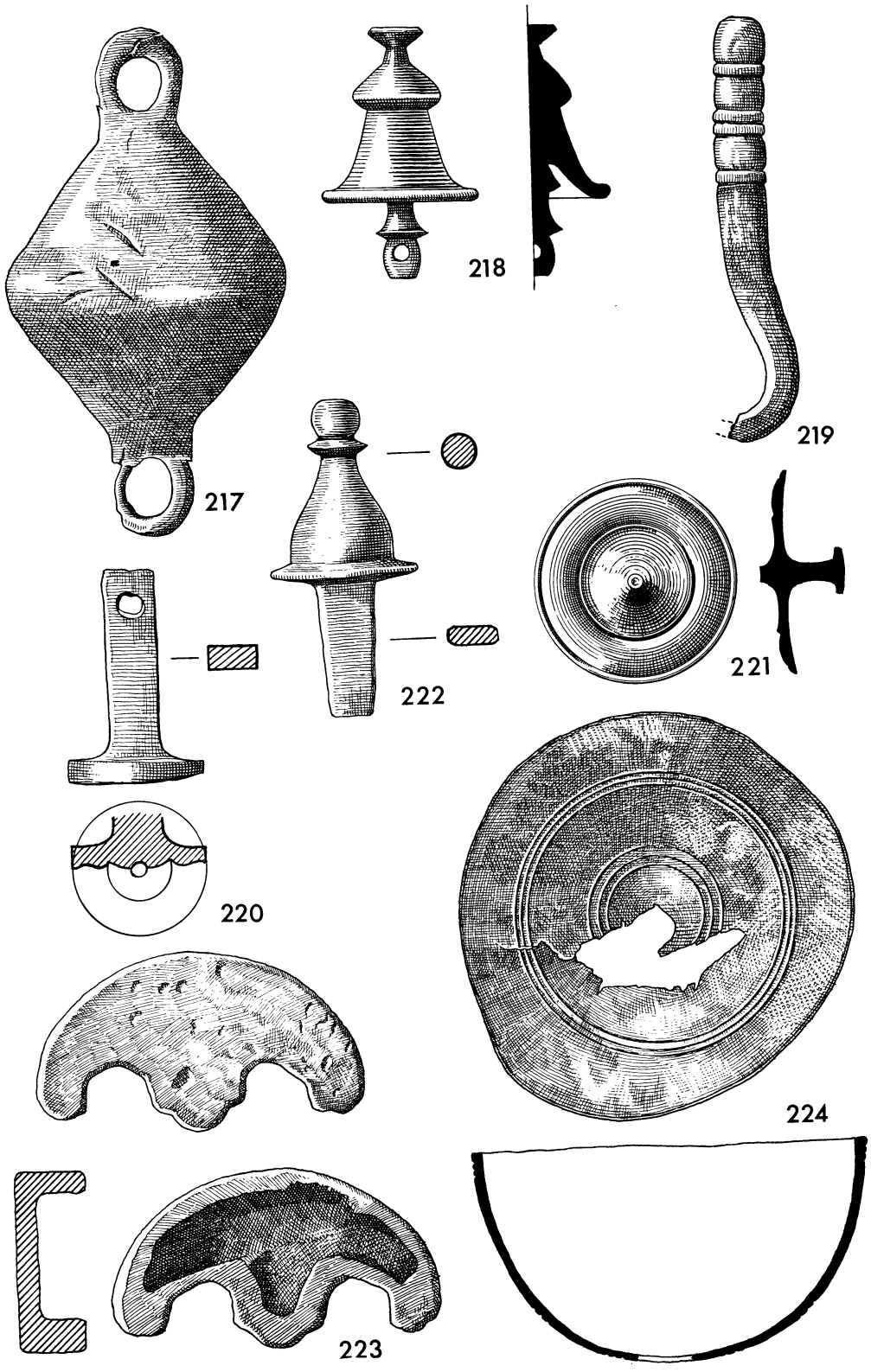


205

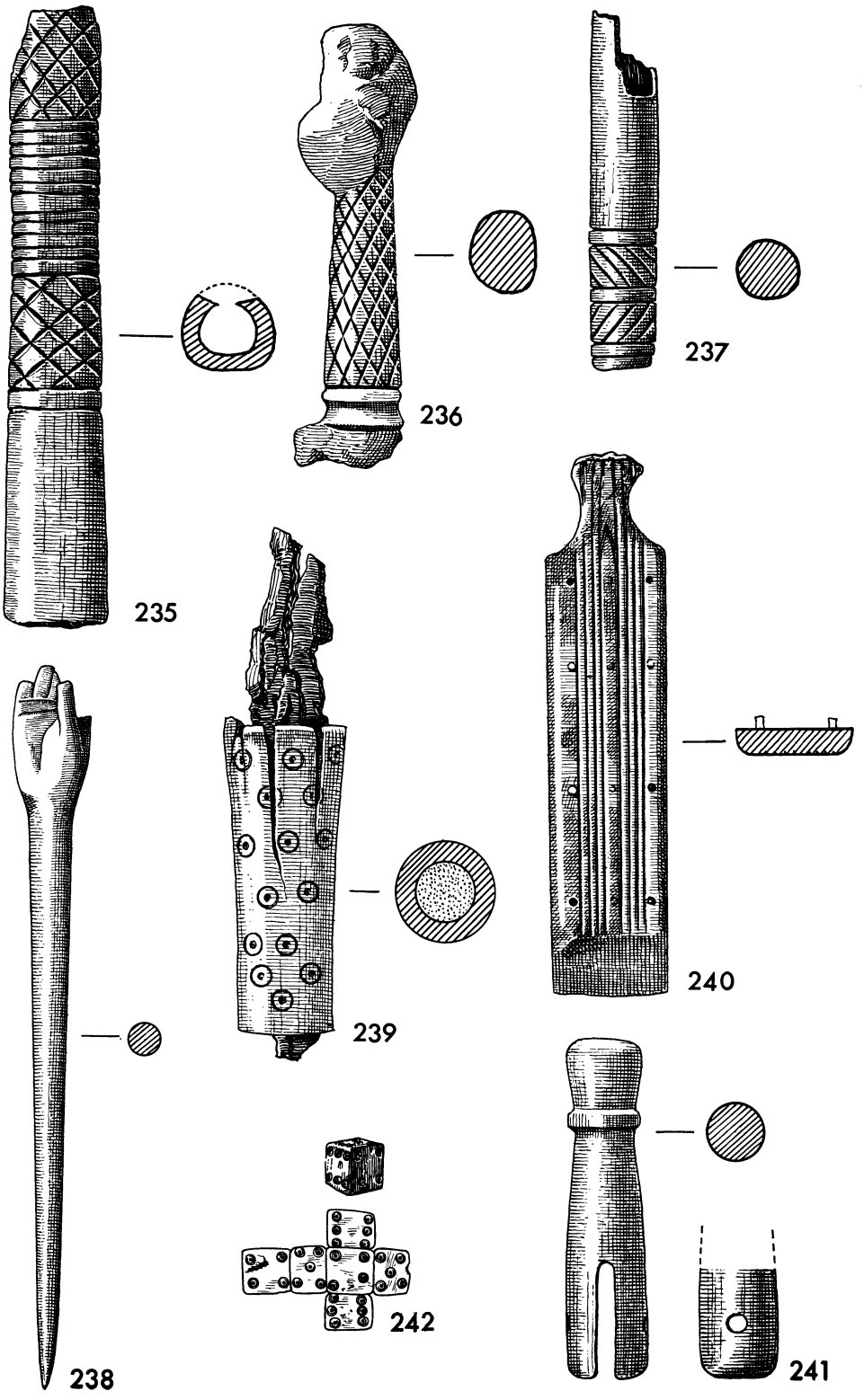
Small finds of bronze (½), p. 104.



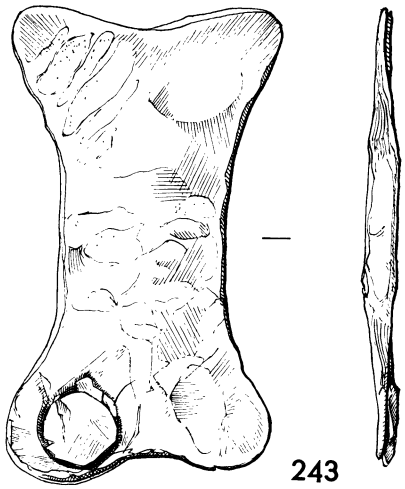
Small finds of bronze (¼), pp. 104–5.



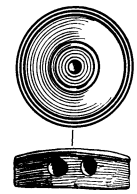
Small finds of bronze (¼), pp. 105–6.



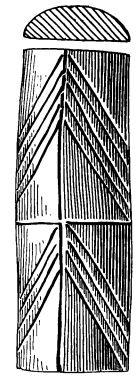
Small finds of bone (¼), pp. 106–7.



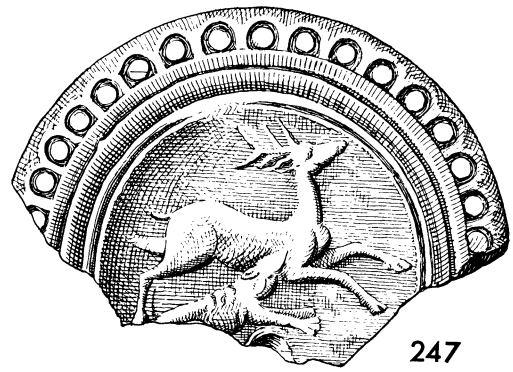
243



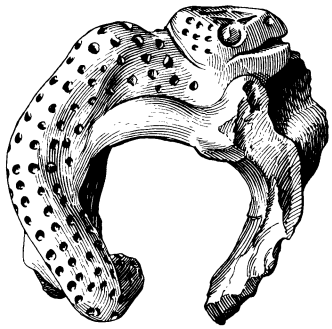
244



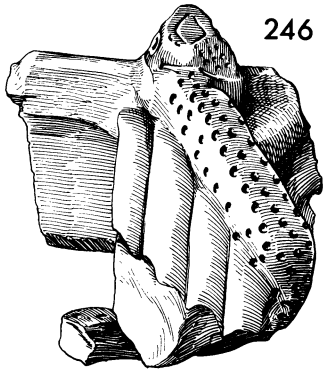
245



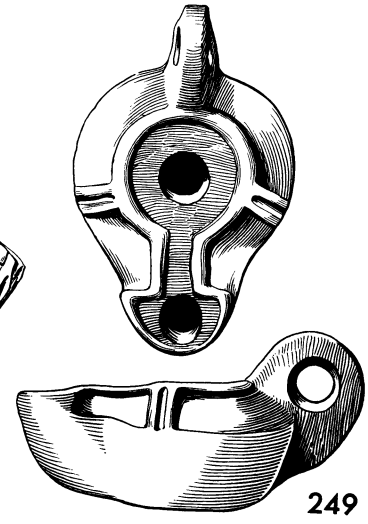
247



246

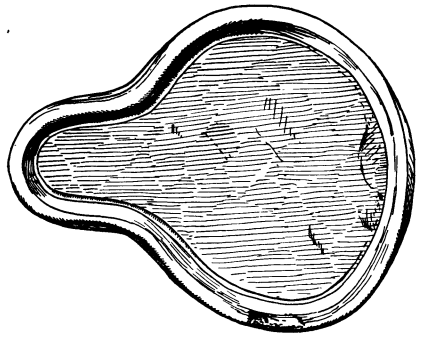


248

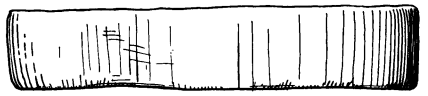


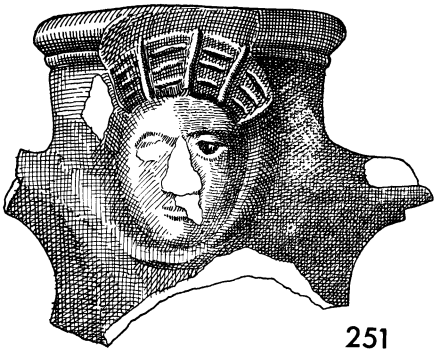
249

Miscellaneous small finds all $\frac{1}{4}$ except nos. 243, 246, and 249 which are $\frac{1}{2}$, p. 107.

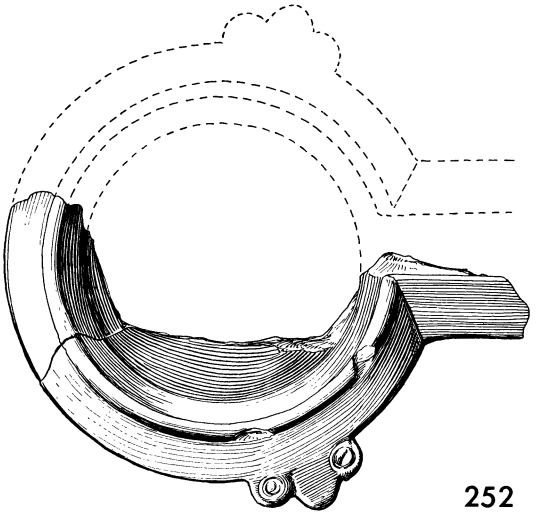


250





251



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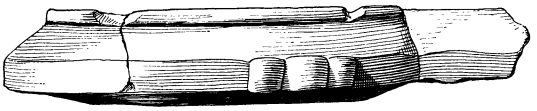

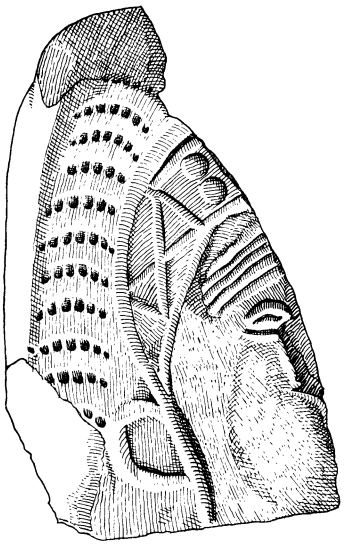

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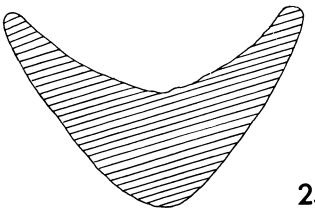
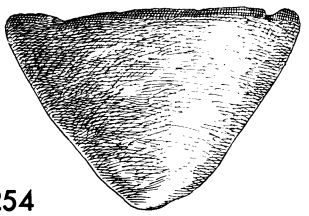
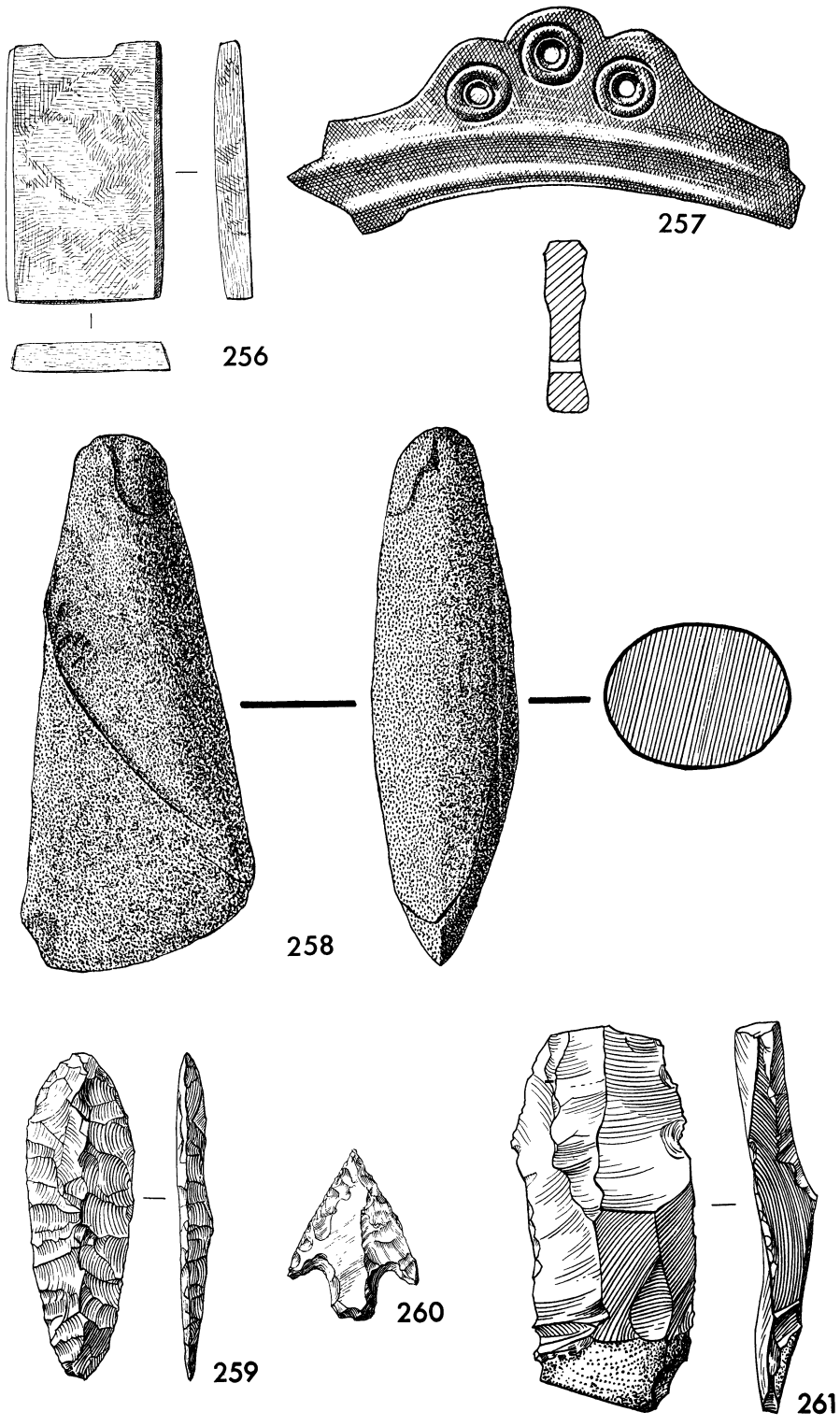


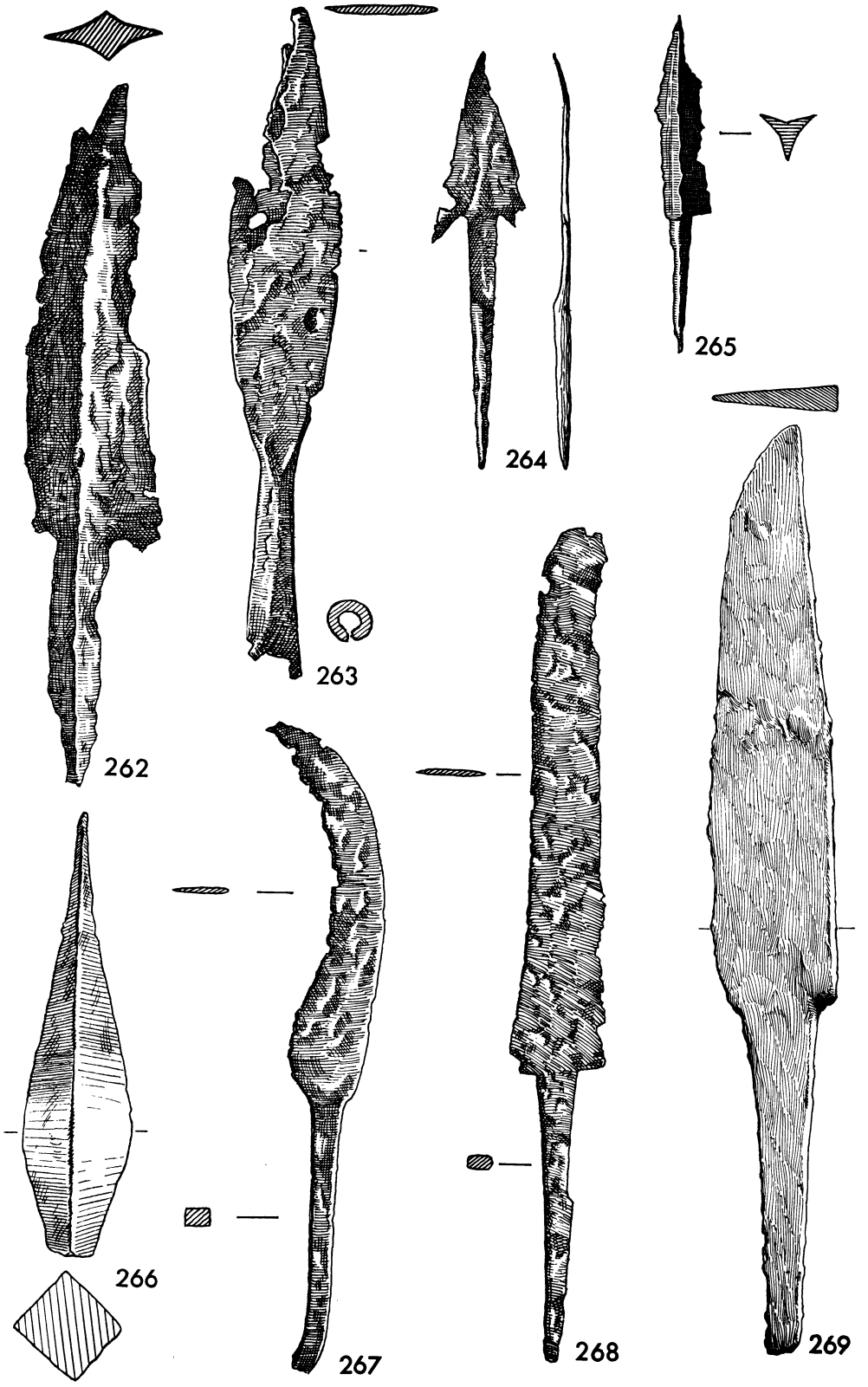


254

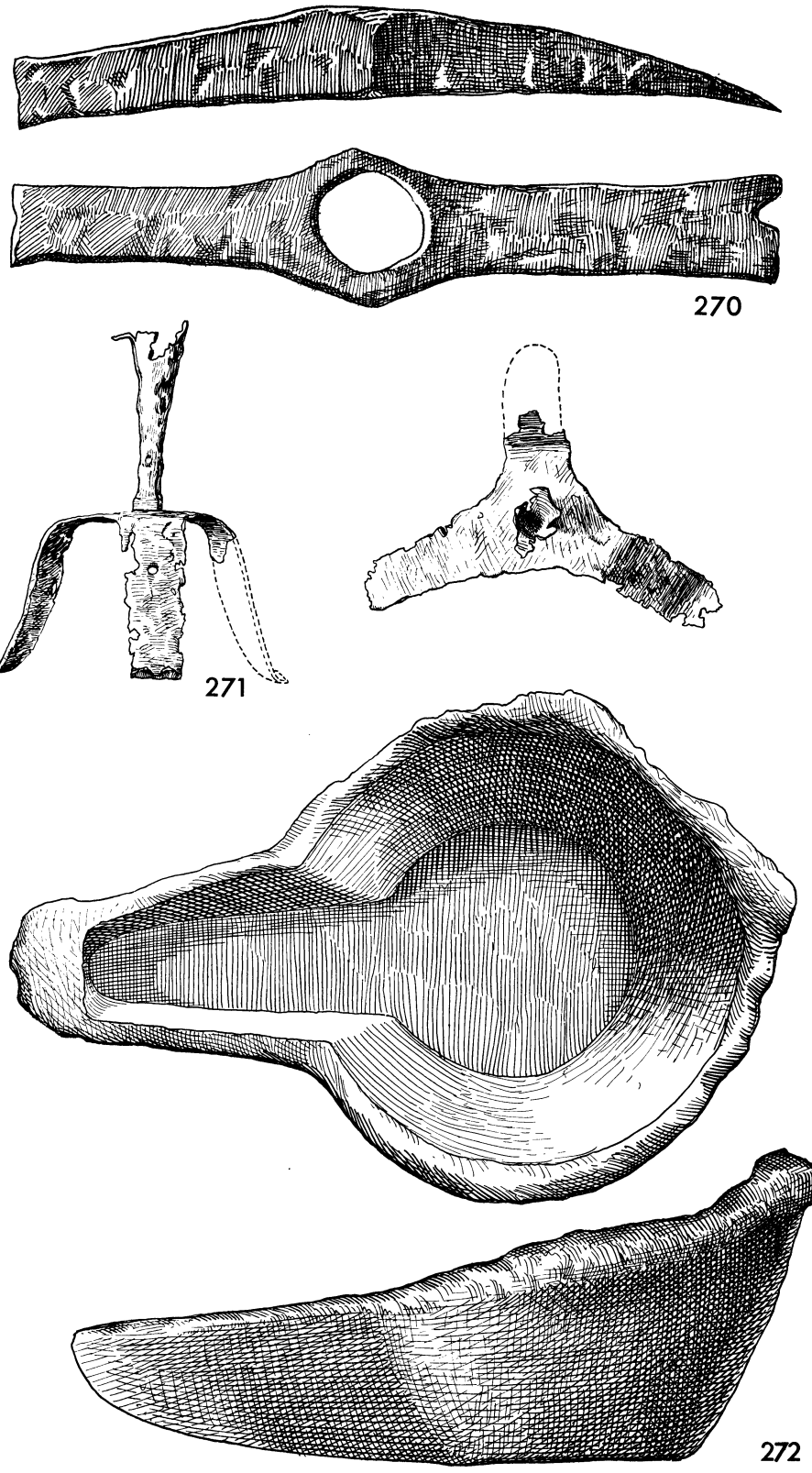
Miscellaneous small finds (½), pp. 107–8.



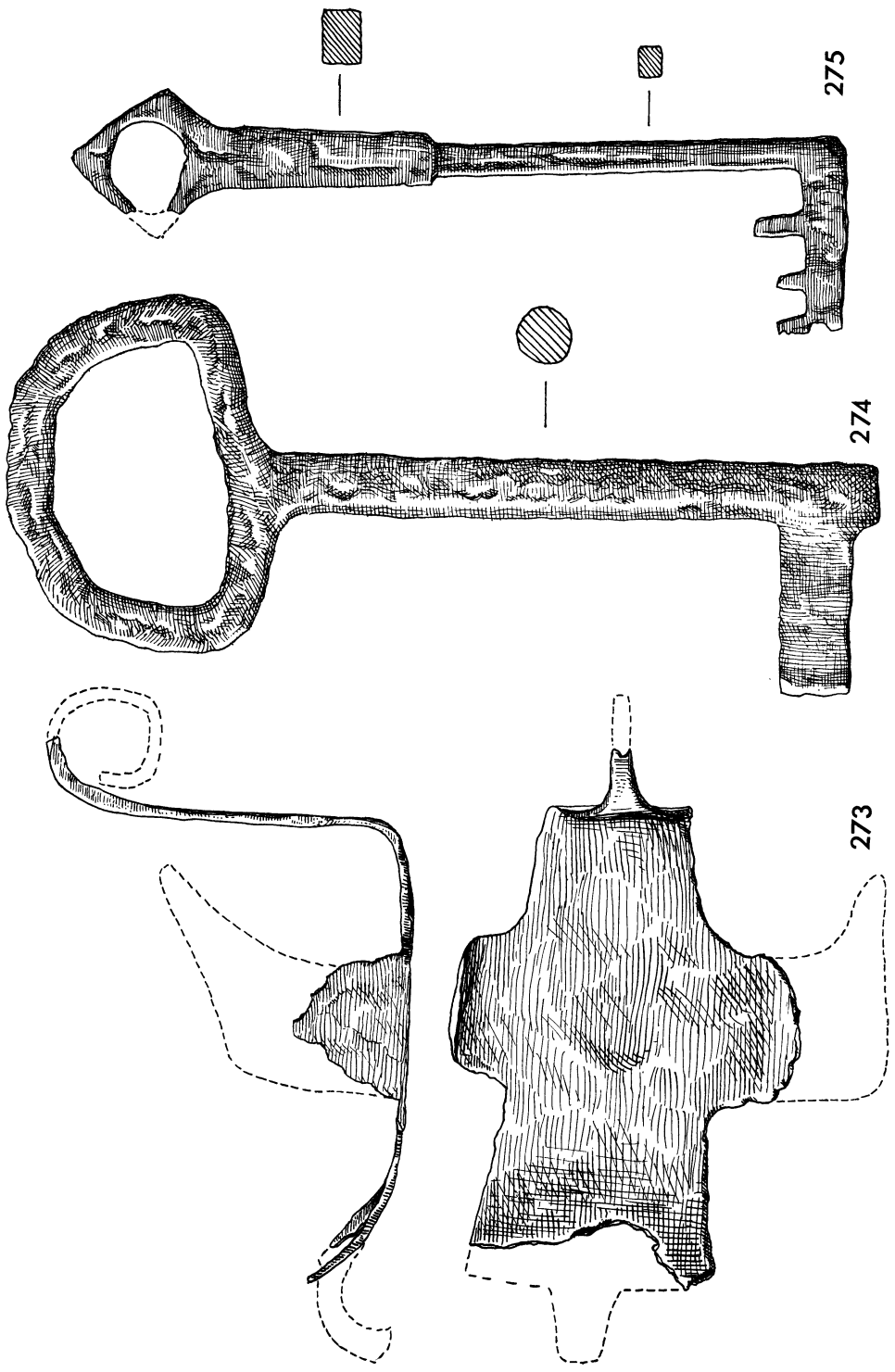
Miscellaneous small finds all $\frac{1}{1}$ except 256 which is $\frac{1}{2}$, p. 108.



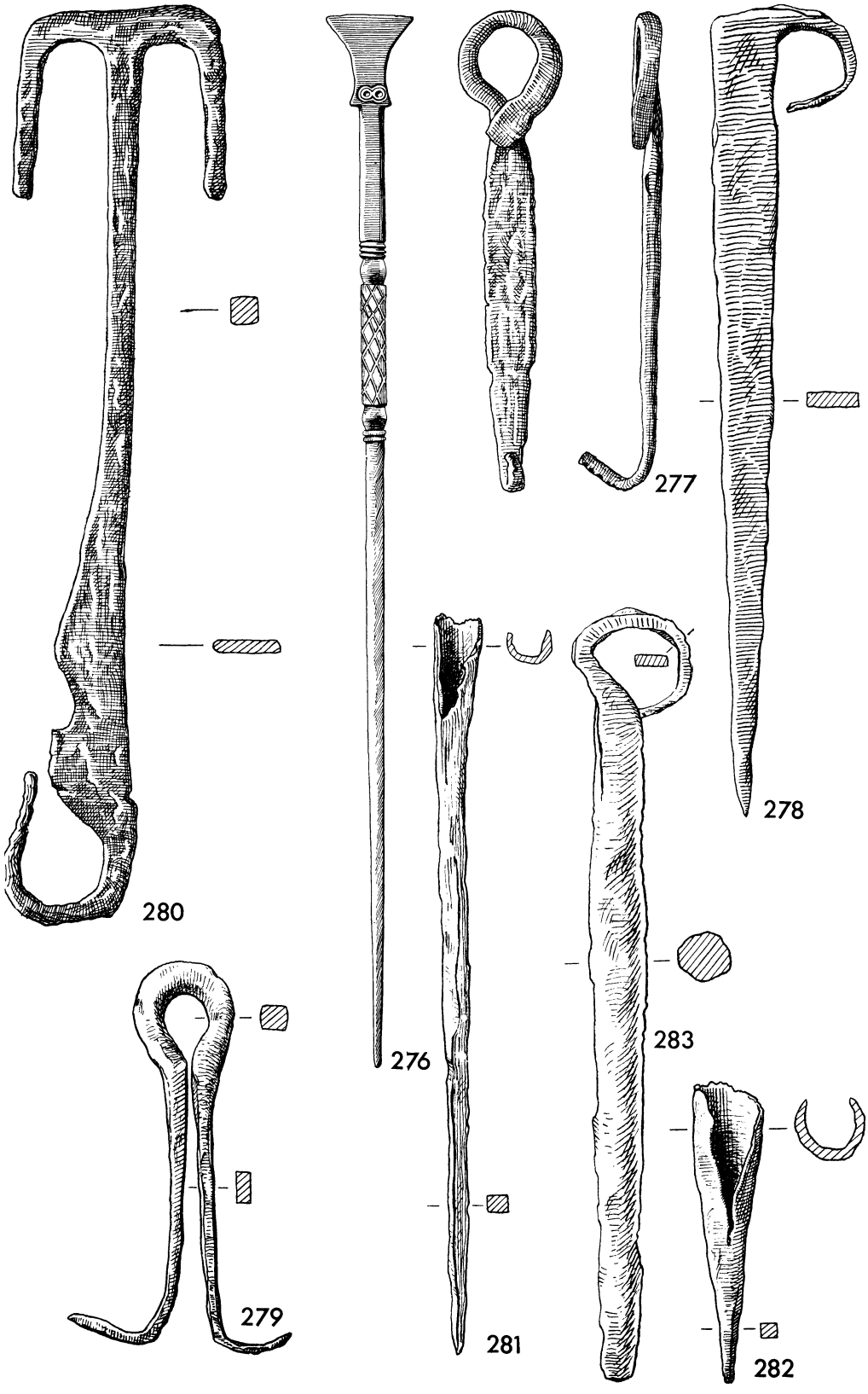
Small finds of iron all $\frac{1}{4}$ except 267, 268 and 269 which are $\frac{1}{2}$, pp. 108–9.



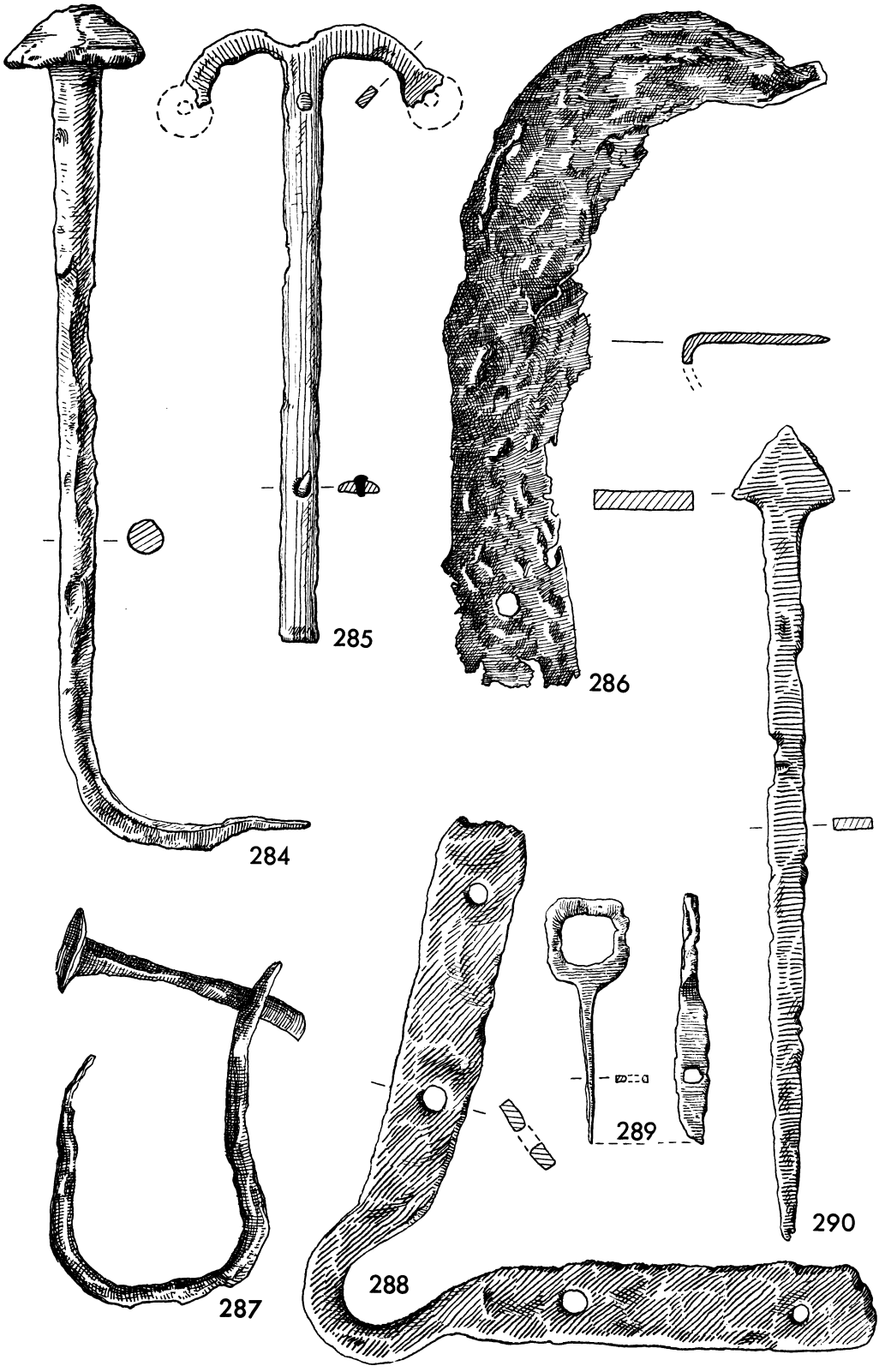
Small finds of iron ($\frac{1}{2}$), p. 109.



Small finds of iron (½), p. 109.

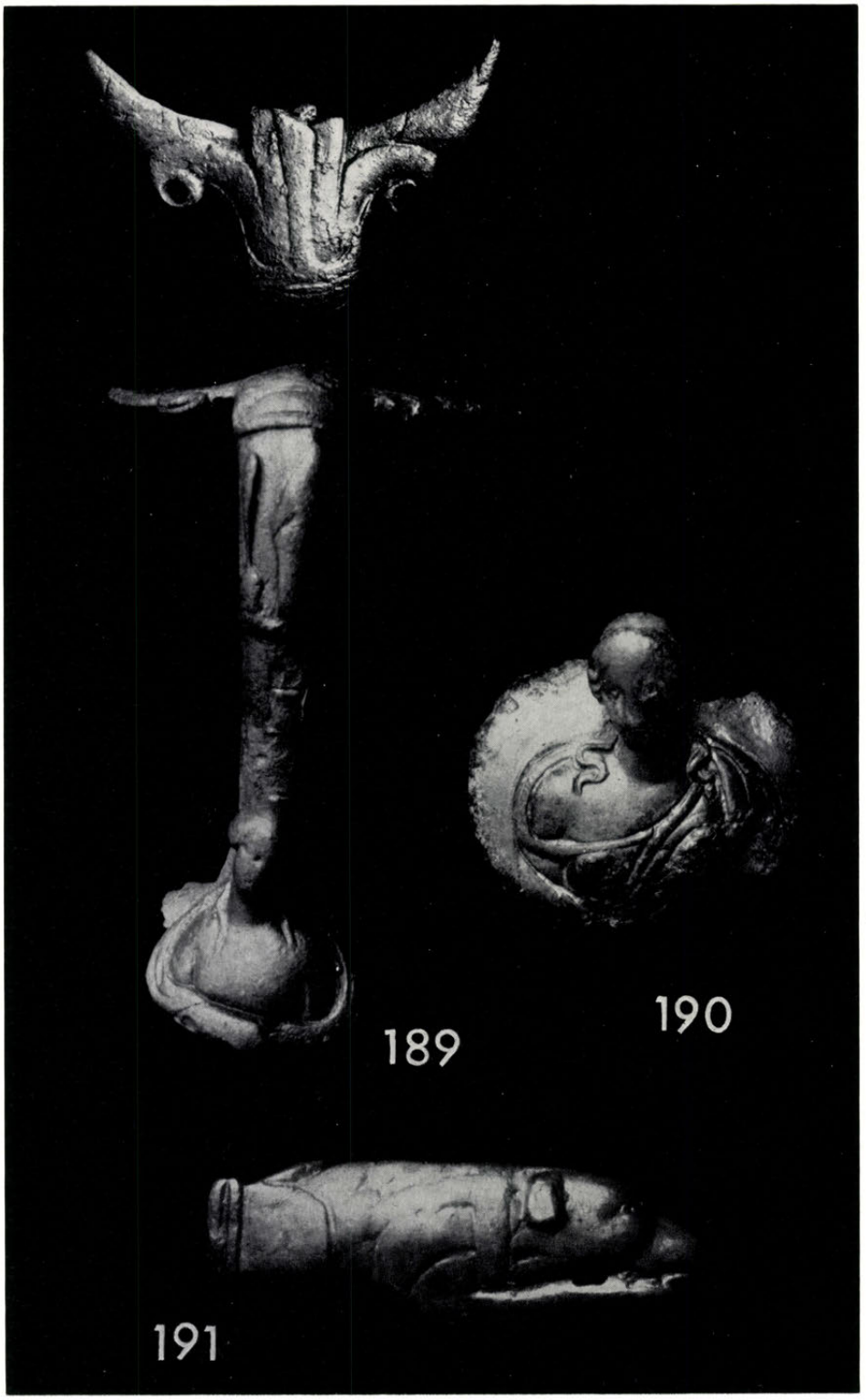


Small finds of iron (½), p. 109.

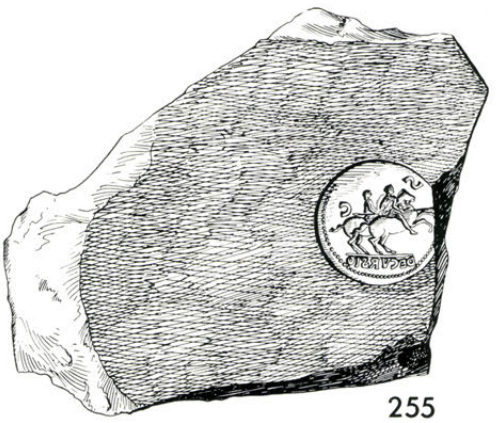


Small finds of iron (½), pp. 109–10.

The bronze goose 41·5 cm long, pp. 101–2.



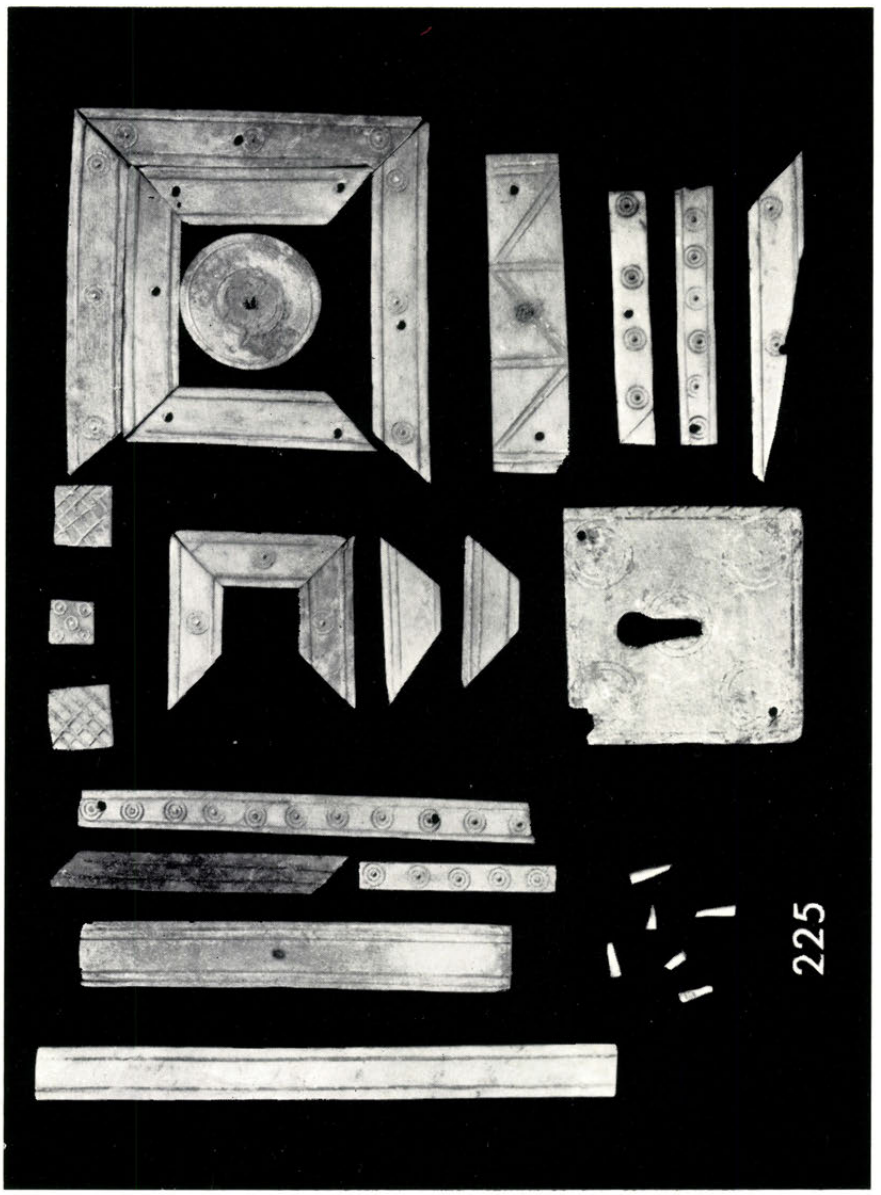
Small finds of bronze ($\frac{1}{1}$), pp. 102–3.



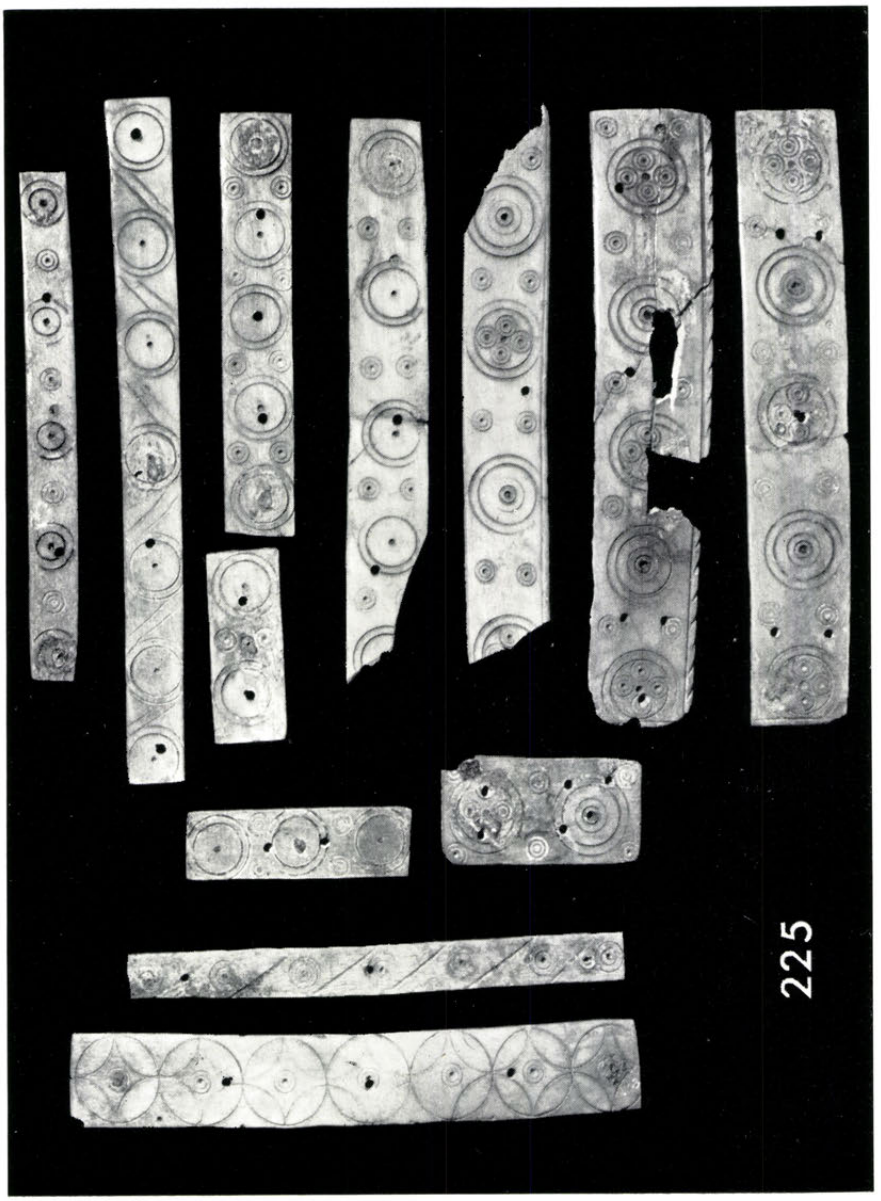
255

192

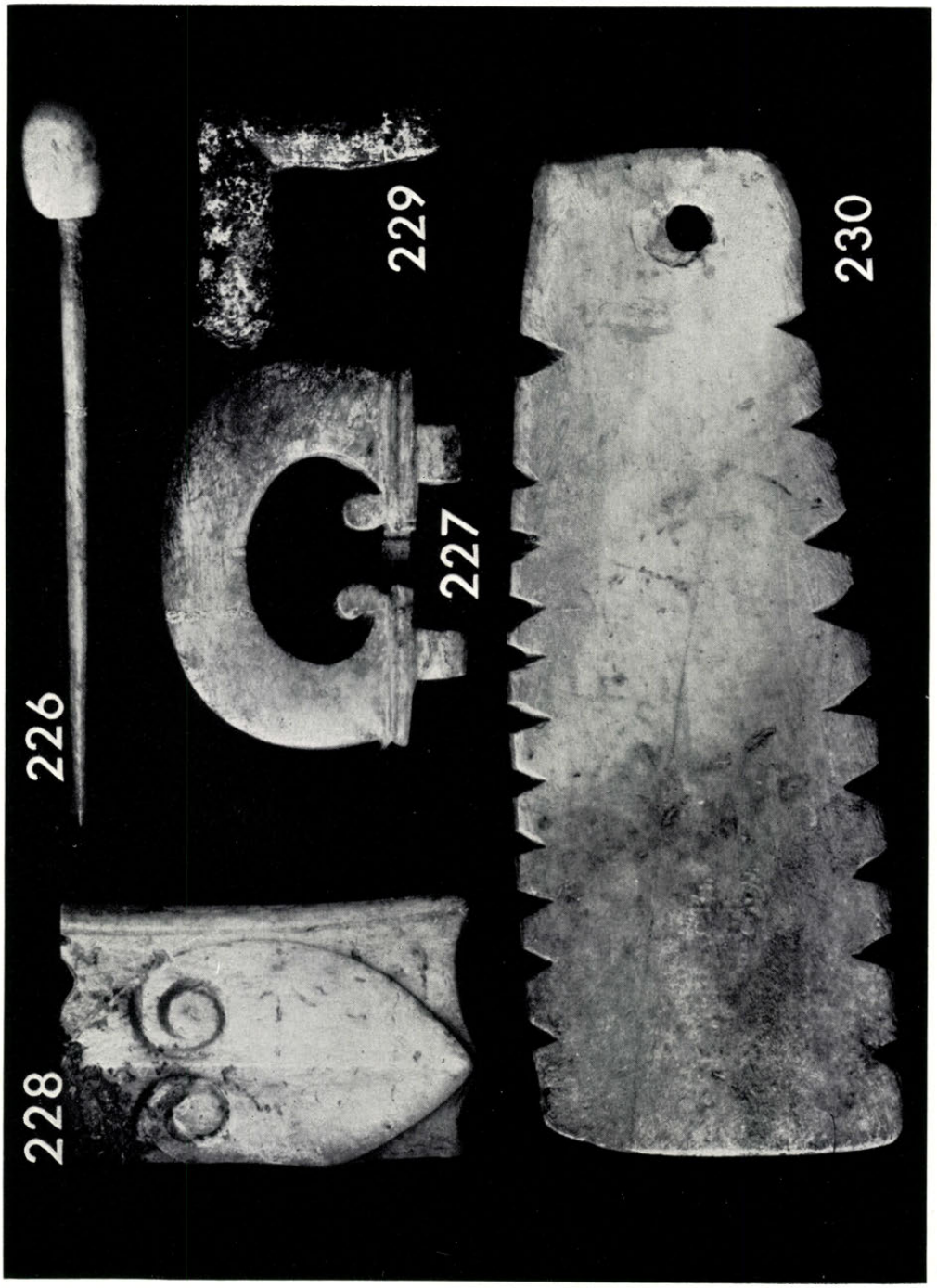
Miscellaneous small finds; no. 255 ($\frac{1}{2}$), p. 108; no. 192 ($\frac{1}{1}$), p. 103.



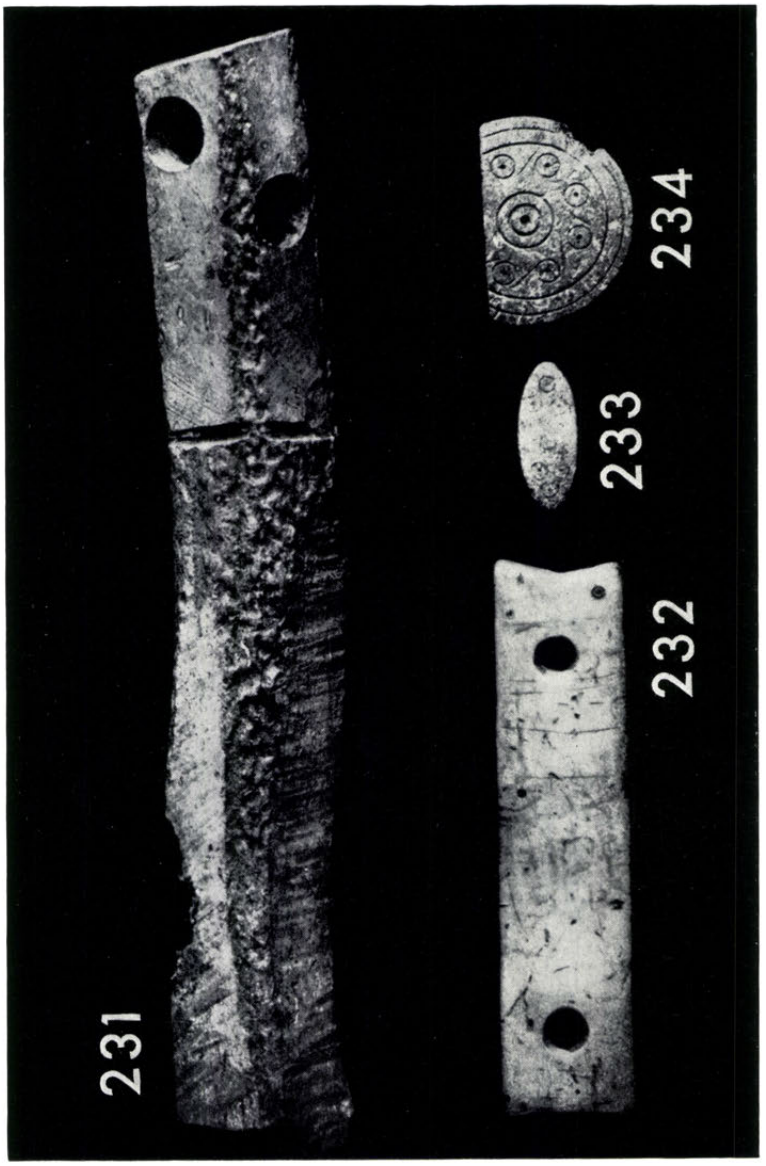
Bone inlay (½), p. 106.



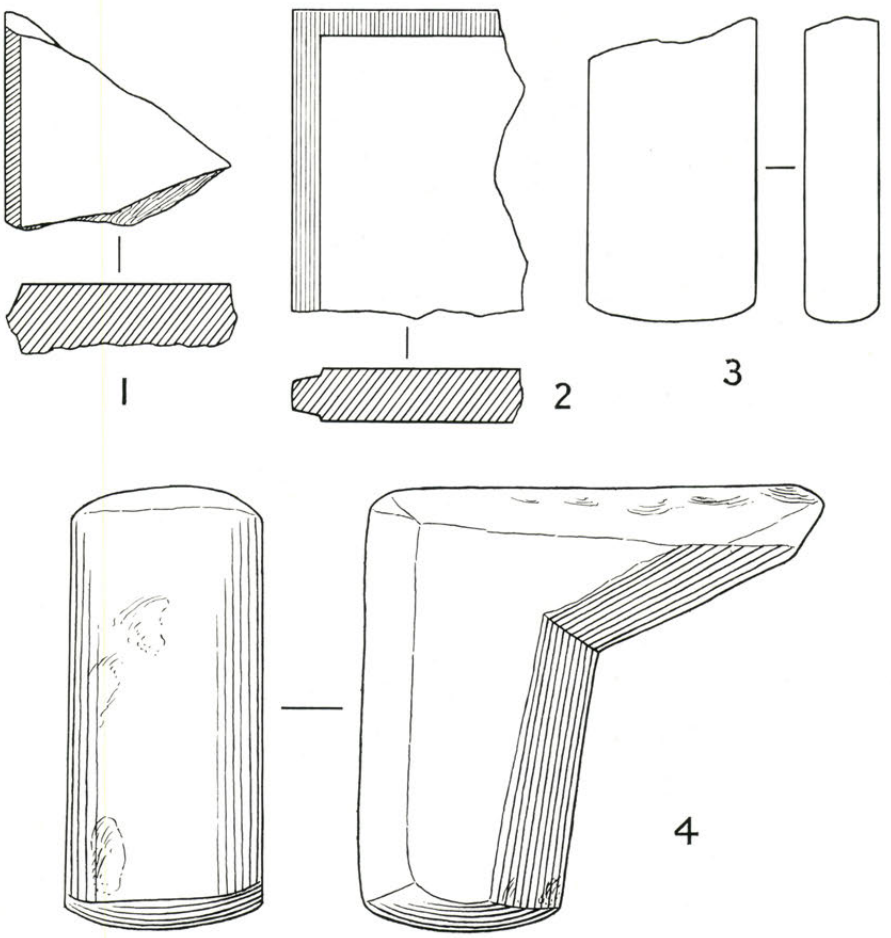
Bone inlay (½), p. 106.



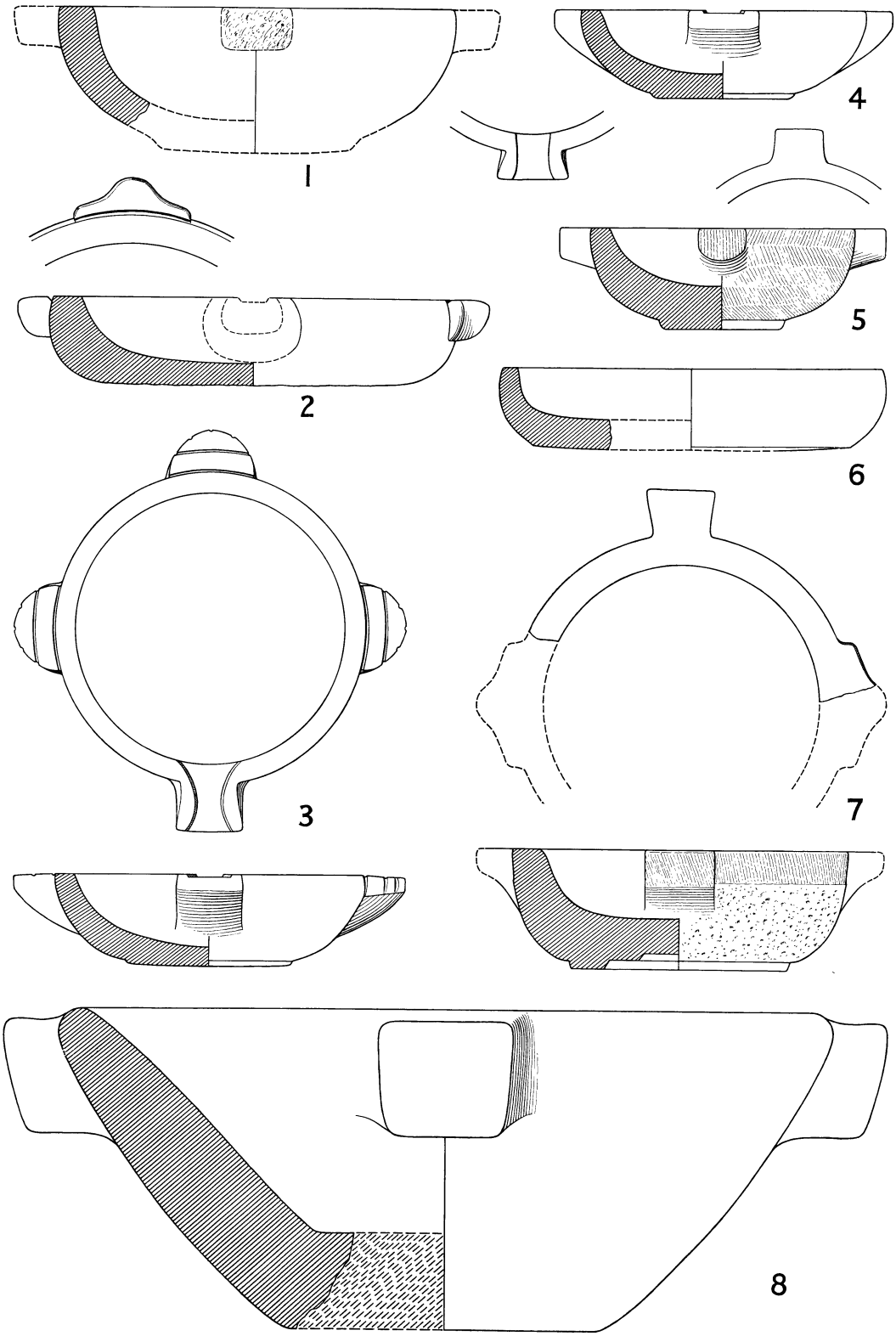
Bone objects (½), p. 106.



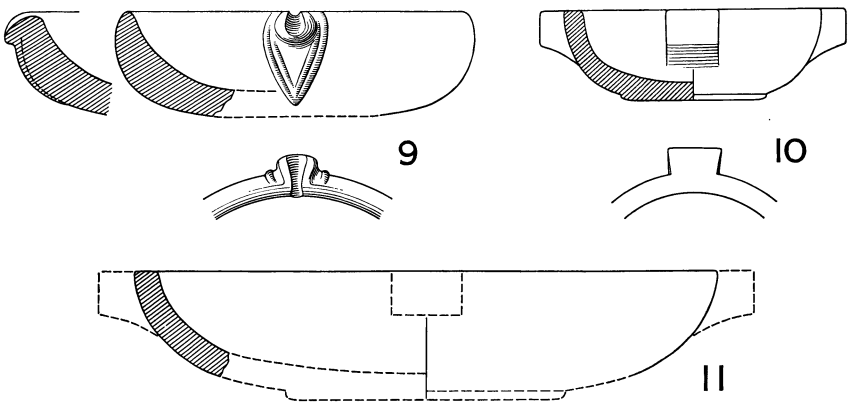
Bone objects (½), p. 106.



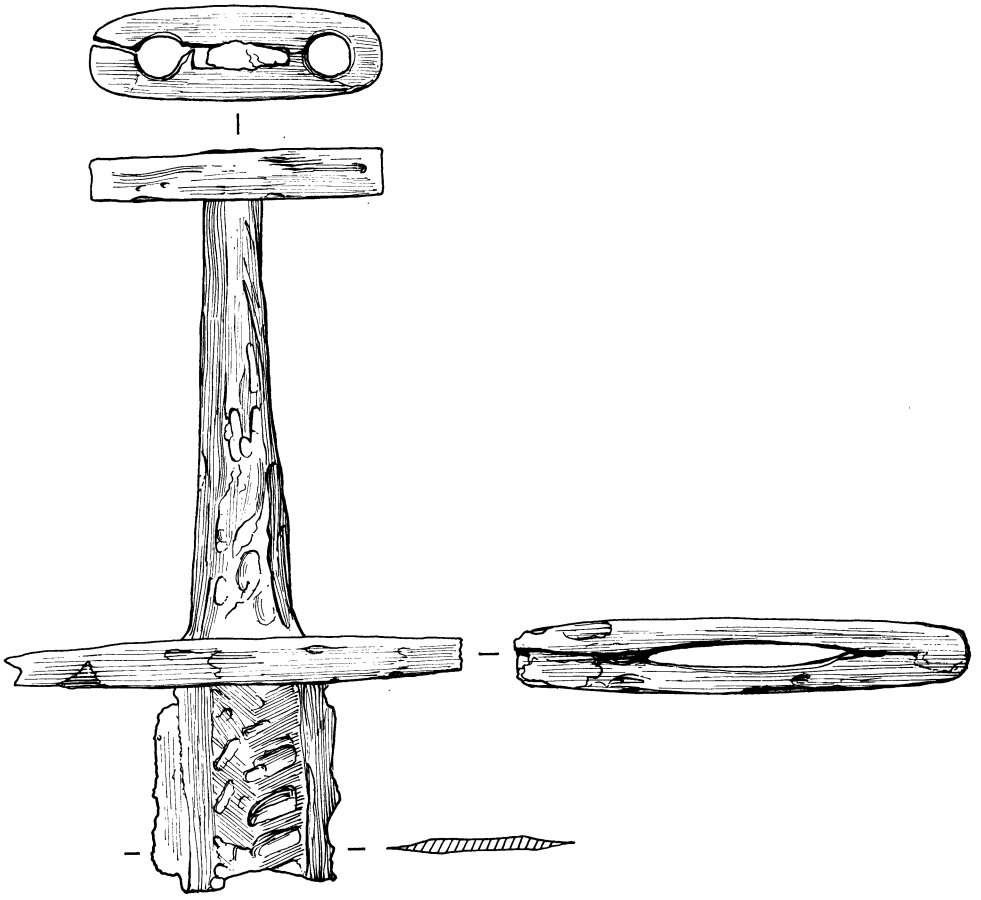
Veneer of Purbeck marble, 1–3, p. 111; pestle of white marble, 4, p. 112, ($\frac{1}{2}$).



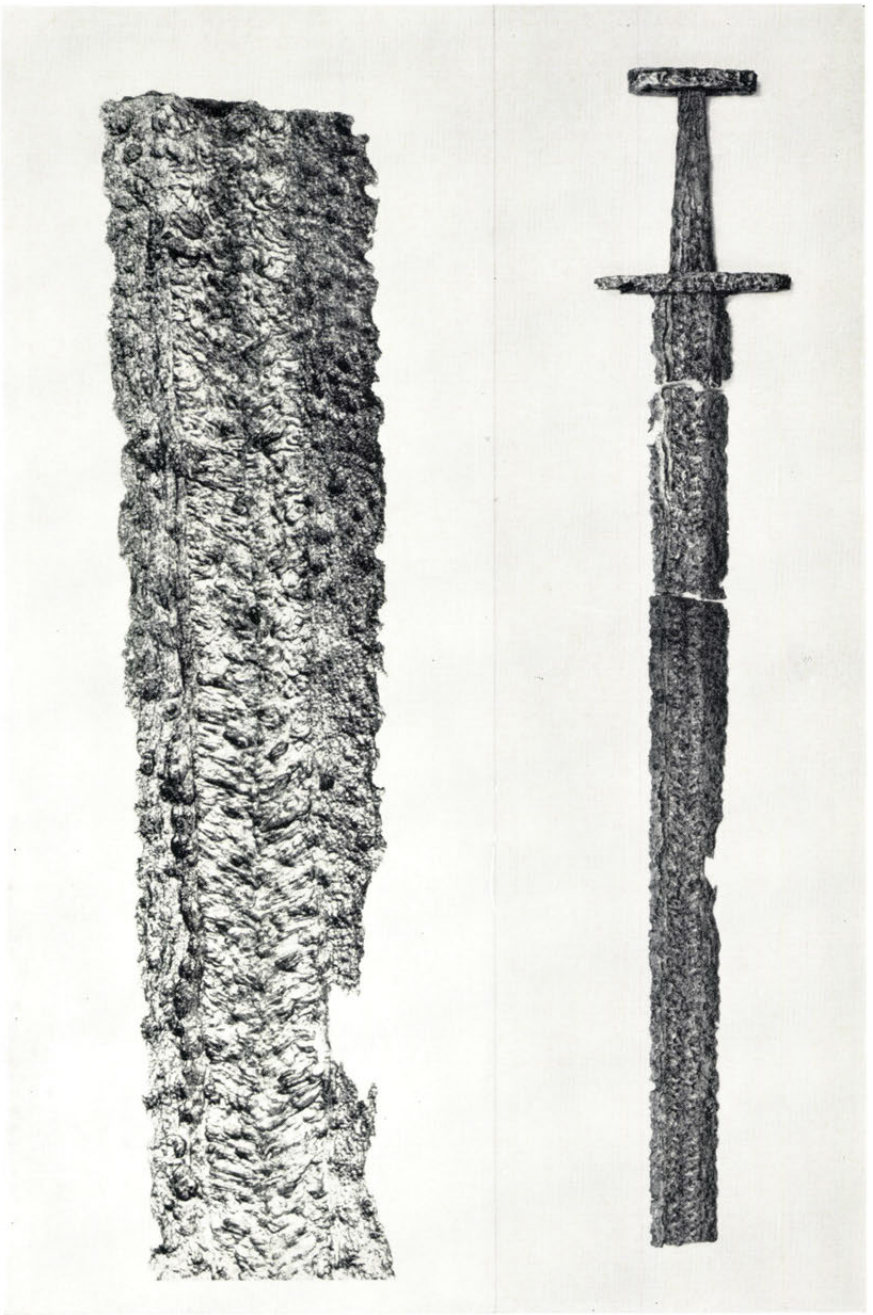
Stone mortars from sources in Britain ($\frac{1}{4}$), pp. 112–14.



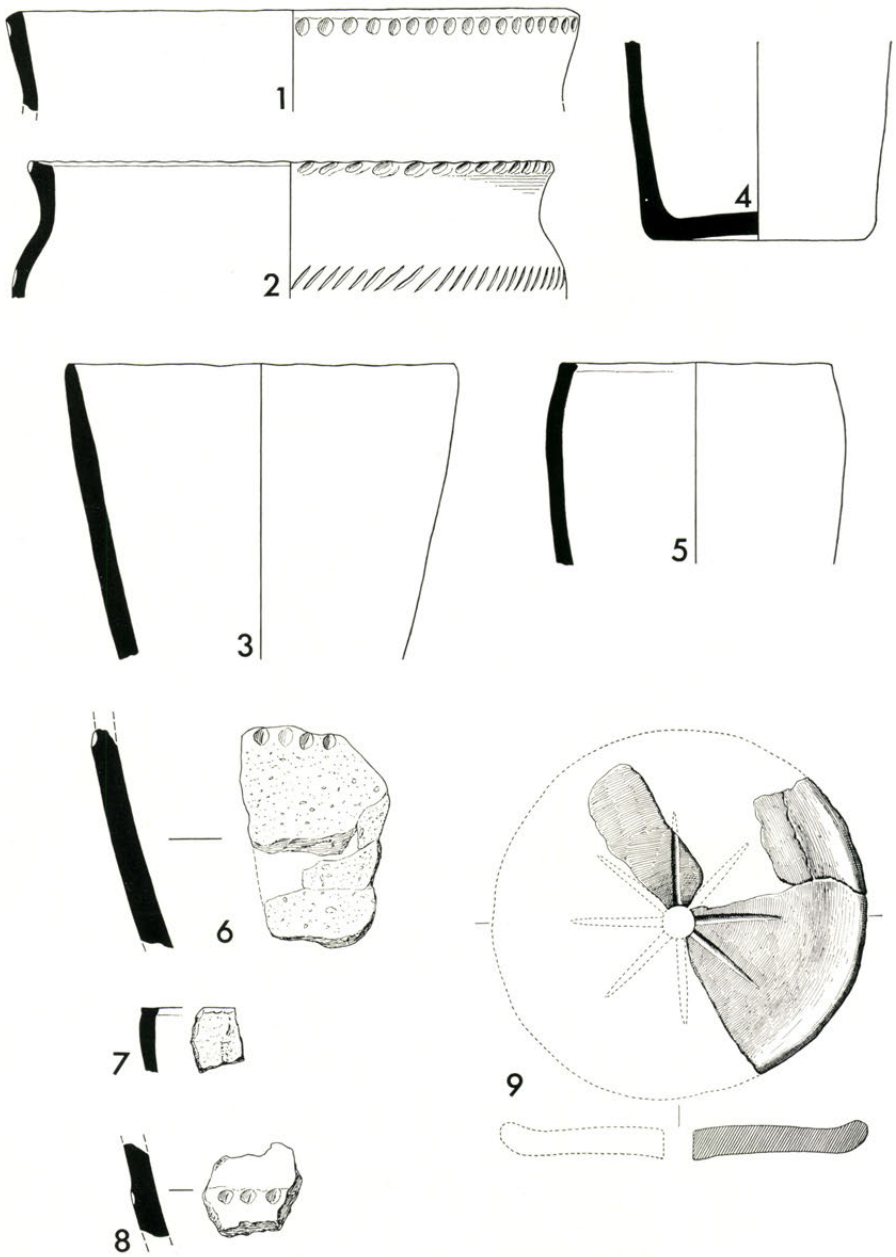
a. Stone mortars of white marble ($\frac{1}{4}$), p. 114.



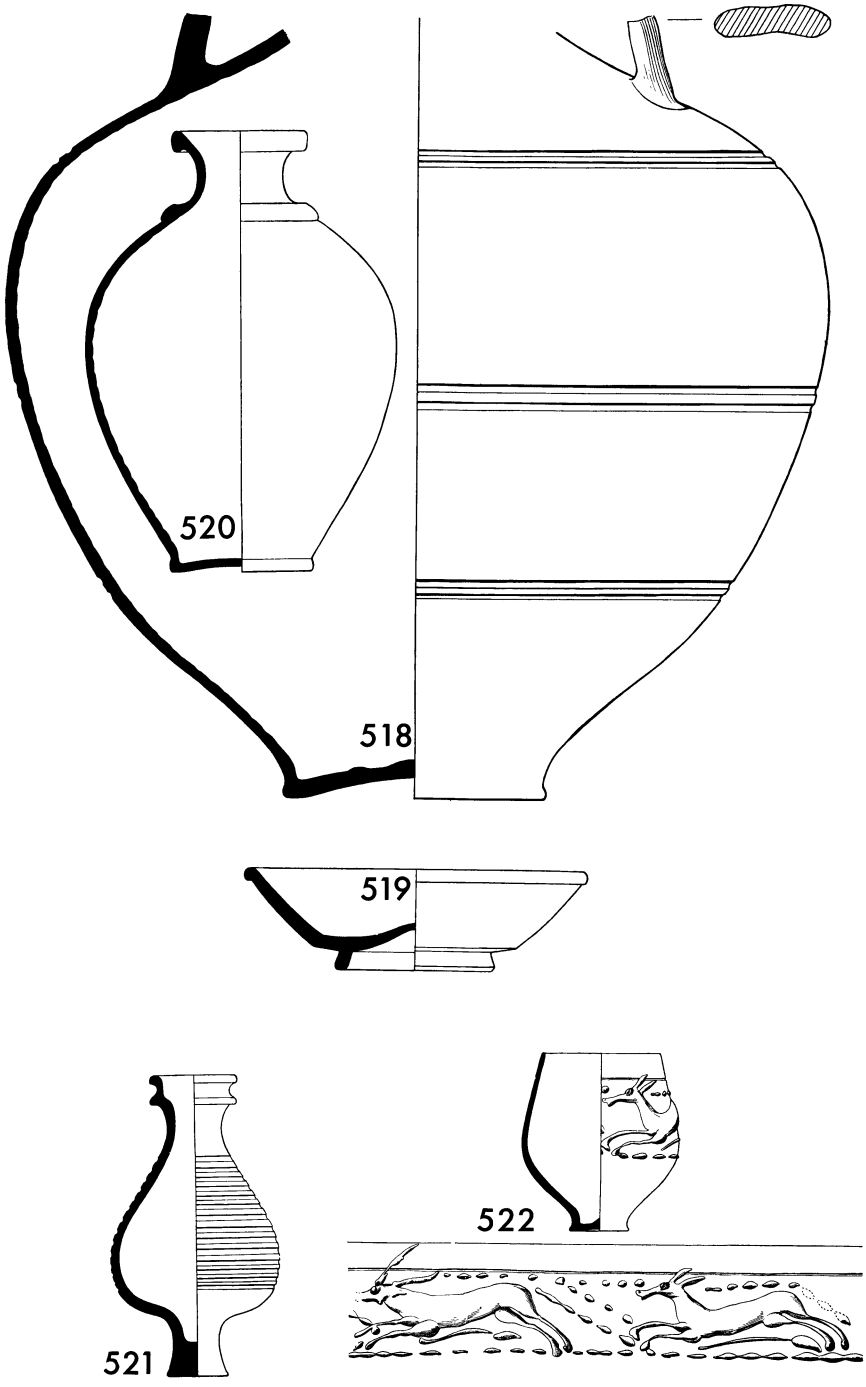
b. Hilt of the Saxon sword (*c*. $\frac{1}{2}$), pp. 114–16.



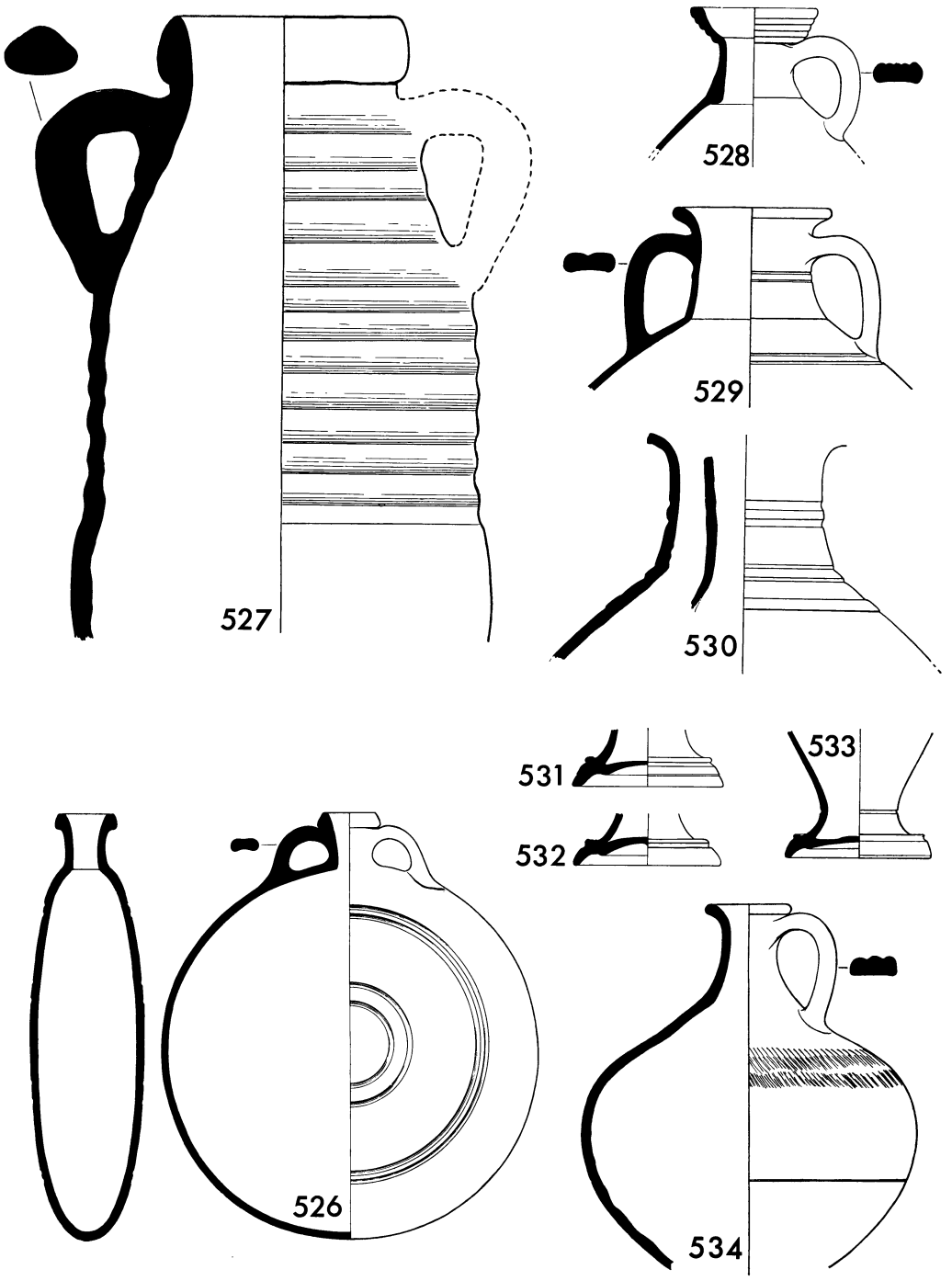
The Saxon sword (right) and a detail of the blade (left), p. 114–16. The total length of the surviving part of the sword is 65.5 cm.



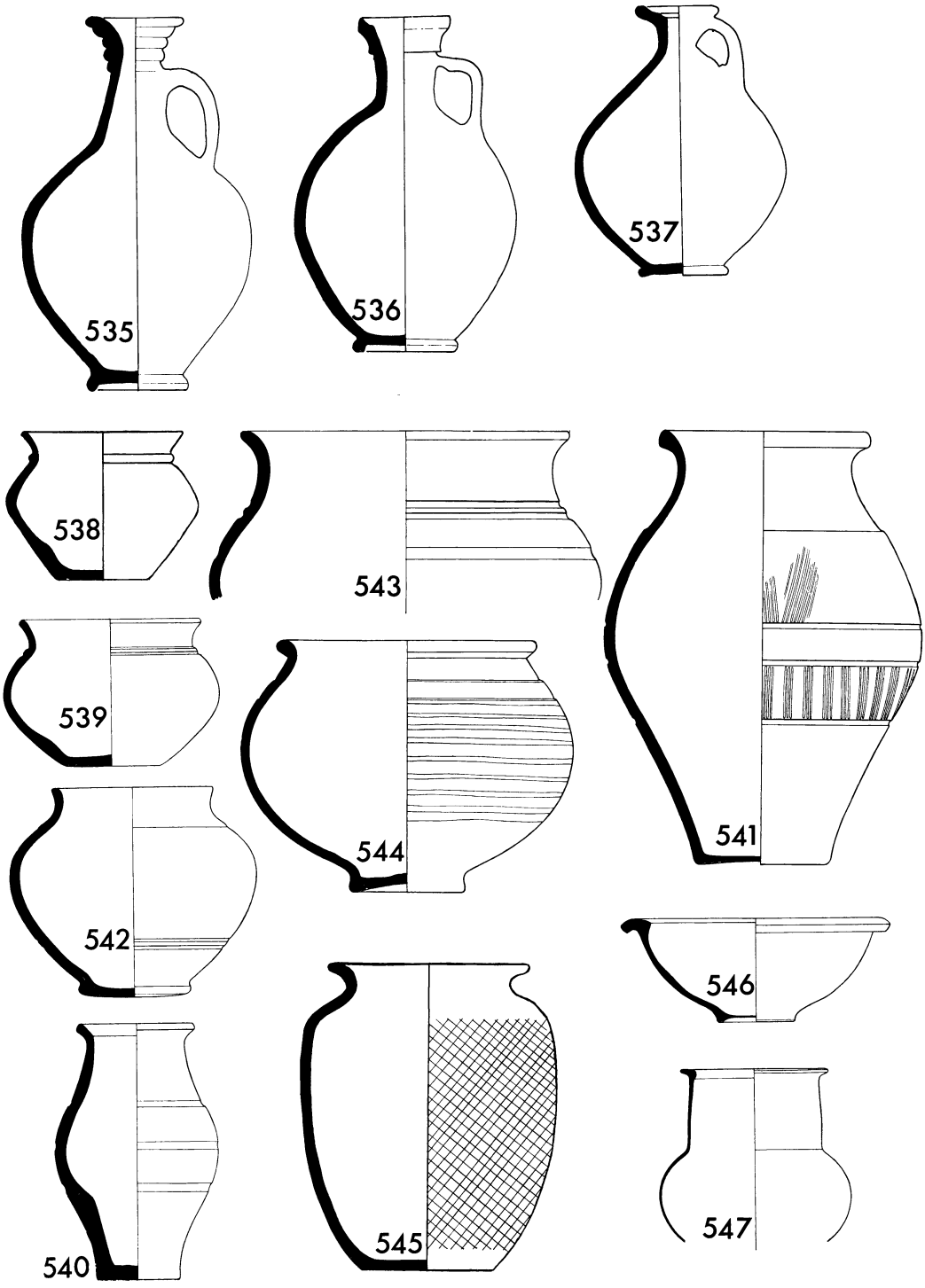
The Iron Age pottery (¼), pp. 116–17.



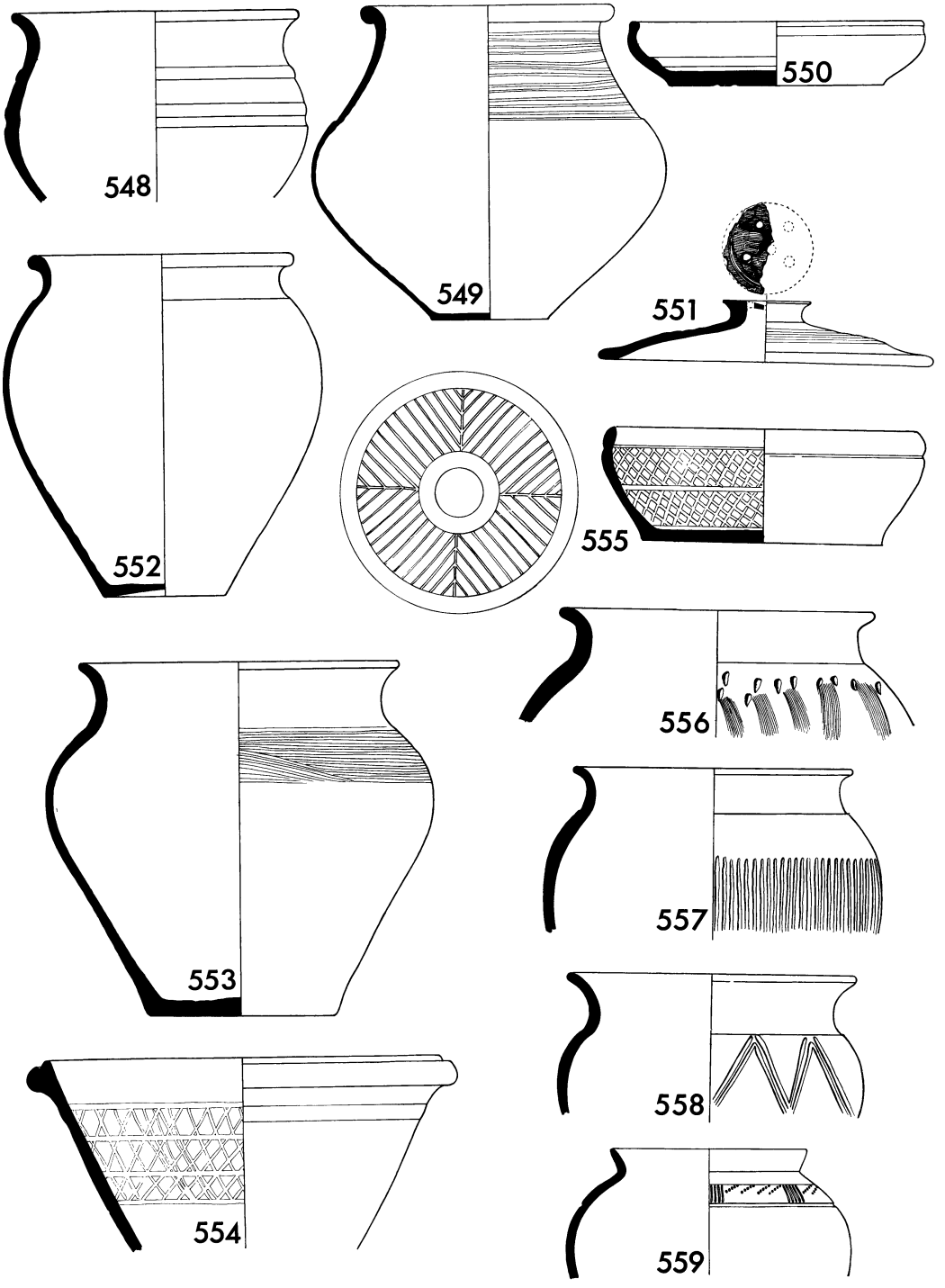
Coarse pottery (¼), p. 118.



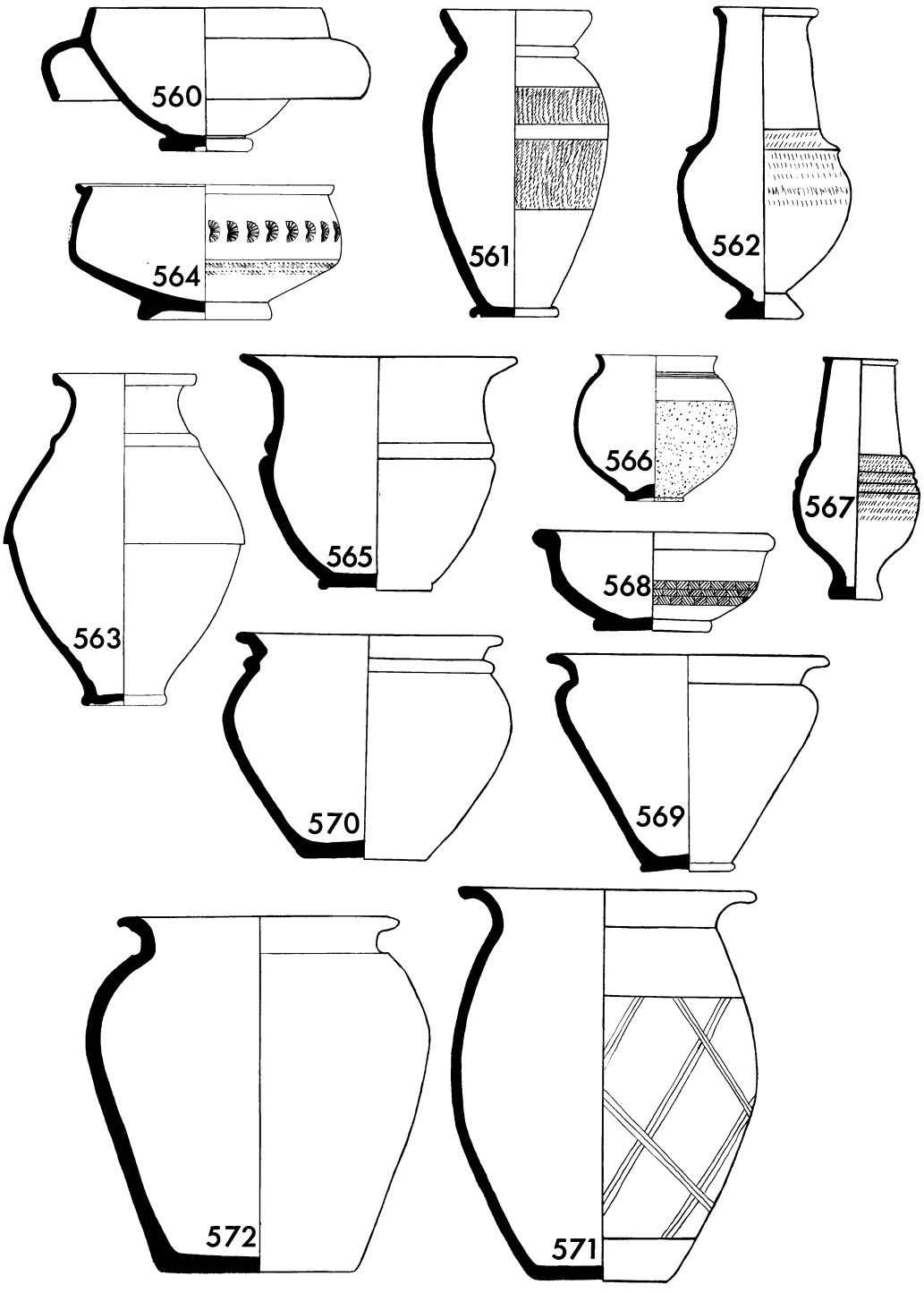
Coarse pottery (¼), pp. 118–19.



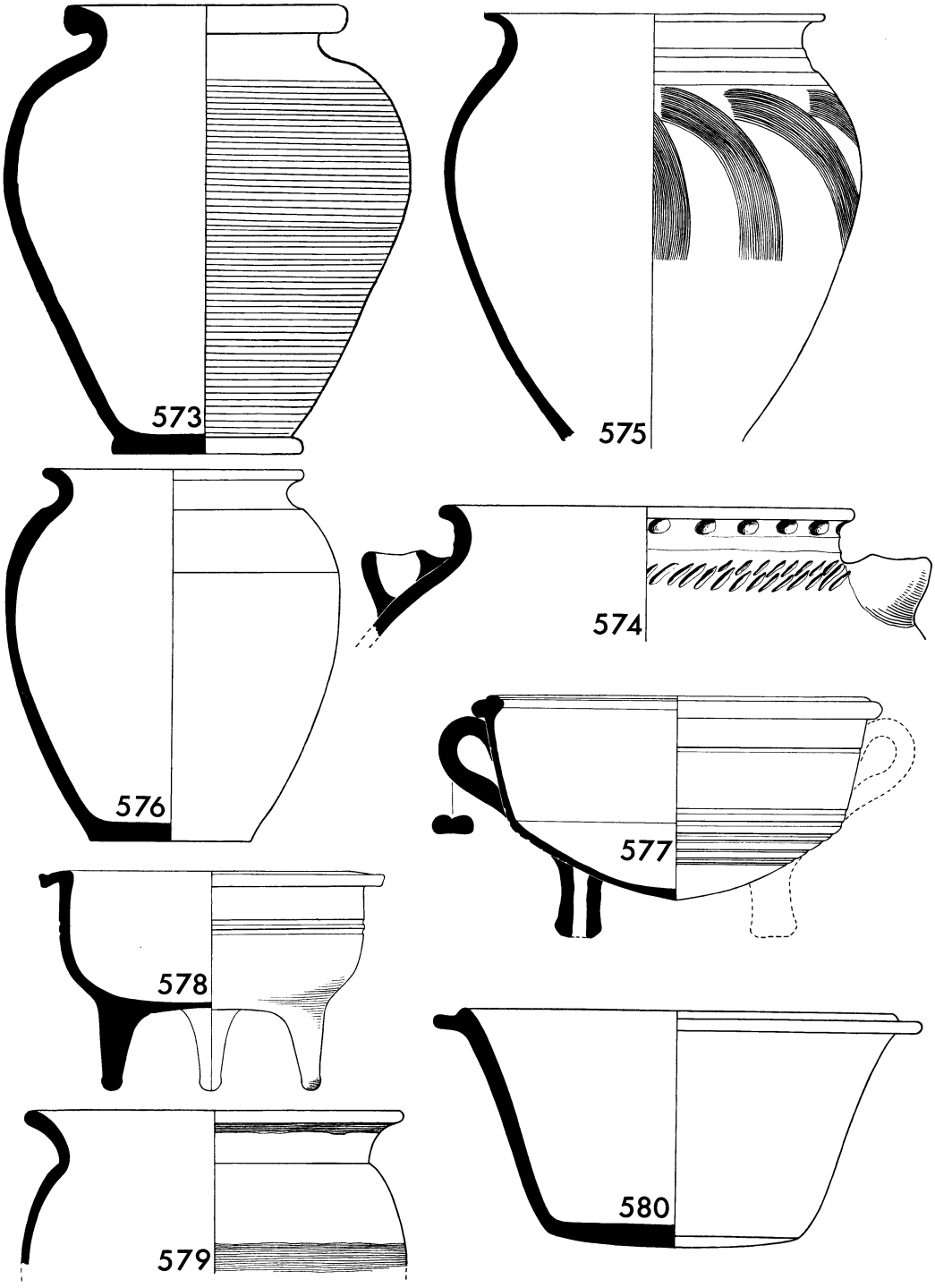
Coarse pottery ($\frac{1}{4}$), pp. 119–20.



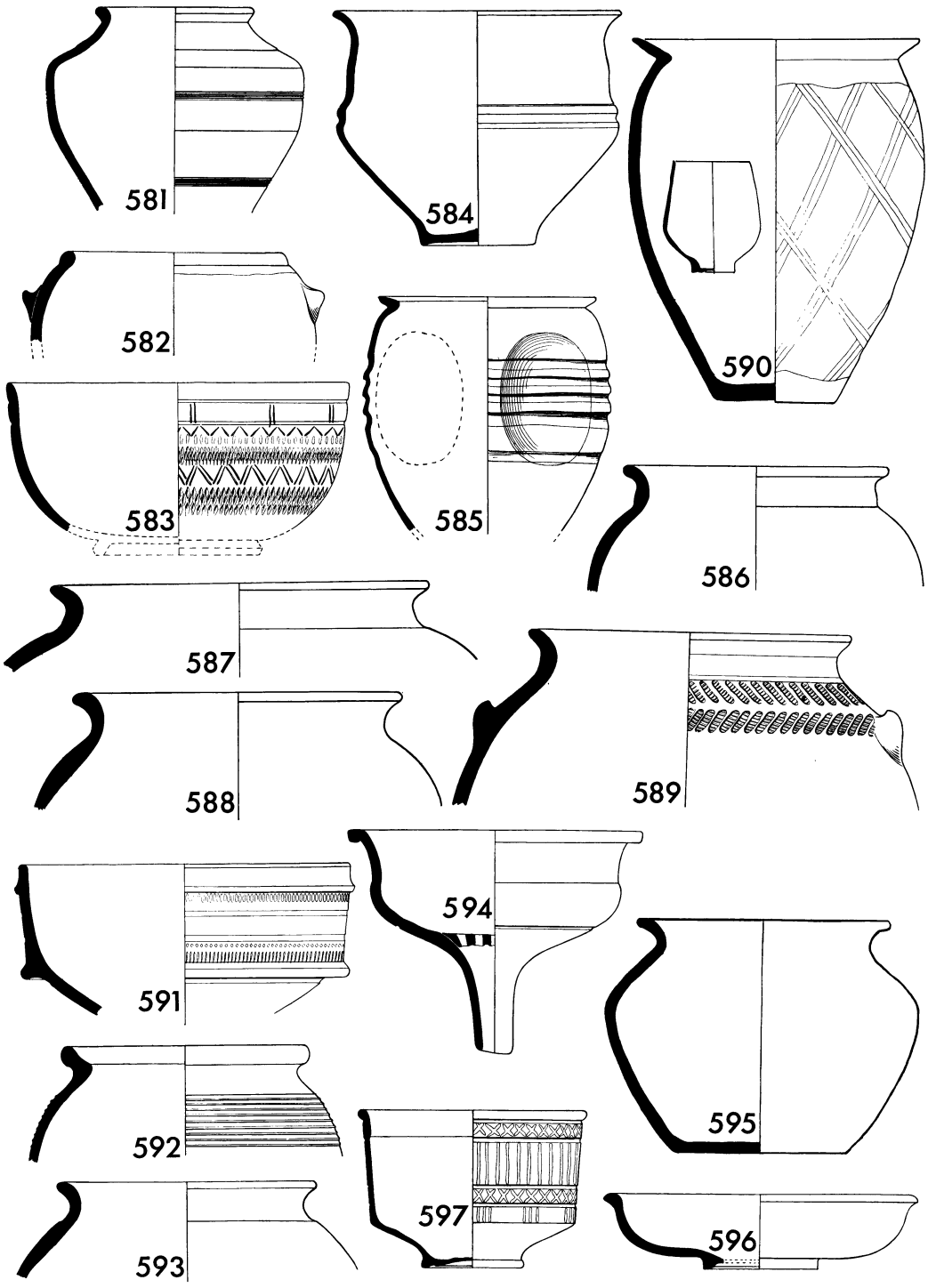
Coarse pottery (¼), pp. 120–1.



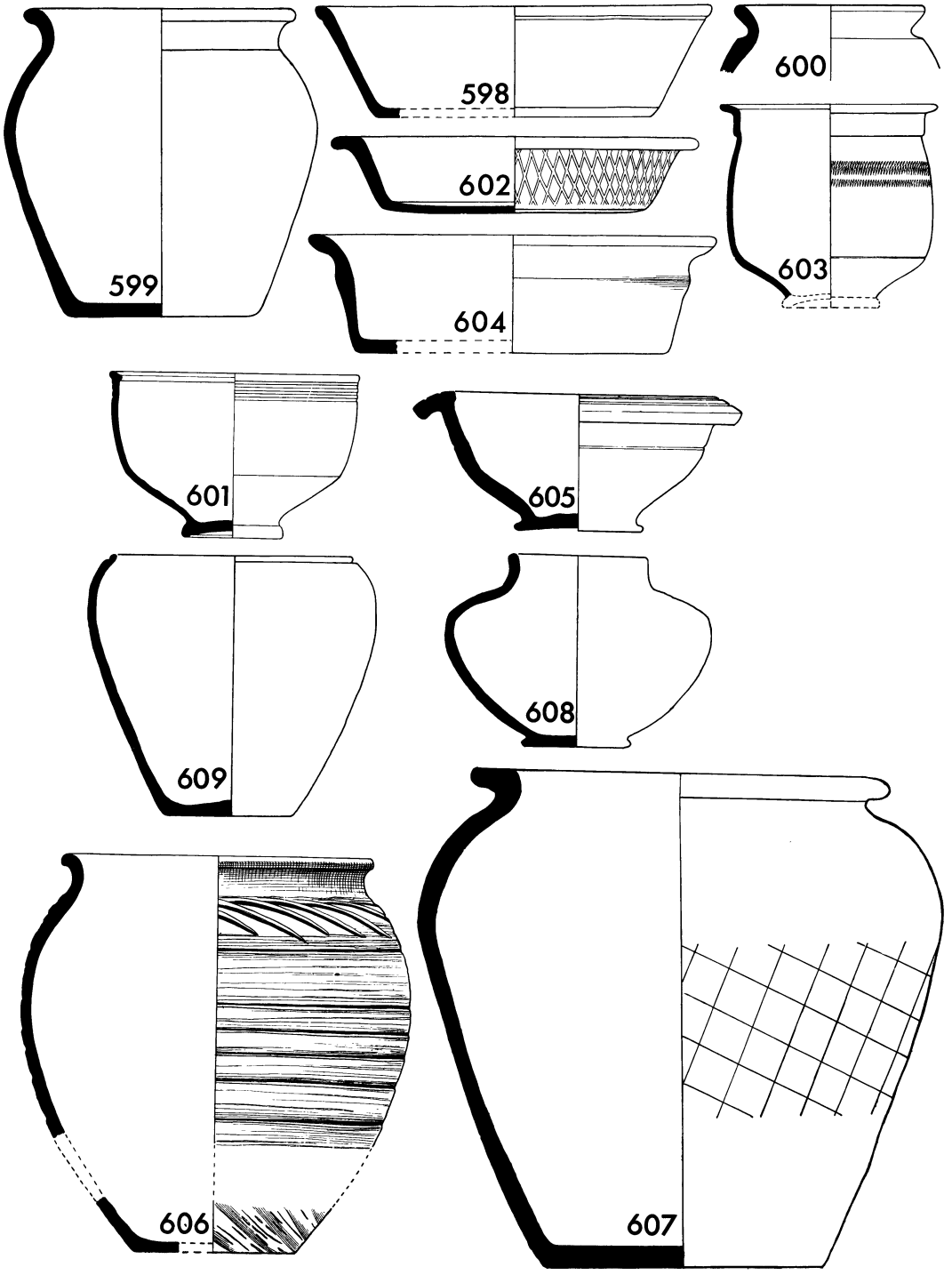
Coarse pottery ($\frac{1}{4}$), pp. 121–2.



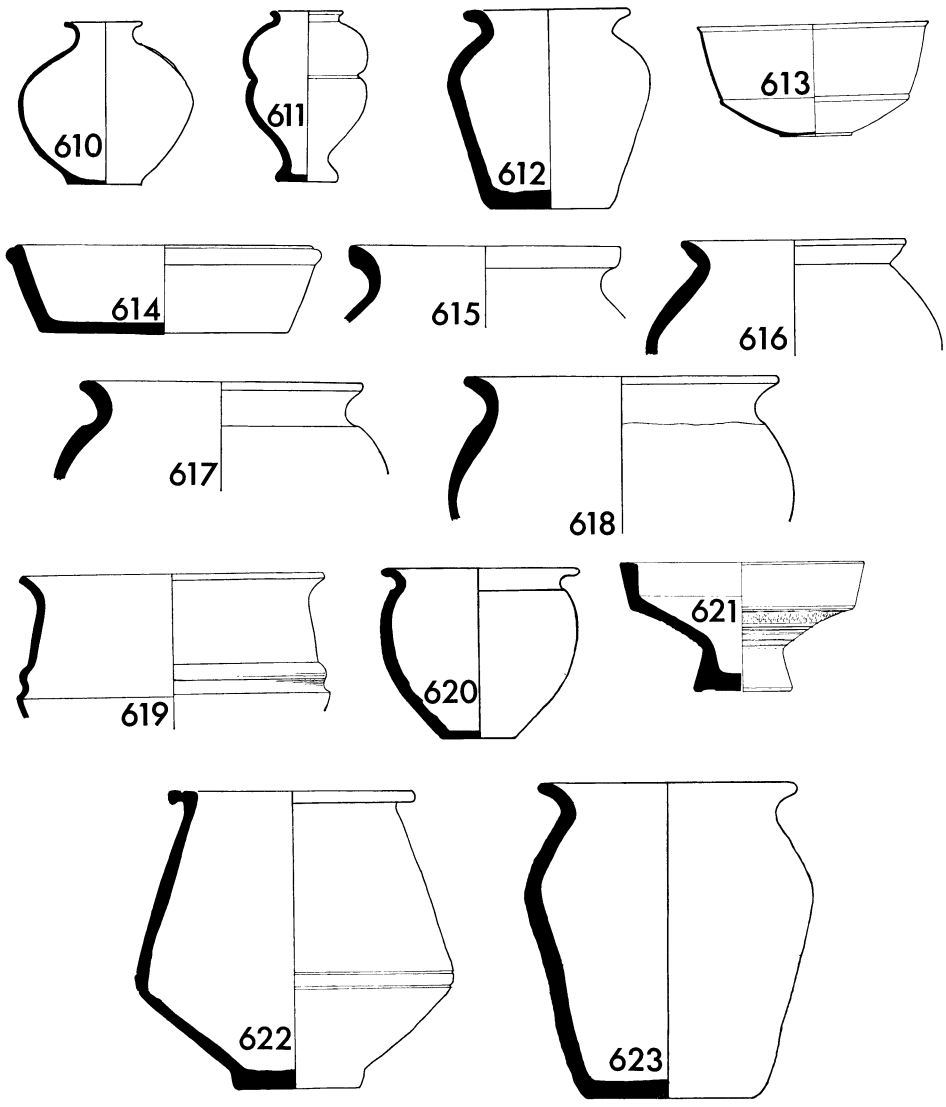
Coarse pottery ($\frac{1}{4}$), p. 122.



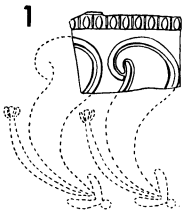
Coarse pottery ($\frac{1}{4}$), pp. 122–3.

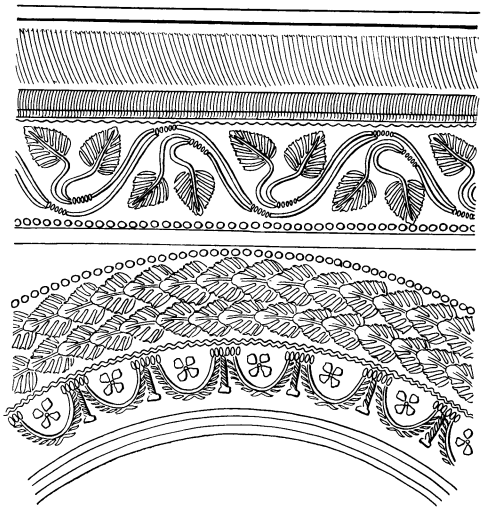


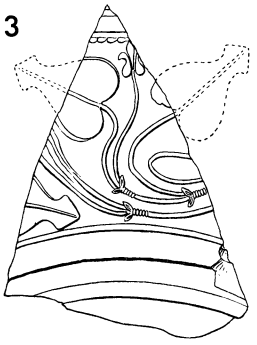
Coarse pottery ($\frac{1}{4}$), pp. 123–4.

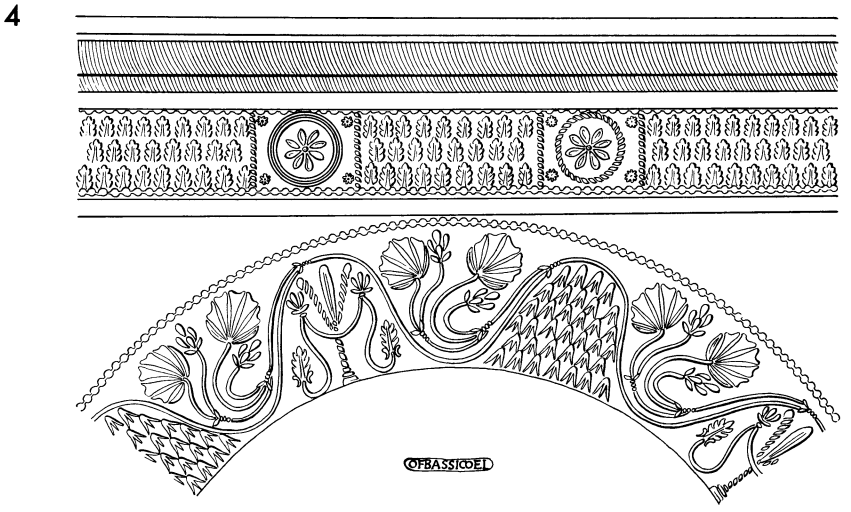


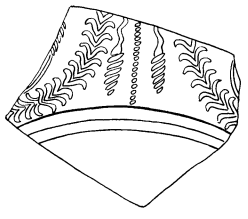
Coarse pottery (¼), p. 124.

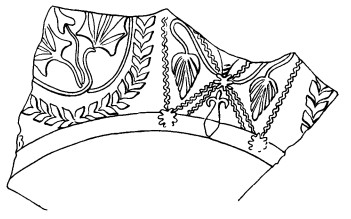




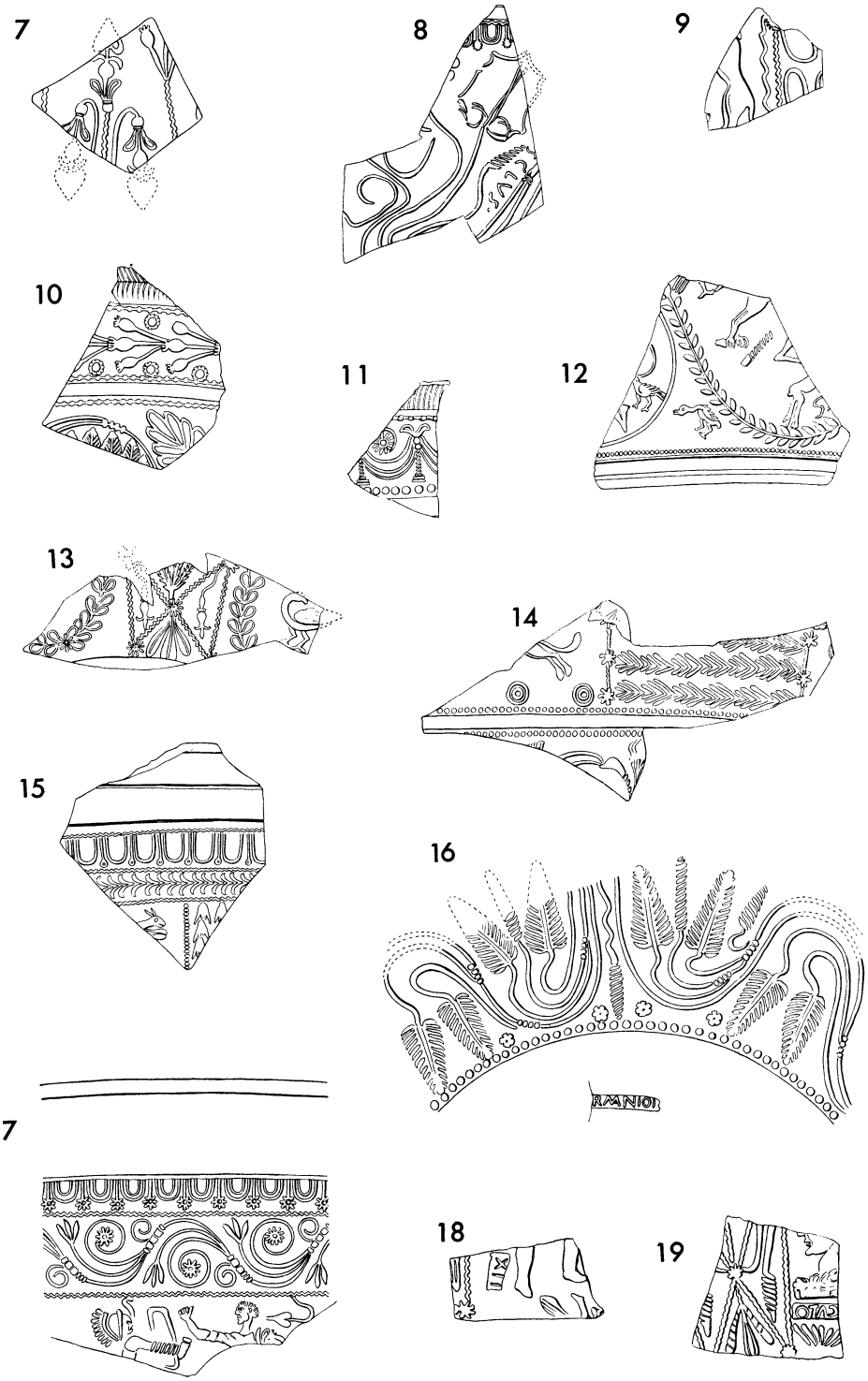




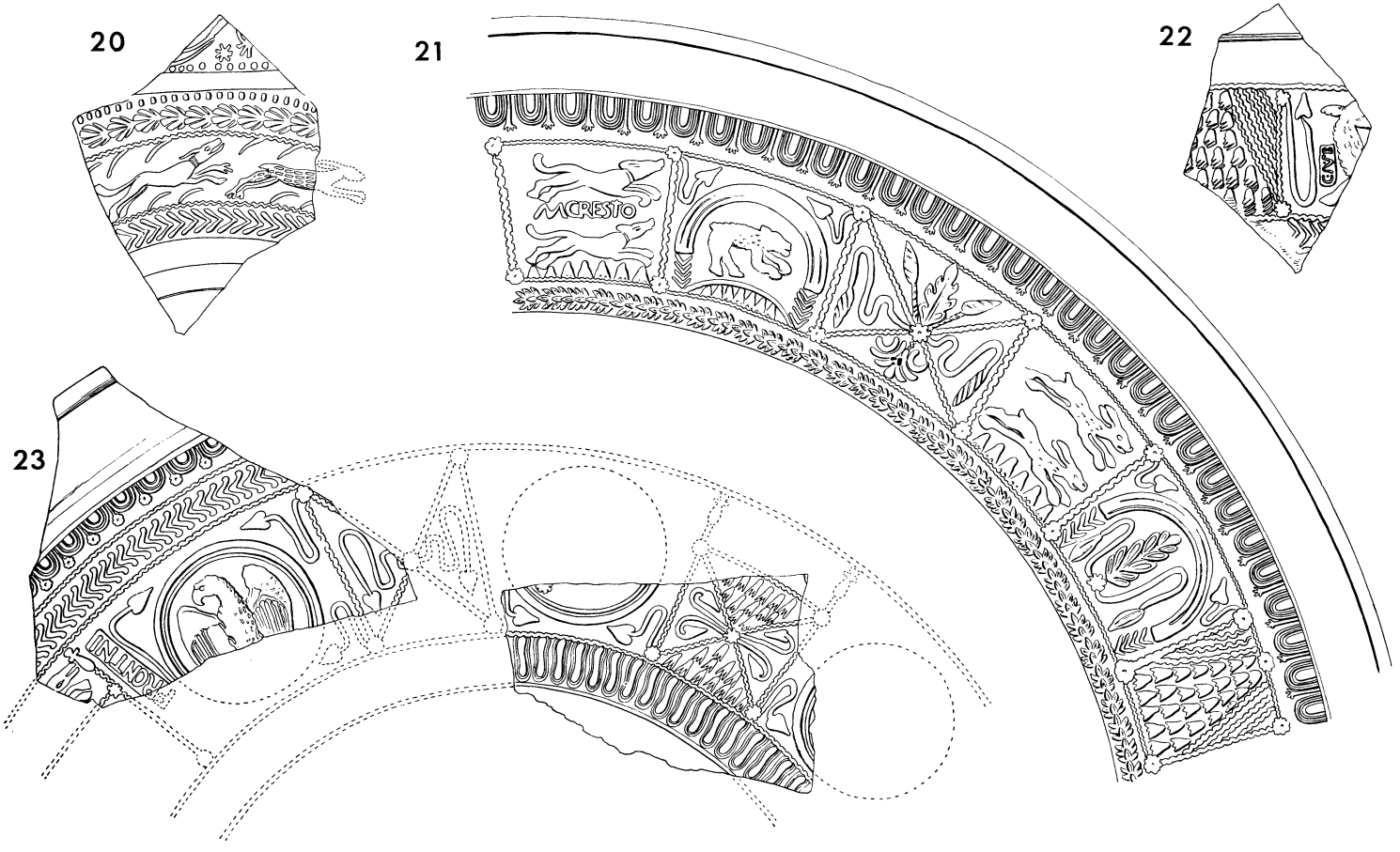




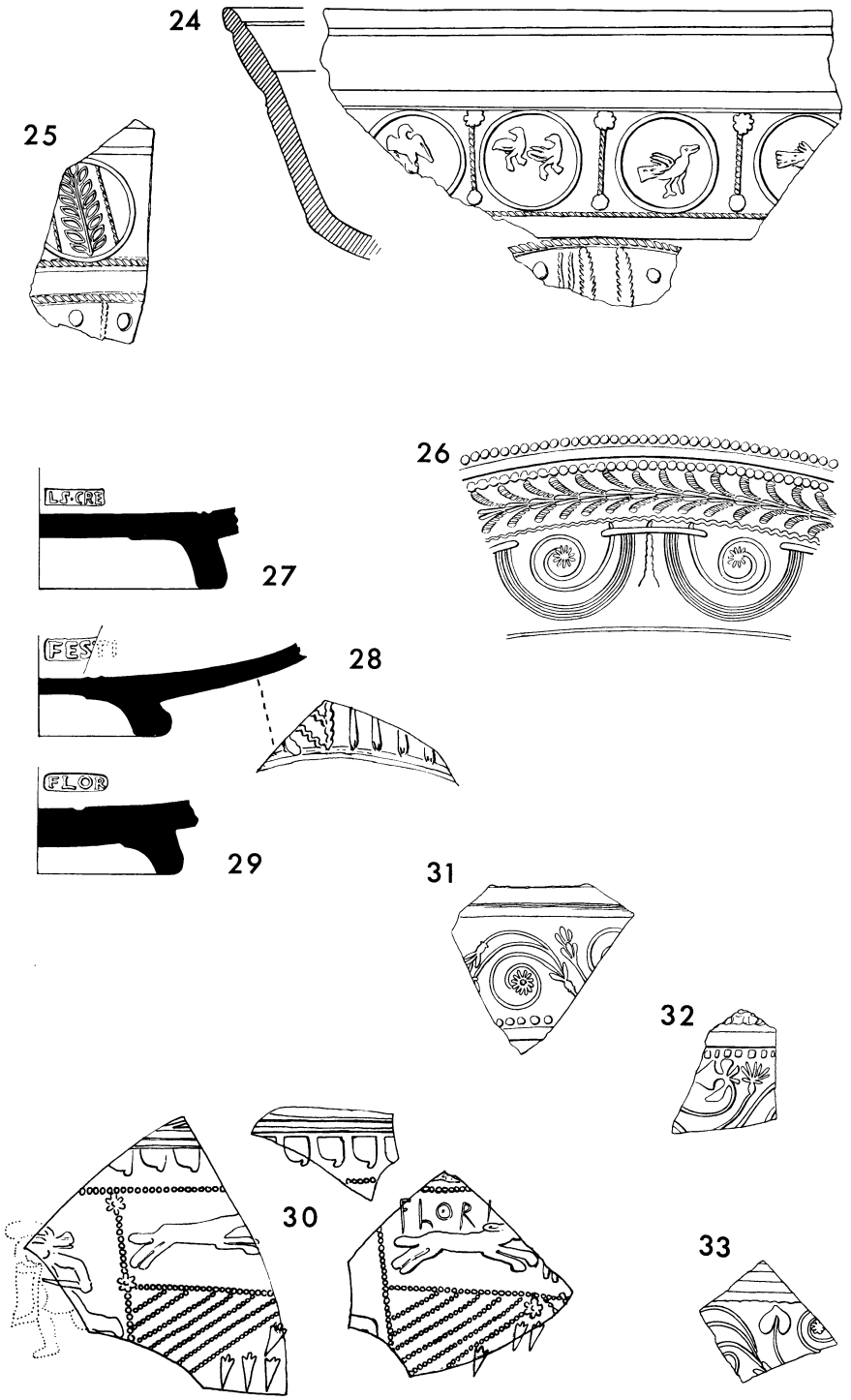
Decorated samian (½), pp. 148–50.



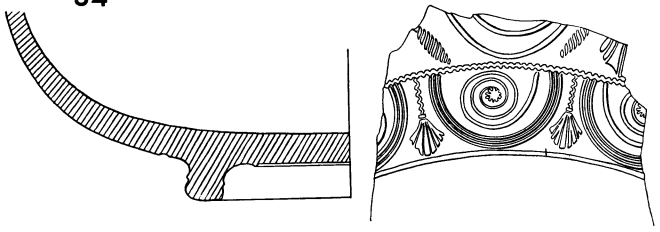
Decorated samian (½), pp. 150–2.

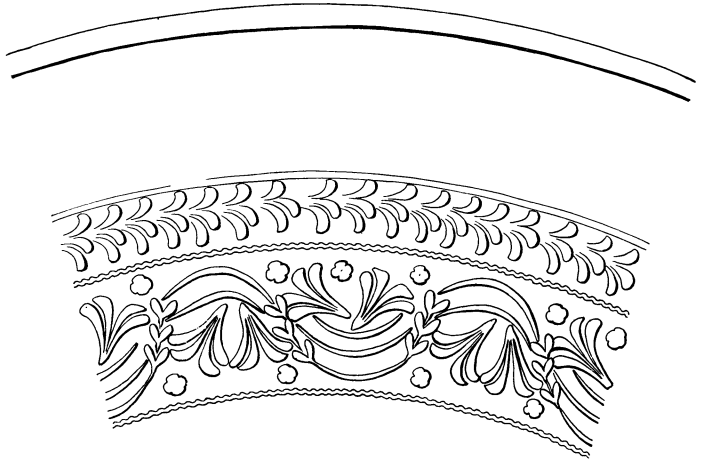


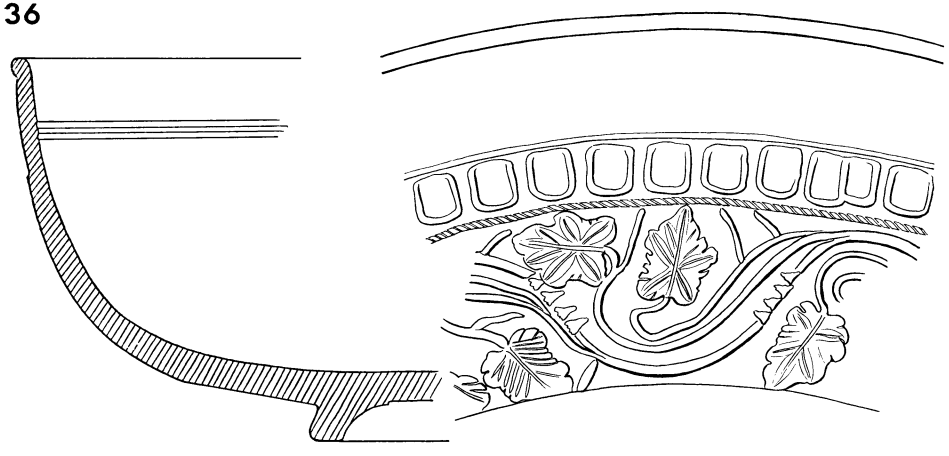
Decorated samian ($\frac{1}{2}$), p. 152.

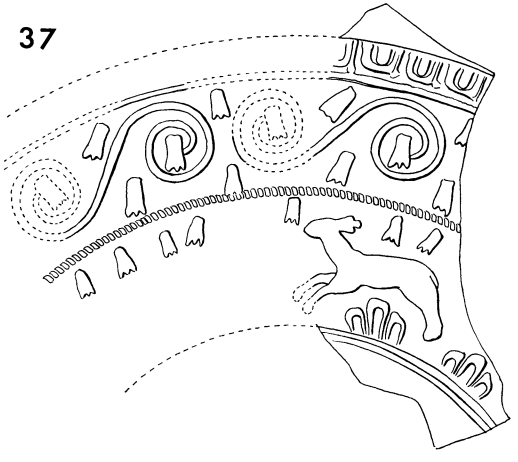


Decorated samian (½), pp. 153–5.

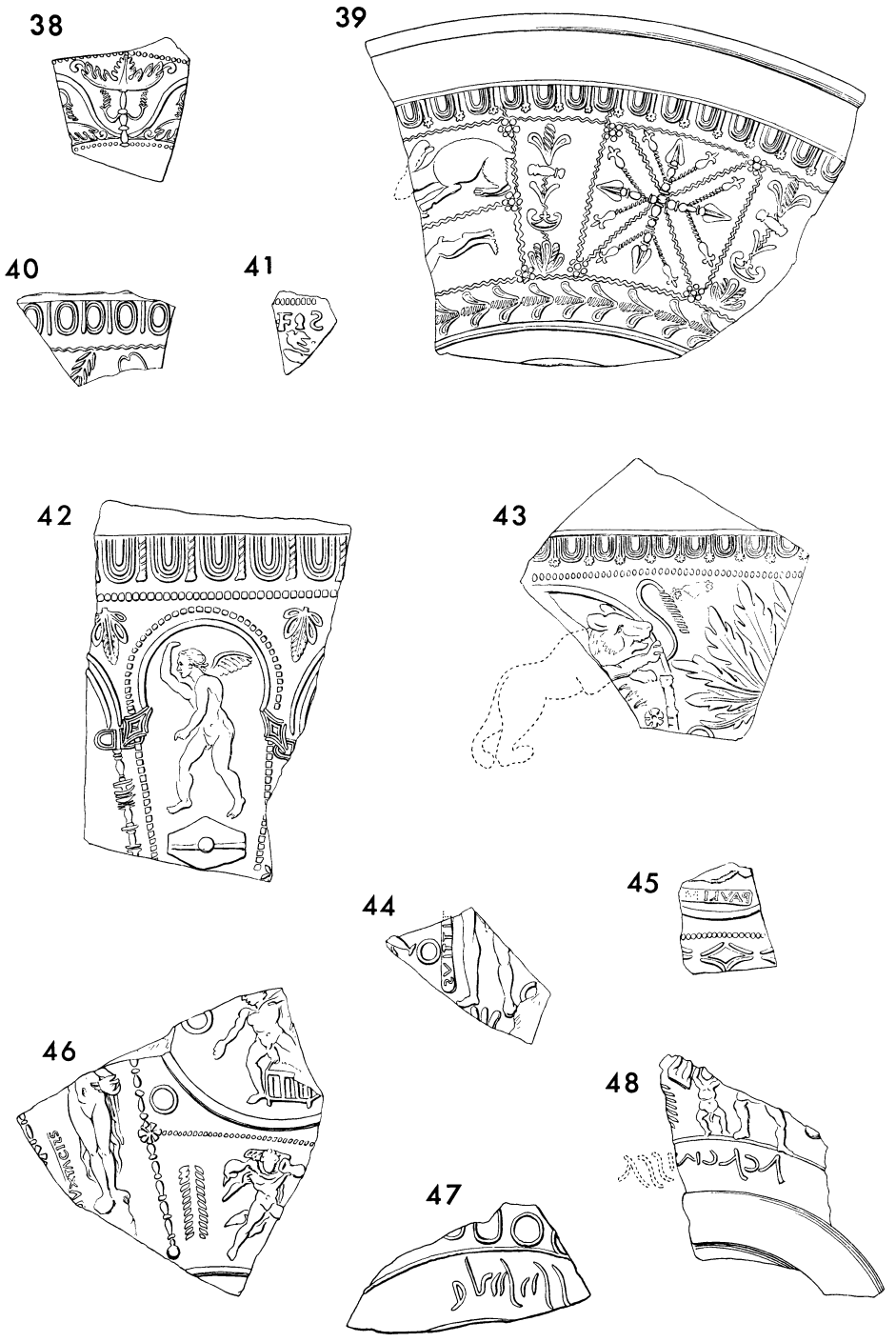




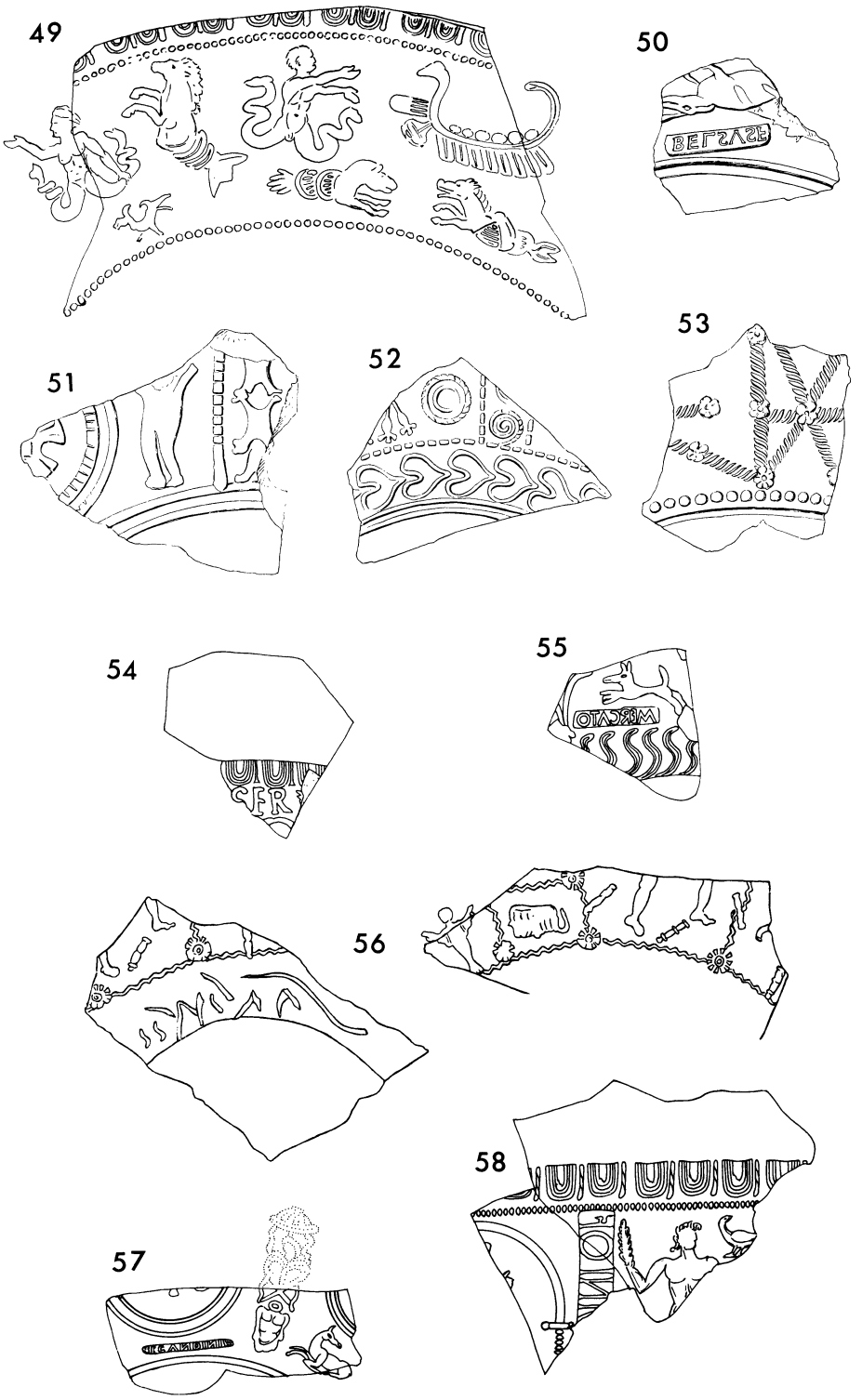




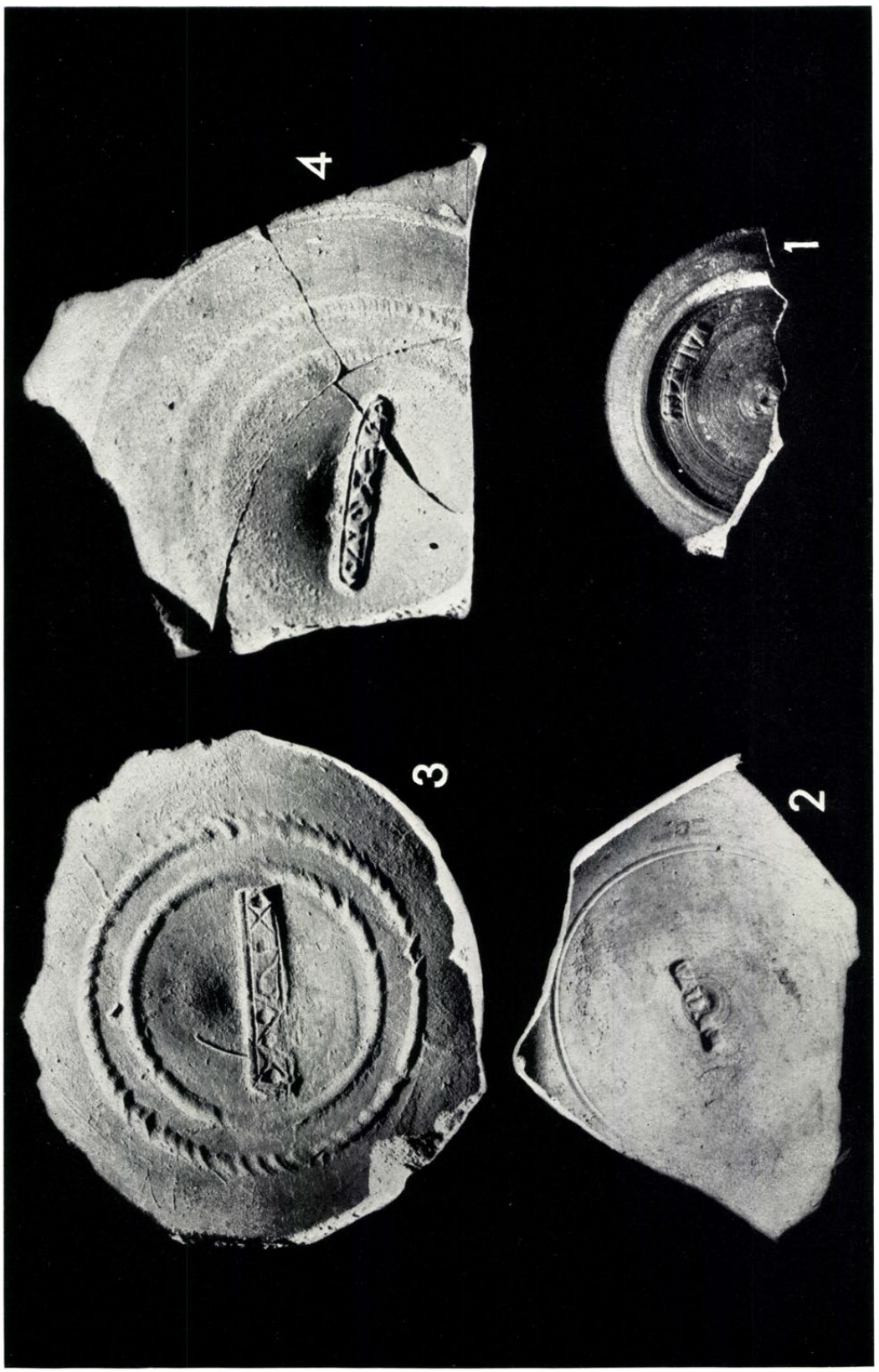
Decorated samian ($\frac{1}{2}$), pp. 155–6.



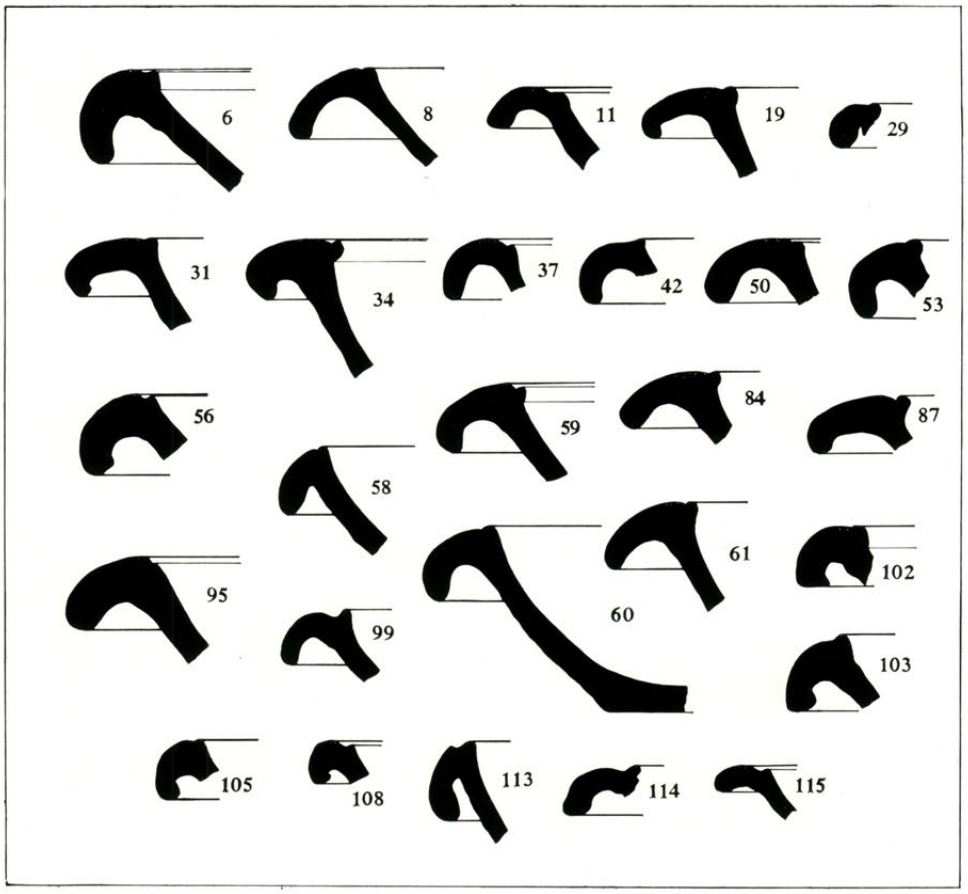
Decorated samian (½), pp. 156–9.



Decorated samian (½), pp. 159–61.



Stamps on coarse ware (¼), pp. 171–2.



Mortaria ($\frac{1}{4}$), p. 175.

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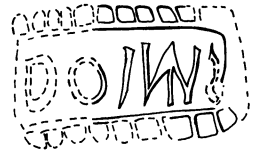

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Mortarium stamps (½), pp. 176–9.

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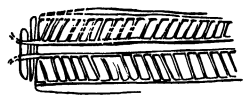
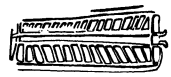
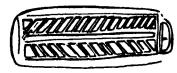


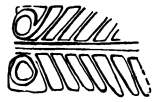
102



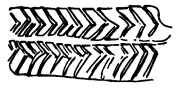
103



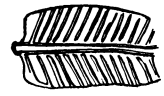
104



106



107

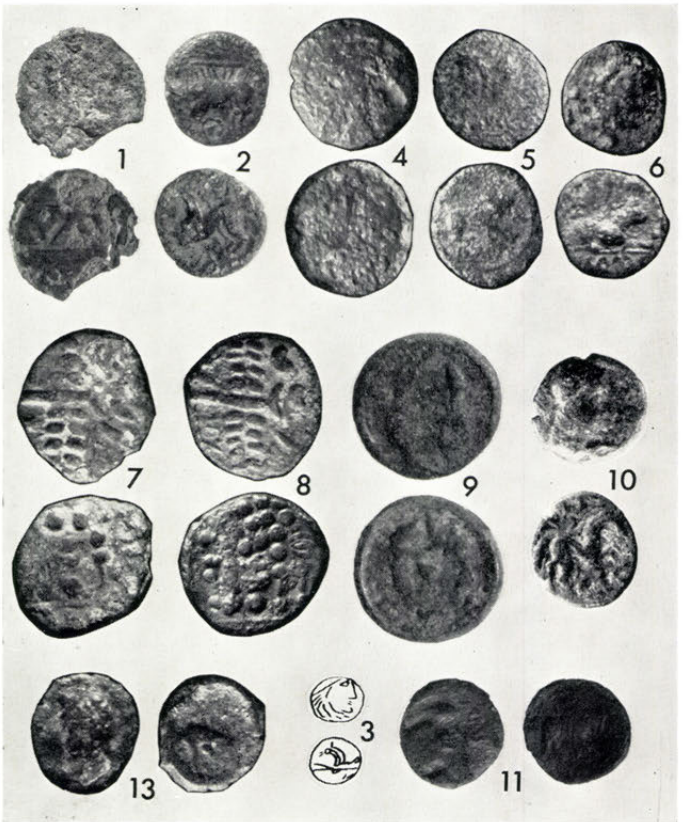


108

111

114

Mortarium stamps ($\frac{1}{2}$), pp. 180–2.



The pre-Roman coins ($\frac{1}{1}$), p. 187.