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THE DECORATIVE ART OF NEOLITHIC CERAMICS IN
SOUTH-EASTERN ENGLAND AND ITS RELATIONS



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Abstract

A detailed study has been made of the formally Neolithic pottery of south-eastern England. Forty-two new or previously unclassified finds have been added to published lists. The text is accompanied by an illustrated catalogue recording all material known in the Spring of 1956.

The results of the study may be summarized under headings referring to the three ceramic groups with which it is concerned:

The Windmill Hill complex: The characteristics and inter-relationships of the three major styles of decorated wares in the area are distinguished more precisely than hitherto.

The Peterborough complex: A refined definition of the two styles already familiar, and the recognition of a third, has disclosed an evolutionary and chronological sequence. In the light of this, peculiarities of the later Neolithic wares of Ulster and Scotland and of developed Peterborough ware can be explained more economically in terms of culture contact between the groups concerned than by postulating foreign influences, and the relationship between Peterborough ware and Overhanging-rim Urns can be more clearly understood. It is further suggested that Peterborough ware is not so associated with an assemblage of distinctive archaeological

traits as to represent a culture of Baltic or Mesolithic origin, or even an independent culture, but in its earliest form is associated with traits regularly occurring in the Windmill Hill complex, as if its makers sprang from the same Western Neolithic stock. It is the survival of this stock, after the disappearance of the Windmill Hill culture, that is attested by the Peterborough ware of the Late Neolithic and its Bronze Age successors.

The Rinyo-Clacton complex: A third stylistic group is added to the two now recognized in the south of England. The cultural individuality of the Rinyo-Clacton complex over against the Windmill Hill-Peterborough complexes is brought out more clearly. A genetic relationship between Rinyo-Clacton ware and biconical urns is suggested.

A revised chronological framework for the Middle and Late Neolithic periods in south-eastern England is put forward.

ACKNOWLEDGEMENT

The writer would like to thank all those individuals who have generously made available unpublished pottery from their own excavations and to whom acknowledgements are made by name in the appropriate sections of the text and catalogue, and also the officials in charge of collections in all the museums visited for their willing assistance and co-operation.

Grateful acknowledgement is made to the Central Research Funds Committee of the University of London for a grant enabling the writer to visit museums in Denmark, Sweden, north-west Germany and Holland in order to examine comparative material in connexion with Part III of this study.

To Professor V. Gordon Childe, above all, deepest gratitude is expressed for his unfailing help and encouragement at all stages during the preparation of the study and for having made such arrangements as to afford the writer the possibility of undertaking it.

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I

INTRODUCTION

i. History of the subject

It is customary to begin a dissertation with a brief history of previous work upon the subject, but in this instance such a résumé will be omitted, for it could do no more than repeat the facts so recently summarized by Professor Piggott in The Neolithic Cultures of the British Isles (Cambridge, 1954), where the relevant data are presented in Chapters III and XI.

In the present study an attempt has been made to examine and classify in greater detail the Neolithic cultures of a limited area of England, with primary emphasis upon the ceramic components of those cultures. Such a detailed examination could not have been undertaken in the absence of the foundation laid by Professor Piggott in 1931 ("The Neolithic Pottery of the British Isles", Arch.J., lxxxviii) and in the monograph referred to above. His work has been drawn upon throughout for basic lists of sites, classifications of groups and general concepts.

ii. Plan of the study

This examination of the Neolithic ceramics of south-eastern England is presented in two parts, Volume I consisting of the analysis of the material and of its relationships, Volume II of an illustrated catalogue. In the catalogue all the Neolithic pottery of the area known to the writer in

the Spring of 1956 is recorded and described, with full reference to published accounts. No attempt has been made to figure pottery which has been adequately and accessibly published elsewhere except in instances where it was desired to use the material to emphasize certain characteristics of the group concerned. Owing to the kindness of many people it has been possible to include illustrations or descriptions of much unpublished and important material; indebtedness for such assistance is acknowledged in the relevant parts of the catalogue. Unless otherwise specified, all illustrations are full size.

It is necessary to say a word at the beginning about the use of simple statistics in this study in order to avoid misunderstandings. For the purpose of comparing various aspects of the material cultures of the Neolithic communities concerned it has been necessary to compile figures showing the frequency of occurrence of certain traits and to reduce these to percentages. The actual number of units in every instance is so small, and so many possibilities of error are inherent in the method, that it would give a spurious air of accuracy to such percentages were they worked out to the last decimal point. Therefore, using as a precedent the method adopted by the late Sir Lindsay Cott (1951a) for analysing in a similar fashion the pottery from Eilean-an-Tighe, all percentages have been given in ^{the nearest} whole numbers. By this means it has been possible to isolate major cultural distinctions

with greater clarity than could have been achieved in any other way. With the limited amount of material available, nothing further can be attempted.

iii. The geographical area covered by the study

The area, south-eastern England, to which this study is confined, is delimited by the western boundaries of the counties of Norfolk, Cambridgeshire, Northamptonshire, Oxfordshire, Berkshire and Hampshire, which run in an irregularly diagonal line from The Wash to the entrance to Poole Harbour.

This use of modern county boundaries to delimit the area may require justification, since it is usual to choose for such detailed studies areas which are either physiographically or culturally homogeneous, or which are defined by natural features. In choosing these artificial boundaries, convenience has been an important consideration. It has seemed more satisfactory and more useful to prepare a catalogue of all known sites in a given number of counties than to leave border counties only partially represented. There exists, in any case, no natural boundary to the area with which it is proposed to deal: river systems run, in general, east-west or north-south, and geophysical features mainly from north-east to south-west. Some overlapping in Hampshire and Berkshire with the area defined as "Wessex" by Pigott (1938, 53) is unavoidable; but Wessex does not

appear to have formed a cultural entity in the later Neolithic period to the degree that is apparent during the succeeding part of the Bronze Age. The over-riding consideration has been, however, that it is the area east of Wiltshire and Dorset that appears to have been the scene of the major developments and transformations in the history of the Neolithic period in southern England.

iv. Definition of the chronological period covered

The cultures with which this study is concerned are "Neolithic" in the sense of "stone-using" cultures: the adjective refers specifically to economy and technology and to the absence of associated metal artifacts. Only during the first phase of the period to be examined has "Neolithic" a purely chronological implication, denoting a time prior to the knowledge and use of metal in the area. At some not as yet precisely determined date during the latter part of the period, ornaments and small implements of metal were introduced by the immigrant Beaker cultures, but are found associated exclusively with the burials characteristic of the latter. Pigott (1954, 374-6) has discussed the terminological difficulty, and suggests that "B beakers certainly, and in all probability the greater part of the A beakers, must be regarded as parallel to the Late Neolithic stage" and that the makers of B beakers should be regarded as a component element in the communities representing "Middle

Neolithic" cultures. In the present study no attempt will be made to discuss the Beaker cultures as such, and they will be referred to only in connexion with the chronology of the formally Neolithic cultures and with the evidence for their influence upon the latter.

It will be convenient to adopt here Piggott's tripartite division of the Neolithic into Early, Middle and Late phases (1954, 373-5), but with a number of modifications. Material belonging to the Early phase (defined by "those cultures which show clearest signs of the relationship with early or relatively early Neolithic cultures on the Continent") cannot with any certainty be detected in our area, which seems to have been an area of secondary settlement from centres farther to the west. The earliest pottery to be considered falls within the Middle Neolithic phase ("the stage of evolution represented by the Abingdon, Whitehawk and East Anglian bowl styles. . . contemporary with the Ebbsfleet phase of Peterborough pottery"), and for the present purpose the Middle Neolithic is to be defined as the period during which these styles flourished in south-eastern England.

For reasons explained elsewhere in this study and in Appendix I, Piggott's suggestion that the Lyonesse transgression might serve as a natural boundary between the Middle and Late Neolithic phases is now seen to be invalid. This event must in fact have occurred towards the end of the

Late Neolithic and, as suggested in Part V, may serve as a boundary between the latter period and the beginning of the full Wessex Bronze Age. The beginning of the Late Neolithic may be defined by the disappearance of the Windmill Hill culture in recognizable form, by the emergence of new social and economic organizations, the advent of the Rinyo-Clacton and B. beaker cultures. Thus the whole of the final phase of the Neolithic runs parallel with Childe's Period III, his first section of the Bronze Age (1949, 8), as defined by the appearance of the Beaker cultures.

In brief, the period of time with which we shall be concerned extends from the date at which the Windmill Hill culture began its eastward expansion to the beginning of the first phase of Childe's Period IV (the Wessex culture).

II

THE WINDMILL HILL COMPLEX

Within the south-eastern area decorated Windmill Hill pottery falls into three major groups, each of which exhibits well defined stylistic peculiarities and each confined to a relatively circumscribed geographical area. For these groups Professor Piggott (1954, 74) has suggested the names Abingdon, Whitehawk and East Anglian. In his usage, it appears, Abingdon and Whitehawk wares comprise assemblages of decorated and plain vessels, but East Anglian refers to decorated bowls only.

The present writer has proposed elsewhere (Appendix III, 224) that the term "Mildenhall ware"¹ might appropriately be substituted for "East Anglian", partly for the reason that the distribution extends outside East Anglia proper, but mainly because the abundant material recently recovered in the vicinity of Mildenhall, Suffolk, makes it clear that the decorated bowls are just the most distinctive members of a sub-family including simpler undecorated pots; on grounds

1. It is regrettable that when the new name was put forward the writer had overlooked the fact that Professor Clark had already used the term "Mildenhall ware" in connexion with a Bronze Age ceramic form (Clark, 1936, 40). In spite of the fact that it constitutes a breach of the rules of nomenclature, the name Mildenhall ware will nevertheless be retained in this study to designate the most easterly group of Windmill Hill pottery, since no further examples of the Bronze Age ceramic in question have come to light and it may prove to be a purely local variant. The term "Hurst Fen ware" might of course have been used for the Neolithic pottery, but is rejected as lacking in euphony.

of form alone the whole group can be shown to differ sufficiently from any other sub-family to warrant separate classification.

Although the present study is concerned primarily with decorated pottery, sites yielding plain wares only are considered briefly in the text, listed in the catalogue, and included in the distribution map (text-fig. 1¹). Such wares have not, however, been illustrated except in certain instances where they occur as components of assemblages including decorated pots.

Table I lists all the Windmill Hill sites known in the south-eastern area in the Spring of 1956. Eight new localities have been added to the lists published by Piggott in 1931 and 1954, but without altering the distribution pattern significantly.

1. The distribution of Windmill Hill pottery in South-Eastern England.

The distribution of the three distinctive decorated ceramic styles, as well as of plain wares, is shown in text-fig. 1. Although all the sites yielding plain wares only are represented by the same symbol, it should be noted that stylistic variations can be detected here as well, as will be

1. The sherds from Coldrum and Julliberrie's Grave in Kent are omitted; those from the latter site are small, indeterminate wall sherds (Jessup, 1937, 133) and the rim-sherd from the former site, now in the Maidstone Museum, is insufficiently documented and may conceivably be an Iron Age intrusion.

TABLE I

THE WINDMILL HILL COMPLEX

List of sites in the South-Eastern Area

An asterisk indicates a site not included in Piggott's lists of 1931 and 1954.

- Column 1: Pottery illustrated in the catalogue; not previously published.
 Column 2: Pottery illustrated in the catalogue; previously published elsewhere.
 Column 3: Unpublished pottery, described but not illustrated.
 Column 4: Pottery adequately illustrated elsewhere, but described in the catalogue.
 Column 5: Undecorated pottery; described but not illustrated.

		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<u>Beds.:</u>	Dunstable - Barrow 2, The Five Knolls	x				
	Maiden Bower				x	
	*Streatley - Barton Hill Farm, Site 1	x				
<u>Berks.:</u>	Abingdon				x	
	Blewbury - Churn Plain				x	x
	Pangbourne				x	
<u>Bucks.:</u>	*Iver				x	x
	Marlow					x
	Monk's Risborough - Whiteleaf Barrow				x	
<u>Cambs.:</u>	Chippenham - Barrow 5				x	x
	Shippea Hill - Peacock's Farm				x	x
<u>Essex:</u>	Clacton - Lion Point	x			x	x
	Dovercourt - Mill Bay	x			x	x
	*Elsenham Cross - Pledgdon Sand Pit				x	x
	Walton-on-the-Naze - Stone Point				x	x

TABLE I contd. (Site list of Windmill Hill complex)

		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<u>Hants.:</u>	Corhampton			x		x
	Haddon Hill					x
	Holdenhurst				x	x
	Michelmersh - Broom Hill				x	
	Southbourne				x	x
<u>I. of Wight:</u>	Niton				x	x
<u>Kent:</u>	Grovehurst				x	
	*Wingham			x		x
<u>Norfolk:</u>	Edingtonthorpe	x				
	Gayton			x		x
	Grime's Graves				x	
	*Shropham ¹	x				
	Snettisham			x		x
<u>Northants.:</u>	Milton Ferry - from the Nene	x				
<u>Oxon.:</u>	Dorchester			x		x
	*North Stoke			x		x
<u>Suffolk:</u>	Creeping St. Mary	x				
	Eriswell - Foxhole Heath				x	
	Ipswich - Dales Road Brickfield	x				
	Ipswich - Kesteven Road	x				
	Ipswich - Norwich Road Brickfield				x	
	*Martlesham Plantation	x				
	Mildenhall - Bombay Cottage		x			
	Mildenhall - Hayland House				x	
	Mildenhall - Hurst Fen				x	
	Mildenhall - Site E	x				
	*Worlington			x		
<u>Surrey:</u>	Farnham - Badshot Long Barrow				x	
<u>Sussex:</u>	Brighton - Whitehawk Camp				x	
	Cissbury				x	x
	Goodwood - The Trundle				x	
	New Barn Down				x	
	Rye - Playden				x	
	Selsey	x				

1. Mistakenly listed in the Peterborough group by Piggott, 1954, 384.

explained below. In a few instances it has not been possible to assign decorated sherds with certainty to any recognized group; these are represented by a special symbol. Similarly, certain sites have yielded pottery in which more than one tradition of decoration seems to be present and these too are shown by a special symbol as mixed groups.

The map shows three main areas of settlement: along the South Coast; in the upper Thames valley and along the Chilterns; and in the eastern counties north of the Thames. The great blank spaces along the lower Thames valley, in the Weald and North Downs, and north-west of the Chilterns are especially striking. If the area shown on the map be compared with the appropriate section of Piggott's map of unchambered long barrows (1954, fig.1), it will be seen that there appears to be a real relationship between the distribution of pottery and of barrows. But the excess of barrows over sites yielding pottery in Sussex and Hampshire indicates a denser population than the pottery alone suggests.

As Piggott has recently remarked (1954, 36), our conception of the kind of habitat preferred by the Windmill Hill people has had to be modified in view of numerous discoveries of settlement material in low-lying sites. The map shows that of a total of 44 localities some 20 are on the edges of the fens, in river valleys, or in coastal areas subsequently submerged. The pot from Milton Ferry, Northants., was actually fished up

from the bed of the River Nene. So far as south-eastern England is concerned, therefore, we can no longer think of Windmill Hill settlements as confined to the chalk uplands.

As mentioned above, each of the three major stylistic groups is confined to a limited area. Abingdon ware¹ is found only in the Upper Thames valley: at the type site and at Pangbourne, Berks.; on grounds of form the undecorated sherds, one bearing part of a strap-handle, from Iver, Bucks., may be added to the group.

Whitehawk ware² is confined to the South Downs and the Sussex coast, except for the group from Broom Hill, Michelmersh, Hants., which seems to be more closely allied to the Whitehawk than to either of the other styles. The undecorated sherds from Cissbury and New Barn Down clearly belong to the group as well, as may the bag-shaped pot with lugs from Corhampton, Hants. Although the latter type is found in the primary levels at Windmill Hill, it also accompanies Whitehawk ware at The Trundle.

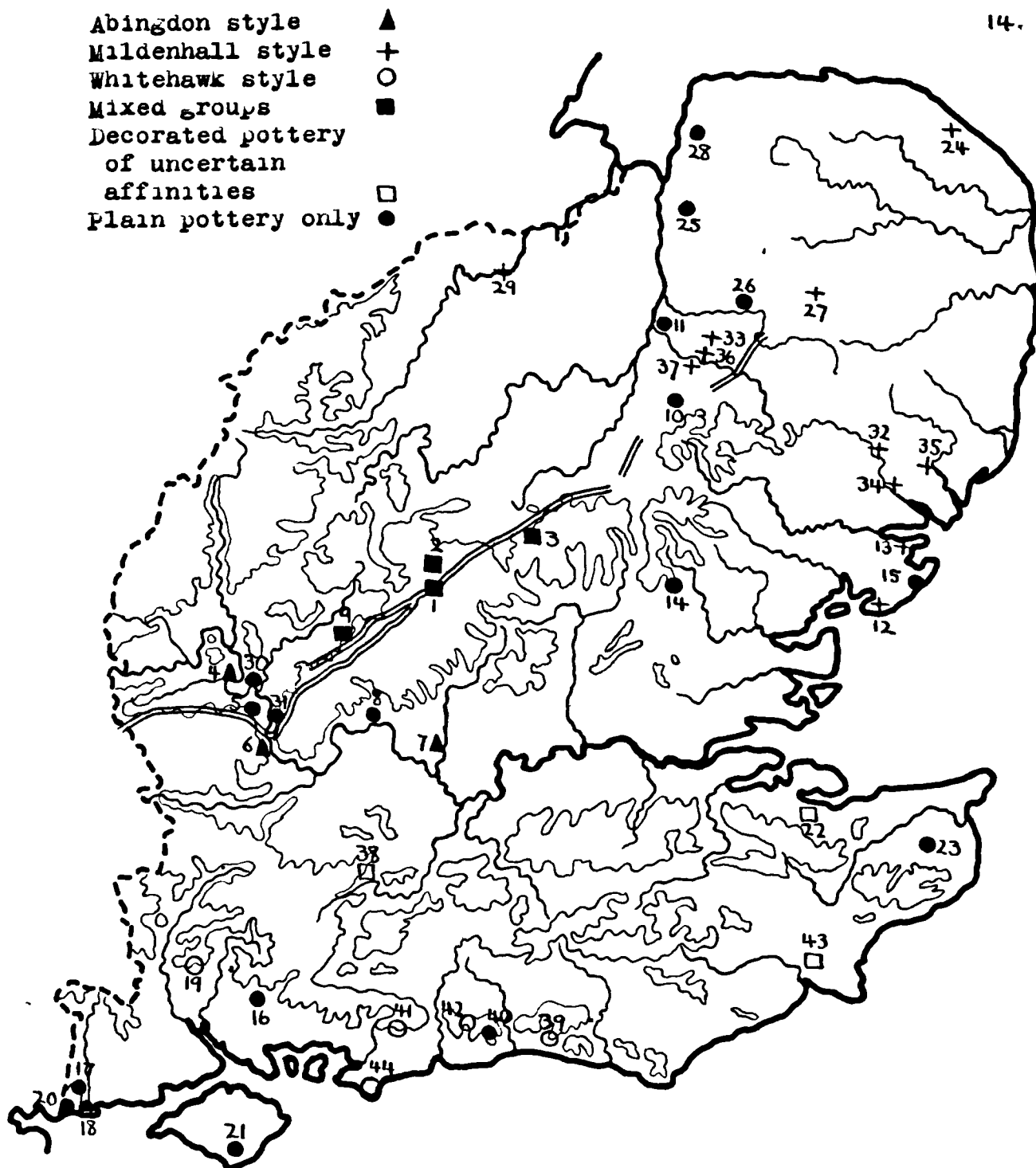
Mildenhall ware occurs within the area defined by the Rivers Ouse and Colne, with a probable outlier in the plain ware from Pledgdon Sandpit, Elsenham Cross, Essex. With the possible exception of the sherds from Grime's Graves, all the plain wares in this area are to be classified in

1. As defined on p. 17-21 below.
2. For reasons discussed on p. 25 below, the pottery from The Trundle and from Selsey is classified as Whitehawk ware.

THE DISTRIBUTION OF WINDMILL HILL POTTERY IN THE
SOUTH-EASTERN AREA

Key to map, text-fig. 1.

1. Beds: Dunstable - Barrow 2, The Five Knolls
2. Dunstable - Maiden Bower (causewayed camp)
3. Streatley - Site 1, Barton Hill Farm
4. Berks: Abingdon (causewayed camp)
5. Blewbury - Churn Plain
6. Pangbourne
7. Bucks: Iver
8. Marlow
9. Monk's Risborough - Whiteleaf Barrow
10. Cambs: Chippenham - Barrow 5
11. Shippea Hill - Peacock's Farm
12. Essex: Clacton - Lion Point
13. Dovercourt - Mill Bay
14. Elsenham Cross - Pledgdon Sand Pit
15. Walton-on-the-Naze - Stone Point
16. Hants: Corhampton
17. Haddon Hill
18. Holdenhurst Long Barrow
19. Michelmersh - Broom Hill
20. Southbourne
21. I. of Wight: Niton
22. Kent: Grovehurst
23. Wingham
24. Norfolk: Edingtonthorpe
25. Gayton
26. Grime's Graves (flint-mines)
27. Shropham
28. Snettisham
29. Northants: Milton Ferry (from the River Nene)
30. Oxon: Dorchester
31. North Stoke
32. Suffolk: Creeting St. Mary
33. Eriswell - Foxhole Heath
34. Ipswich (all sites)
35. Martlesham Plantation
36. Mildenhall (all sites)
37. Worlington
38. Surrey: Farnham - Badshot Long Barrow
39. Sussex: Brighton - Whitehawk (causewayed camp)
40. Cissbury (flint-mine)
41. Goodwood - The Trundle (causewayed camp)
42. New Barn Down
43. Rye - Playden
44. Selsey



Text-fig. 1: The distribution of Winamill Hill wares in south-eastern England.

Scale: 24 miles to the inch, 300' contour, major rivers, and course of the Icknield way shown.

the Mildenhall group.¹

The mixed groups are found in the Chilterns, along the course of the Icknield Way. It must be of significance in this connexion that the sites producing Abingdon ware are clustered near the Thames crossing of the Icknield Way and that there is a concentration of localities yielding Mildenhall ware at the north-eastern extremity of its course as at present established.²

At the sites near Dunstable, there is a mixture of Abingdon and Mildenhall styles; at Whiteleaf and at Barton Hill Farm, the Mildenhall style is accompanied by other elements which are to be classified (according to current conventions) as belonging to the Ebbsfleet variety of Peterborough ware.

Finally, the plain wares from the three sites just inside the Dorset border in Hampshire - Haddon Hill, Holdenhurst and Southbourne - have been assigned by Piggett to the Hembury group (1954, 383), of which they seem to be the most easterly representatives.

11. The pottery.

Although all three major ceramic styles in the area are linked by shared features of form and decoration, the real distinctions which exist can best be shown by a separate treatment of each. It will then be possible to discuss the

1. As defined on p.14-32 below.

2. The course of the Icknield Way shown on the map is taken from Ancient Britain (South Sheet), published by the Ordnance Survey (1951).

mixed groups and the few others which are less certainly classifiable.

a. Abingdon ware

Mr. H. J. Case has most generously made available to the writer in advance of publication the main results of his excavation during 1954 of the last remaining segment of the outer ditch at Abingdon. Such new facts as are referred to below come from Mr. Case's observations during his meticulously careful examination of the ditch stratigraphy. Although very few sherds were recovered during his excavation, the inferences drawn as to the succession of wares can to some extent be supported by the earlier records (Leeds, 1927, 1928).

Leeds had previously observed the presence of two kinds of ware at Abingdon: abundant quantities of soft, shell-gritted sherds and a much smaller number of relatively hard, stone-gritted sherds. It is now established that the shell-gritted ware was that of the builders of the camp and that it probably continued in use for the whole of the period represented by the ditch silting. During^{the} recent excavation only one sherd of stone-gritted ware was recovered, but it came at a high level, in a layer laid down when the silting was nearly complete. Mr. Case believes, however, that this layer can be correlated with other finds, notably at Site D

(Leeds, 1928, 466), of stone-gritted wares. Leeds did not think it was possible to differentiate the two wares on stylistic grounds. But in spite of the small number of the stone-gritted sherds, certain features of form and decoration do in fact distinguish them from the shell-gritted type, even though they seem as a whole more closely related to the latter than to any other recognized group.

Thus it becomes necessary to distinguish between the primary, shell-gritted ware and the secondary, stone-gritted ware; these will be discussed separately under the headings Ware I and Ware II.

Ware I

Fabric: The shell used for grit has recently been identified as coming from fresh-water mussels; these would readily be gathered up with the river mud which probably was used in making the pots. The shells were normally pounded into quite small fragments before being mixed with the clay. In section the sherds have a densely laminated appearance, resulting from the arrangement in parallel planes of the thin, flat shell fragments. The surfaces of the sherds have often a characteristically speckled appearance, since final smoothing would not force such fragments into the clay as it tends to do with hard, angular grits, and also because the quantity of shell used was very large, nearly 50% of the mass in some cases (Leeds, 1927, 450). Although this pottery is very

soft, Mr. Case has been able to show by an ingenious experiment that the vessels when new would have been perfectly serviceable for heating liquids by means of pot-boilers (1955, 237).

The colour of the pottery varies from warm brownish-greys to reddish-blacks. Although the surfaces have sometimes a slightly greasy appearance, true burnishing seems to be absent

(what are they - no carbide - bowls, jars)

Forms: The recent excavation has further shown that the most "developed" forms, with heavy rims and strap-handles, were already in use when the camp was constructed.

As a whole, the Abingdon pots have a clumsy, inelegant appearance, especially in comparison with the open, carinated Whitehawk bowls. The necks of shouldered bowls are rather short and straight, and the shoulders themselves comparatively weak; they tend merely to mark off the neck from the wall of the pot without introducing a change in the direction of the curve (cf. Leeds, 1927, fig. 6:19 or fig. 2:c). Some shoulders are just pinched out and have no apparent structural function.

A peculiarity of Abingdon ware is the tendency for the walls of heavy-rimmed pots to become progressively thinner towards the base (Leeds, 1927, fig. 6:11; fig. 7).

Of the 243 shell-gritted rim-sherds now in the Ashmolean Museum, 87%¹ are heavy forms. These enlarged rims may be

1. These figures are based on an analysis made by Mr. Case.

classified as T-headed (36%), sharply outbent (22%), and rounded (29%). The T-headed rims project on either side of the neck and are set either at a right angle or somewhat obliquely (Leeds, 1928, fig. 3:1; 1927, fig. 6:14).

Squashed-down T-rims are especially characteristic. The outbent rims frequently form a sharp angle with the inner edge of the neck (Leeds, 1927, fig. 6:10; fig. 7:a), but there are a number of variations. In rounded forms the rim may be rolled so that the enlargement is confined to the outer edge of the neck (Leeds, 1927, fig. 6:16; 18, 20), or an extra strip of clay may be added to the inner edge of the neck and moulded to produce a swelling profile with a sharp ridge at the outer edge (Leeds, 1927, fig. 6:21, 23, 25).

Rims of the types described above occur on carinated or uncarinated vessels, but the light rims (13% of the total) seem to be confined to simple bowls and cups.

A few vertically perforated lugs and some ledge-handles occur, but the dominant form is the strap-handle, set vertically or horizontally. In some instances the ends of these may have been set into holes in the walls (Leeds, 1927, 453).

Decoration: The simple, light-rimmed bowls and cups are generally undecorated. Ornament on the more elaborate forms consists of linear incisions, punctuations, and occasional stamped impressions.

True channelling (broad, shallow strokes of semicircular cross-section) seems to be rather rare in the shell-gritted

ware; narrow incisions are much more common. Linear ornament is confined almost exclusively to closely spaced oblique or transverse strokes across rims, although one sherd recovered from a primary level during the 1954 excavations has vertical channels in the neck. Some rims bear two rows of short oblique incisions.

Punctuations are normally made with a sharp point, jabbed into the clay vertically or upwards towards the right. The impressions tend to be somewhat irregular. Lines of dots appear on the rims and in the necks; shoulders are frequently accentuated by a line of stabs above and another below. Panels of dots, in rare instances extending below the shoulders of the vessels, also occur.

Two kinds of stamped impressions may be distinguished: lines of deep dots made with a six-toothed comb (Leeds, 1928, Pl.LXXIV, fig. 2: e) and, more commonly, lines of closely spaced shallow dots across rims (Leeds, 1927, Pl.LII, fig. 2:1). The latter are of the type found on the pottery from Michelmersh, Hants., and identified by Percival & Piggott, (Percival & Piggott, 1934) as the impressions made by a string of small seeds. A sherd ornamented in this fashion was recovered from a primary level in the 1954 excavation at Abingdon.

It will be recalled that Leeds (1928, 473) suggested that some of the rim-sherds bore cord-impressions (Pl.LXXII, fig.2: l-m). Examination of the sherds in question reveals,

however, that the decoration was almost certainly not made with a twisted cord, but that the potter took pains to produce a similar effect by drawing each short oblique stroke separately. It seems possible that the seed-impressions referred to above are also to be interpreted as an attempt to achieve the appearance of whipped cord impressions.

With one doubtful exception, fluting is absent on the shell-gritted ware; there are no pits (as contrasted with punctuations) or holes made before firing. It is notable that no pots are internally decorated.

In the following pages, the term "Abingdon ware" will refer only to the ceramic style described above.

Ware II

Stone-gritted wares, as mentioned previously, form a very small proportion of the pottery from Abingdon. In the collection now in the Ashmolean Museum, only 37 vessels are represented by rims. The tempering materials are crushed quartz, burnt flint or sand, and the fabric is much harder than that of Ware I. Of the 37 rim sherds, 65% are simple or only slightly enlarged; but except for the reduction in size the rim forms correspond with those of Ware I.

Shoulders remain weak. Although lugs are present, there are no strap-handles. (The absence of strap-handles may, of course, be purely accidental.) Decoration is on the whole restrained and again rarely appears on the simpler forms

and never inside the rims. Transverse and oblique strokes and seed-impressions recur on the rims. True channelling¹ (Leeds, 1927, Pl.LII, fig. 2:n and o) and fluting (ibid., p) are distinctive new features; these seem to link Ware II more closely with the Whitehawk and Mildenhall series. Finally, the sherds of a flat, splayed base from Site D (Leeds, 1928, fig.5) are of stone-gritted ware and suggest an attempt to imitate the form of a Beaker. Beaker sherds appear to be present in the material from this site as well as in the upper ditch-layer which yielded the sherd of Ware II in 1954.

The significance of the chronological distinction between Wares I and II lies in the fact that sherds similar to Ware II only seem to be present in the ceremonial sites at Dorchester and North Stoke; at Dorchester there was reason to think that Beaker sherds were contemporary (Atkinson et al., 1951, 65). The possibility therefore exists of correlating the initial phases of some of the sites at Dorchester with the final occupation at Abingdon, but full examination of the implications cannot be undertaken until the Second Report on the Dorchester excavations is published.

On the basis of the still scanty evidence, it seems rather doubtful whether the Abingdon sequence of wares and forms has other than a strictly local validity. The heavy-

1. Though in the southern wares the strokes are neither so broad nor so deep as in the "channelled ware" described by Mrs. Hawkes (1938), the technique is essentially the same.

rimmed bowl accompanying a female inhumation at Pangbourne, Berks., is typologically comparable both in form and in decoration to shell-gritted bowls from Abingdon, yet it is tempered with sand and flint. Similarly, the sherds from Iver, Bucks., are stone-gritted though one has part of a strap-handle (Lacaille, 1937, 297, X) and others show a thinning of the wall towards the base; both features are peculiar to shell-gritted pots at Abingdon.

Further, as discussed in detail in the catalogue, those sherds from Maiden Bower and from Barrow 2, The Five Knolls, Dunstable, which on typological grounds may be assigned to the Abingdon group, are gritted either with shell or with stone.

b. Whitehawk ware

Within this category may be placed, in addition to the pottery from the type-site, the material from The Trundle,¹ Selsey, New Barn Down and Cissbury in Sussex and that from Michelmersh in Hampshire. In fabric, decoration and/or form these groups are all closely related to each other.

Fabric: The pottery is normally fairly well-fired, though black cores occur quite commonly. The tempering material

1. Although Pigott (1954, 72) has compared the pottery with Abingdon ware rather than with that from The Trundle, it is in fact entirely comparable with the rest of the Sussex material and sharply differentiated in several respects from Abingdon ware.

preferred was burnt flint (doubtless derived from pot-boilers), but occasionally shell or small fragments of chalk appear.

To supplement Professor Pigott's careful analysis of the wares from Whitehawk (in Curwen, 1934), the following general observations may be made. ¹ Two qualities of pottery were evidently deliberately produced. The majority of the sherds are from utilitarian vessels, somewhat carelessly shaped and finished; these often contain quite large particles of flint which protrude from the surfaces. Although the surfaces were smoothed to some extent, it is doubtful whether a "slip" was always present. Such vessels are plain or very simply ornamented. A much smaller proportion, mostly from carinated bowls, was more carefully made and also more elaborately decorated. Here the grit, though sometimes abundant, was reduced to very fine particles; although these may be visible, they never protrude. Where particles of chalk have been incorporated in the clay, the exposed area has often a scraped appearance and in fact the smoothness of the surfaces suggests that they were finished by scraping with a sharp tool. Such sherds are also notable for the exactness of control exercised over thickness and curvature. A thin "slip", which has not survived well, covered the surfaces of these bowls originally.

1. Mr. N. E. S. Norris, Curator of the Museum at Lewes, very kindly lent to the writer a large quantity of unattached sherds for examination at leisure.

Although, as is well known, it is usually impossible to determine the method of manufacture in Windmill Hill pottery, clear evidence for ring-building may be seen in one pot from Whitehawk (Ross Williamson, 1930, Pl. IX:25; Brighton Museum, reg.no. R/3162/30). At the bottom the sherd has broken along a ring-joint for a distance of 3"; in the section above, faint indications of two or three more joints can be seen.

Forms: Piggett has emphasized that the graceful open carinated bowl is the characteristic Whitehawk form and has attempted to make a distinction between the pottery from The Trundle and that from Whitehawk Camp on the grounds of its absence at the latter site, and of the relative scarcity there of shouldered forms. But it is important to realize the great disparity in quantity of pottery from the two sites. If a count is made of published sherds which are large enough to indicate reliably the forms of the pots, it is seen that The Trundle yielded only 30, whereas there are 91 from Whitehawk. The absence of a particular form may thus be to some extent accidental. As regards the range of rim forms and of decoration, no significant difference can be detected between the two sites. Similar considerations apply to the sherds from Selsey, where not more than half a dozen vessels are represented.

In addition to the open carinated forms (as Curwen, 1934, figs. 23-4), other shouldered pots have rim and shoulder of equal diameter (Curwen, 1936, fig. 24), or rim diameter less than that of shoulder (Ross Williamson, 1930, Pl.X:28). The profile of the neck is also subject to considerable variation. Peculiarities which may distinguish Whitehawk from Mildenhall ware are that pinched-out carinations are common in the former (as Ross Williamson, 1930, Pl.X:30), whereas they seem quite rare in the latter; and that slight shoulders occur on pots with simple rims in Whitehawk ware (as FIG. 29 from Selsey, with which may be compared a sherd from Whitehawk, Ross Williamson, 1930, Pl.IX:24), but in Mildenhall ware the rims of shouldered bowls seem always to be of more elaborate form. Vessels with the carination separating a very long, nearly vertical neck from a shallow body (as Curwen, 1936, fig. 23) seem to be confined to the Whitehawk group, and in general the necks are more elongated and the bodies proportionately shallower than in the Abingdon or Mildenhall styles.

Other leading forms are bag-shaped pots with lugs set close beneath the rim; the walls are straight (Curwen, 1929, Pl.XIII; 1936, fig. 3) or the greatest diameter may be well below the rim (Ross Williamson, 1930, Pl.IX:27). The former type is represented at Windmill Hill by several specimens from the primary levels (Piggott, 1954, Pl.III;1-3);

the single pot from Corhampton, Hants., is similar. The presence of this somewhat primitive form and of numerous simple bowls in the Whitehawk groups suggests that this style is more closely related to the early pottery from Windmill Hill than is either Abingdon or Mildenhall ware. The wide, shallow dishes from Whitehawk (Curwen, 1936, figs. 25-6) seem still to be unparalleled elsewhere.

The proportion of simple and slightly ~~thickened~~ rims in Whitehawk ware is relatively high, but T-rims, outbent, rolled, externally and internally enlarged forms are ^{also} common. Though their dimensions are rather more modest than in Abingdon ware, the closest parallels are to be found in the latter series.

Many carinated vessels have vertically perforated lugs on the shoulders and these tend to be fairly large; but the small imperforate projection on one of the pots from Selsey (FIG. 29) cannot have been functional. With one possible exception (Curwen, 1934, fig. 11), loop-handles are absent.

As will be discussed in detail in a later section, a number of undecorated sherds of atypical forms from Whitehawk are now seen to have their best parallels in Ebbsfleet ware.

Decoration: All the basic decorative techniques used in Abingdon ware recur in the Whitehawk style: drawn lines, punctuations and impressions made with a string of seeds (at Whitehawk, Curwen, 1934, fig. 6; at Michelmersh, Percival

& Pigott, 1934, fig.1:1; and at Selsey, FIG. 30:4).

Other techniques, not found in shell-gritted ware at Abingdon but present in stone-gritted ware, are fluting (Curwen, 1936, fig. 18) and channelling - almost without exception linear ornament is of this type.

Rims bear closely spaced transverse or (more often) oblique lines; shoulders are commonly emphasized by a row of vertical or oblique lines; necks are filled with long vertical or oblique lines; and sometimes vertical lines extend below the shoulder towards the base. Horizontal lines are grouped to form panels in the neck or to delimit zones of ornament.

The necks are commonly filled with dots; in several instances a shoulder is emphasized by a line of dots above and another below; and dots are occasionally combined with lines (as FIG. 29 from Selsey).

As in the pottery from the primary levels at Windmill Hill (Pigott, 1954, 71), a number of otherwise plain vessels have a line of deep pits and/or perforations immediately below the rim. This feature recurs in Mildenhall ware, but is absent in Abingdon ware.

Other notable differences from Abingdon ware are the frequent appearance of internal decoration and the use of ornament on vessels with simple rims (both features are represented at Selsey, FIGS. 28-30). Fingernail impressions seem also to be confined to Whitehawk ware (FIG.30), but they are quite uncommon here.

c. Mildenhall ware

Before considering in detail the characteristics of Mildenhall ware it will be necessary to make clear exactly which groups of pottery the term is intended to include. Piggett has suggested (1954, 36) that two strains in the local Windmill Hill ceramic are present in Essex and East Anglia: an "earlier phase", characterized by undecorated ware allied to that of Lincolnshire and Yorkshire, and a "later intrusive element" represented by decorated and carinated "East Anglian bowls", a specialized form of Abingdon ware. That the undecorated ware was in fact the earlier seemed to be supported by the presence of a few sherds stratified in peat of Zone VIIa at Peacock's Farm, Shippea Hill, Cambs.

Since the time when Piggett's remarks were written, a great deal more pottery from East Anglia has come to light, partly as the result of the excavations conducted at Hurst Fen, Mildenhall, by Lady Briscoe (1954) and ^{by} Professor Clark (as yet unpublished) and partly in the form of a large collection of sherds which comes almost certainly from the same locality (but is referred to below and in the catalogue as from Site E, Mildenhall). This collection has been examined in detail by the writer; there is no reason to doubt that it forms a homogeneous group, and as a group it cannot be distinguished from the excavated material referred to above. Unless stratigraphical differentiation can be

shown during future excavations at Hurst Fen, it seems that we must consider the "East Anglian bowl" as simply the more carefully made, and normally the only decorated, member of a ceramic consisting otherwise of simpler forms. The ornamented bowl in East Anglia occupies, in fact, the same position as the graceful carinated bowl at Whitehawk; it is tempting to think that these were used for serving food or drink rather than for preparing it.

Further, the characteristic bowl form appears sometimes without decoration. The small plain bowl found by Leaf at Chippenham (1939, fig. 14) is almost identical in form and size with the decorated bowl from Milton Ferry, Northants. (FIG.10). Among the plain sherds from Site E, Mildenhall, there are rims and carinated fragments which can be matched on ornamented vessels. So far as surface finds are concerned then, all must be assigned to the same group.

There still remain, however, the sherds from Peacock's Farm. If an earlier, less developed form of Windmill Hill ware exists in East Anglia, it should be represented here. Yet neither in fabric nor in form does it seem possible to distinguish this group of sherds from the Hurst Fen material. All seem to be tempered with sand and quartz, and these grits are used in a proportion of the pottery from Site E, although burnt flint is more common. As to the forms (Clark, 1935, fig.12), two sherds seem to belong to carinated bowls with rolled rims (nos. 43 and 48); two small fragments have

similar rims (nos. 44 and 45); and two rims are upright, but just perceptibly enlarged (nos. 46 and 47). The latter form seems to be particularly characteristic of the Hurst Fen material (cf. Briscoe, 1954, fig. 3:b; fig.5:a; and Site E, FIG.17:3,13; FIG.27:79). The small cup from Peacock's Farm (no.42) has little diagnostic value, but it is matched at Hurst Fen (Briscoe, 1954, fig. 3:a). There remains only one bowl from Peacock's Farm (no.41) for which no parallels have been found; the combination of simple upright rim with a carination does not seem to occur elsewhere in East Anglia (though somewhat similar shapes are seen at Whitehawk). But the group cannot be differentiated on the basis of this bowl alone.

Once it is realized that in form the Peacock's Farm sherds are connected with the Hurst Fen group, the absence of decoration ceases to be of importance. Of the 56 individual pots figured by Briscoe (1954), the proportion of decorated to plain vessels is 26:30; of the 79 figured here from Site E (FIGS.16-27), the proportion is 24:55. Thus it is probably simply by accident that no ornament appears at Peacock's Farm.

With the possible exception of the material from Grime's Graves, where the forms are too simple to permit

1

detailed classification, all the Windmill Hill ware found in Essex and East Anglia may be classified as Mildenhall ware. It is of interest to observe that this ceramic variant is recorded from 17 localities, whereas all other groups combined have been found at only 27 localities in the south-eastern area. But this apparent preponderance must be due largely to the fact that many of the find-spots are in areas which have not subsequently been cultivated.

Ware: The very high standard of craftsmanship exhibited by the finer carinated bowls at Whitehawk seems not to have been attained by the makers of Mildenhall ware, though the decorated vessels are usually of better quality than the plain; the latter are frequently of coarse fabric and irregular shape. "Slip" seems normally to have covered the surfaces, but, as in Whitehawk ware, it has not survived well. Tempering material consists mainly of fragments of burnt flint, though quartz and other rocks available as erratics in glacial deposits or on the beaches were sometimes used; a proportion of sand is occasionally to be detected; shell was very rarely used. The pottery is fairly hard and well fired as a whole, though quite soft fabrics occur. The predominant colour is shades of brown, but blacks and greys are seen as well.

1. It is notable that at Hurst Fen, only 10 miles distant from Grime's Graves, much use was made of honey-coloured, brown and light grey flints of more attractive appearance than the normal dark grey flint from these mines (Briscoe, 1954, 18).

Traces of ring-building have been detected in several instances. At Site III, Clacton, a large plain vessel had come apart along the joints; joints can also be seen clearly in a sherd from Site E, Mildenhall (FIG. 27:74). The carinated vessel from Kesteven Road, Ipswich (FIG.13) shows the neck applied as a separate piece; and many specimens from Site E, Mildenhall (as FIG.19:19-22) show how a simple rim was enlarged by the addition of a strip of clay. The fact that joints can so frequently be detected bears out the remark made above as to the generally lower standard of potting as compared with Whitehawk ware. The walls of the pots are perceptibly thicker than at Whitehawk or Abingdon; if greater care had been taken to thin them by beating out after construction, the ring-joints would almost all have disappeared.

Forms: The distinctive form, that singled out by Piggott as the East Anglian bowl, is characterized by a heavy rim, a neck which may be concave or straight, and a pronounced shoulder of diameter equal to or greater than that of the rim. Pinched-out shoulders are sometimes seen (FIG. 18:17), but in most instances it seems that the form of the shoulder was determined by the method of construction (FIG.13). The bowl from Hayland House (Leaf, 1934, Pl.I) has a stepped shoulder of a type common in Lyles Hill ware. In the Mildenhall group the necks are always more clearly differ-

entiated than in Abingdon or in Whitehawk ware. Typical specimens of this bowl form are illustrated in FIGS. 13 and 16.

The heavy rims are T-shaped (as in the Hayland House bowl, Piggott, 1954, fig. 11:4; or at Site E, FIG. 16), enlarged externally (Site 109, Clacton, Appendix II, fig. 2:1; and FIG. 5:25-7), outbent (FIG. 17:4) or bulbous (FIG. 25:59; FIG. 4:24); related to the latter is the type where the enlargement has been worked into a ridge externally (FIG. 3:8; FIG. 25:56-8) - this seems to be the most common form. Simple rims, just perceptibly enlarged, are seen in FIG. 3:6 and 9). All these forms are subject to minor variations of shape and angle which are probably of little significance. What does seem significant, and characteristic of this group, is the high proportion of enlarged rims which have a flat internal bevel - FIG. 7:2,4,5; FIG. 19:19-22.

All the rim forms found in Mildenhall ware are present also in the Abingdon and Whitehawk styles; the differences consist chiefly, it seems, in the relative proportions in which certain forms occur - T-rims are more numerous in Abingdon ware and simple or only slightly elaborated rims in Whitehawk ware.

Although straight-sided or bag-shaped vessels are represented fairly frequently in the sherds from Site E, Mildenhall (as FIG. 21 and FIG. 26:63,70), many vessels which lack sharp carinations have nevertheless constricted necks (FIG. 24:47,50,55; FIG. 27:73).

All vessels appear to have had round bottoms with the exception of the fragment of flat base from Pledgdon Sandpit. This base resembles in fabric and to some extent in form the flat-based sherds in stone-gritted ware from Abingdon. It is impossible to be certain, however, that the Pledgdon specimen is not intrusive.

Lugs are quite rare; when present they seem normally to have been perforated and set on the shoulders of decorated bowls (as Dales Road, Ipswich, FIG. 12, and Hayland House, Piggott, 1954, fig. 11:4). The three lugs from Site E, Mildenhall, illustrated in FIG. 22 are, however, more closely related to the strap-handles of Abingdon type; No. 31 was evidently made as a single piece and luted into a concave neck.

It is worth noting that the bag-shaped pot with a pair of lugs set beneath the rim, a type primary at Windmill Hill and found again in Whitehawk ware, seems to be absent altogether in Mildenhall ware.

Decoration: In decorative techniques, Mildenhall ware is more closely allied to Whitehawk ware and to the stone-gritted ware from Abingdon than to Abingdon ware sensu stricto.

True channelling is freely employed and fluting is common (as FIG. 3:8; FIG. 11; FIG. 13). Punctuations are rather variable in shape - circular (FIG. 13), oval (Appendix II, fig. 2:1), semicircular (FIG. 10 and FIG. 25:58), triangular (FIG. 7:1) or rectangular (FIG. 3:4). In the

reconstructed bowl from Site E, Mildenhall (FIG. 16), lines of deep narrow dots alternate with lines of shallow broad ones.

The patterns on Mildenhall ware are remarkably standardized; FIGS. 10 and 13 may be taken as typical specimens. The lines across the rim and the zone of dots below the shoulder are regularly recurrent features. Vertical or oblique channels are normally present in the neck, though this is sometimes left plain, filled with dots (FIG. 18:17) or with a complicated linear pattern (FIG. 4:22). Internal decoration (fluting or channelling) is often added. In a few instances (FIG. 4:22 and FIG. 12) decoration extends below the zone of dots under the shoulder; sometimes the punctuated zone is interrupted by such patterns, notably in the restored bowl from Whiteleaf Barrow, Bucks. (Appendix III, fig. 5:1), with which may be compared the small bowl from Clacton (FIG. 4:22).

Features found in Mildenhall ware, but not in the Whitehawk or Abingdon styles, are chevrons on the rims (at Whiteleaf, Appendix III, fig. 5:2-7; at Clacton, FIG. 5:25);
¹
 chevron patterns in the necks or on the walls (Whiteleaf,

1. Three exceptional sherds from Whitehawk have chevron pattern over the shoulders (Curwen, 1934, figs. 19-21). Although Pigott suggested in his discussion of these sherds that they should be classed with the Ebbsfleet group, the shoulder profiles and the channelling technique in which the pattern are executed indicate that they fall within the Whitehawk class.

Appendix III, fig. 5:1; Clacton, FIG. 4:22; Edington, FIG. 8; Shropham, FIG. 9); and lattice patterns (Whiteleaf, Appendix III, fig. 5:1; Clacton, FIG. 4:24, FIG. 5:26).

With the exception of bag-shaped vessels with a row of holes or pits beneath the rim (FIG. 6:29-33; FIG. 21; FIG. 24:51, 52; FIG. 26:72), decoration seems to be confined entirely to carinated bowls (or to sherds with heavy rims which probably belonged to such bowls).

d. Mixed groups;

As mentioned in the discussion of the distribution of Windmill Hill ware in the south-east, the mixed groups are found along the course of the Icknield Way in the Chilterns. At all four sites pottery in the Mildenhall style is present, but mingled with it are sherds of Abingdon type (at the two sites near Dunstable) or of Ebbsfleet type (Barton Hill Farm, Site I, and Whiteleaf).

The pottery from Barrow 2, The Five Knolls, Dunstable, cannot be considered as an associated group, since the sherds were incorporated in the mound of the barrow and had perhaps been scraped up from the surface (most of them show signs of weathering). They may therefore represent successive occupations or visits by different groups of people. The decorated rim sherd (FIG.1) is best matched as regards fabric, colour and style of ornament in Mildenhall ware, whereas the

shell-gritted sherds (described in the catalogue) might come from Abingdon itself. The cord-ornamented rim sherd of Ebbsfleet ware (FIG.31), which also comes from the mound, may relevantly be mentioned here, in view of the Barton Hill-Whiteleaf evidence.

The pottery from the causewayed camp at Maiden Bower may be considered an associated group in that it all seems to have come from the same ditch section. It would be interesting to know which, if either, of the two styles preceded the other here. As discussed in detail in the catalogue, both shell-gritted and stone-gritted wares are present, but some shell-gritted sherds are decorated in a manner more appropriate to Mildenhall than to Abingdon ware. The sherd with the strap-handle (Piggott, 1931, fig. 6:5) is the most characteristic Abingdon form present and it is in fact shell-gritted. But of three decorated bowls of Mildenhall type (identified by the zone of dots below the shoulder; nos. 4, 10, 11), two are flint-gritted and one (no. 4) contains shell. The rim-herd which has been figured with the latter belongs to a different (flint-gritted) pot, though in form and decoration it is a good match. Two other shell-gritted sherds are ornamented in a manner alien to the Abingdon tradition: one has narrow flutings on the rim and vertical burnish marks in the neck (no. 9); the other has two perforations made before firing below the rim (no. 6).

Although some doubt must remain about the association and chronological relationship of the sherds from the sites discussed above, the evidence from Whiteleaf supports rather strongly the hypothesis that a genuine cultural intermingling took place. There can be no doubt that the various stylistic traditions represented in the pottery from Whiteleaf were reproduced by a single group of people. The affinities of the Whiteleaf pottery have been described in detail elsewhere (Appendix III, 221-8) and here only a few supplementary comments are necessary in connexion with the elements of the Ebbsfleet style which are present.

In the published account of the ornamental panels on the restored vessel (Appendix III, 228, fig. 5:1), reference was made to somewhat similar panels on a "proto-Food Vessel" from Ireland. But in view of the fact that rim forms of Ebbsfleet type are seen to be present in significant numbers at Whiteleaf, a more appropriate comparison may be drawn with certain sherds of Ebbsfleet ware from the Thames (FIGS. 50 and 90), where organized patterns are also found. Despite the differences in detail and in position of these features, it seems to be significant that in the south of England organized designs are confined almost exclusively to Ebbsfleet (and other styles of Peterborough) ware and to Mildenhall¹ ware.

1. There is no reason at present to connect these designs in any way with those on Rinyo-Clacton pottery.

The small group of sherds from Site I, Barton Hill Farm, Streatley, Beds., are of much greater interest than their rather insignificant appearance would suggest, in view of their clear connexions with the pottery from Whiteleaf. The heavy rim with chevron pattern (which if found as a stray would unhesitatingly be classified as Peterborough ware on grounds of form, decoration and fabric) is closely matched by Whiteleaf No. 6. FIG. 2:2 is an undecorated version of Whiteleaf No. 19; and there is a mere scrap of rim from Barton Hill which almost certainly had deep transverse corrugations like those on Whiteleaf No. 19. FIG. 2:3 may be compared with a number of T-shaped rims from Whiteleaf. But FIG. 2:4 is perhaps the most important fragment: on the rim are oval dots arranged in a loose chevron pattern (paralleled in Mildenhall ware at Clacton, FIG. 5:25; similar shallow oval depressions occur fairly often on rims in Mildenhall ware, e.g. FIG. 8); inside, below the rim, is a horizontal twisted cord impression. In its position this recalls Whiteleaf No. 15, where a single channelled line presumably encircled the interior of the pot below the rim.

The Barton Hill site is described in the catalogue and it is necessary only to mention here that in structure and probably in function it seems to have been analogous to the Whiteleaf barrow.

e. Other groups

In addition to the three major decorated styles, there is a small series of plain sherds from three sites in the extreme western part of our area which seem also to belong to a recognized group. These are the sherds from Haddon Hill, Holdenhurst Long Barrow, and Southbourne, all near the Dorset-Hampshire border. Although no trumpet-lugs are present, the affinities seem to lie with the pottery from Hembury and Maiden Castle (Piggott, 1954, 383). These sites apparently represent the most easterly point reached by Hembury ware in a recognizable form.

Finally, it is necessary to consider briefly the pottery from Grovehurst, Kent (Piggott, 1931, fig. 21). Bag-shaped vessels of this kind, with a single line of perforations made before firing below the rim, occur quite frequently in both the Whitehawk and the Mildenhall styles. The Grovehurst pot is, in fact, virtually identical with FIG. 21 (from Site E, Mildenhall). Piggott has recently suggested that perforated vessels of this type should be removed from the Windmill Hill family and classified as Ebbsfleet ware (1954, 304, 308). But since pots with exactly the same lines of holes (or pits) beneath the rims were recovered from the primary levels at Windmill Hill itself (Piggott, 1954, 70-1), and since perforations made before firing are not found in Ebbsfleet ware, it is difficult to understand the reasons

1. There is one possible exception, which will be discussed in Part III. The pits in Ebbsfleet ware are nearly always broader and shallower than those found in Windmill Hill ware.

for such a change.

The real importance of the Grovehurst site lies, of course, in the interesting collection of implements it yielded; these include flint and stone axes, single-piece flint sickles, plano-convex knives,¹ leaf-shaped arrowheads, a scraper with one edge blunted by grinding, serrated flakes, and other types. But, as has been discussed in detail in the catalogue, there is no guarantee that the flints and the pottery which is now preserved in the British Museum and at Cambridge were associated.² Grovehurst may well have been occupied by a number of cultural groups over a considerable period of time, just as was the case at Clacton, Edingtonthorpe or Creeting St. Mary. It is still uncertain, therefore, to which culture single-piece sickles belong.

Of the few remaining Windmill Hill sites in the south-

1. Some are fine specimens of the developed type associated in Yorkshire and in Scotland with Food Vessels (Payne, 1880, F and H); this suggests that the flints may represent more than one archaeological period.
2. From Payne's lamentably vague description (1880, 124), it might appear that all the pottery was of Windmill Hill type, since he doubtless would have referred specially to cord impressions or other conspicuous forms of ornament had these been present. The statement that the vessels were "flat-bottomed" is difficult to reconcile with the profile of the existing pot. If flat bases really were present, we may assume either that these belonged to another ceramic group altogether or to the (probably later form of Windmill Hill ware found at Site IX, Dorchester, and at Playden (see below).

eastern area which have not been included in the foregoing typological discussion, the only one requiring special mention is Playden, near Rye in Sussex. Mr. R. J. C. Atkinson has recently suggested verbally that this pottery may after all belong to the Windmill Hill group, since a biconical, flat-based, lugged vessel which in form closely resembles the Playden vessels comes from a site at Dorchester, Oxon. (Site IX), which evidently is attributable to the Windmill Hill culture. Mr. Atkinson has further detected similarities between the partly excavated rectangular enclosure at Playden and the Long Mortuary Enclosures found at Dorchester and elsewhere. But apart from the flat-based vessels, other sherds from Playden seem to have been of normal Windmill Hill form. There was at least one round-bottomed pot (Cheney, 1935, fig. 6:A.4) and the T-headed and rolled rims (B.2 and B.5) could easily be matched at Whitehawk, for example.

iii. Artifacts associated with the pottery

No essentially new information can be added to Professor Piggott's very full discussion of the artifacts accompanying Windmill Hill pottery (1954, 75-89), but it seems useful to set forth in tabular form all the types found in direct association in the south-eastern area (Table II, A and B). The material from causewayed camps

TABLE II

Artifacts associated with Windmill Hill pottery in the
South-eastern Area

A: In causewayed camps

	1	Flint axes	Leaf-shaped arrowheads	Javelin-heads	Petit tranchet arrowheads	Single-piece sickle	Flint awls	Scrapers	Serrated flakes or blades	Trimmed flakes or blades	Utilized flakes or blades	Waste flakes	Discoidal cores	Cores	Stone axes - Group VI ¹	Hammerstones	Facetted pebbles - polishers	Grain-rubbers	Antler combs	Imperforate bone points	Other tools of antler/bone	Objects carved in chalk
Abingdon	x	x	x	-	x	x	x	x	x	x	-	x	-	x	x	x	x	x	x	x	x	-
Maiden Bower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-
The Trundle	x	x	-	-	-	x	x	x	-	-	-	x	x	x	-	x	-	x	-	x	x	x
Whitehawk	x	x	x	x	-	-	x	x	x	x	x	x	x	x	-	x	-	x	x	x	x	x

1. Including fragments or roughouts.

TABLE II

Artifacts associated with Windmill Hill pottery in the
South-eastern Area

B: In pits, open settlements, etc.

	Flint axes ¹	Leaf-shaped arrowheads	Triangular arrowheads	Petit tranche or der. arrowhead	Javelin-heads	Flint awls	Fabricator	Scrapers	Serrated flakes or blades	Trimmed flakes or blades	Utilized flakes or blades	Waste flakes	Cores	Stone axe-factory products ¹	Hammerstones	Facetted pebbles - polishers	Grain rubbers	Antler combs	Imperforate bone points	Other objects or antler/bone
Clacton	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Dovercourt	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Holdenhurst	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Hurst Fen	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Ipswich -	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Kesteven Road	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Michelmersh	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
New Barn Down	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Playden	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Plegdon	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Southbourne	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Walton	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Whiteleaf	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Wingham	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

1. Including fragments or roughouts.

has been listed separately (Part A), because it may be assumed to reflect somewhat different activities than do the artifacts found on other sites (listed in Part B). Further, pottery attributable to other cultural groups has come from the ditch-fillings at Whitehawk and at Abingdon, so that it is impossible to be certain that all the artifacts listed were the products of the Windmill Hill culture.

It will be noted that, including the causewayed camps, only seventeen sites have produced sufficiently unambiguous evidence of direct association of pottery and other artifacts to be worth listing in Part B.

The data presented in Table II do not require detailed comment, but certain observations may be made. The causewayed camps have produced a greater number of different types of artifacts than the other sites, but, as seen in Part B, the number of types varies directly with the quantity of pottery also found. Sites producing abundant pottery (Clacton, Hurst Fen, Whiteleaf) have also yielded the greatest number of other types of objects.

Essentially the same range of flint, stone, antler and bone objects seems to be found with all the stylistic groups; although no artifacts of bone or antler are recorded in association with Mildenhall ware, this is probably the result of conditions unfavourable to their preservation (as at Hurst Fen).

If it were possible to give statistical expression to the relative numerical proportions of the various types at each site, the results might be more illuminating; but the available data are quite insufficient for this purpose. It must be emphasized, however, that the following objects, which are not normally considered to be products of the Windmill Hill culture, do in fact occur only once in each of the assemblages in which they are shown: single-piece flint sickle, petit tranchet or derivative arrowheads, triangular arrowhead.

The following list, based on Table II, shows the relative frequency of occurrence in the seventeen sites of the artifacts which may with some degree of certainty be attributed to the Windmill Hill culture:-

	<u>No. of sites</u>	<u>Percentage of total no. (17)</u>
Flint axes (including fragments and rough-outs)	8	48
Leaf-shaped arrowheads	8	48
Javelin-heads	5	29
Flint awls	3	17
Scrapers	11	64
Serrated flakes or blades	11	64
Trimmed flakes or blades	7	41
Hammerstones	7	41
Facetted pebbles - polishers	3	17
Grain-rubbers	7	41
Stone axe-factory products	2	11
Antler combs	4	23
Imperforate bone points	4	23
Other objects of antler/bone	4	23
Objects carved in chalk	2	11

1. Excluding cores, utilized and waste flakes.

One particular type which calls for further comment is the javelin-head, which is recorded from 29% of the sites. This variant on the leaf-shaped arrowhead has already been discussed briefly by Piggott (1954, 78), but no typological study has yet been attempted. Provisionally, javelin-heads may be distinguished as comparatively heavy bifacially trimmed points, approximating to the laurel-leaf in shape, and 2" to 4" or more in length when complete. The form is recorded from Windmill Hill, Hembury and Whitehawk; the broken point from Abingdon (Leeds, 1927, fig. 5:a), thought by Leeds to be part of a dagger of Beaker type, is more probably a javelin-head. Similar fragments come from the pit at Southbourne and from Site 106 at Clacton. Specimens have been found in considerable numbers at Hurst Fen, most of them ~~unfinished~~ or broken during manufacture (several are figured in Briscoe, 1954, fig. 8:a,b,d; many more were recovered during Professor Clark's excavation in 1955).

An interesting result of the discoveries at Hurst Fen is that a cultural context has now been provided for the "Solutrean laurel-leaves" recorded by earlier workers in East Anglia. The fine specimen from the Colne Valley (Layard, 1927, fig. 8) is made of brown flint; since flint of this colour was commonly employed at Hurst Fen it seems possible that the Colne Valley javelin-head is a product of this workshop. The fact that these objects have been found

at considerable depths below the present surface is no obstacle to this view, for Zeuner (1950) has shown in a discussion of the equally deeply buried habitation site yielding Mildenhall ware at Norwich Road, Ipswich, that thick deposits have washed into East Anglian valleys in comparatively recent times.

iv. Mode of occurrence

Table III lists the various kinds of contexts in which Windmill Hill pottery has been found in the south-eastern area and indicates the proportion of the total number of sites represented by each category.

It is obvious that, in attempting an analysis of this kind, arbitrary decisions must be made as to the categories within which certain of the sites are to be included, either because precise information is lacking or because the evidence may suggest more than one interpretation. Further, since in certain localities (as at Clacton) pottery has been found in a variety of contexts (hut-sites, pits, general scatter on the old surface), it has been necessary to divide the material from such localities among a number of categories. Appendix V lists the individual sites under the same headings as used in Table III, showing the basis upon which the classification has been made.

A few of the headings in Table III may require explanation. "Hut floors" are those where some traces of

TABLE III

Mode of occurrence of Windmill Hill pottery in the
South-eastern Area

	<u>No. of sites</u>	<u>Percentage of total</u>
1. Primary in causewayed camps	4	8
2. In pits, assumed to be domestic	9	17
3. On hut floors	6	11
4. On occupation sites, no structures detected	7	13
5. Accompanying inhumations or cremations	3	5
6. In primary association with a ritual and/or funerary monument	4	8
7. In primary silt of ditch of long barrow	2	4
8. In shaft-filling of flint-mine	2	4
9. In bed of river	1	2
10. Multiple strays	6	11
11. Single strays	7	13
12. Redeposited in mound of round barrow	<u>2</u>	<u>4</u>
	53	100

structures and hearths were seen (as at Norwich Road, Ipswich) or where the material was found in hollows too large to be classified as pits (as New Barn Down).

"Occupation sites" are those where sherds, pot-boilers and flints have been found in association within a limited area, but where no pits or postholes were detected. The category "single strays" is self-explanatory; "multiple strays" refer simply to localities yielding sherds of more than one pot, but where the sherds were not in direct association with each other or with anything else, so far as the writer has been able to ascertain. Since accidental factors affecting preservation and discovery must have produced a random selection of the original material in such cases as these, more precise interpretation is precluded. On the whole, however, it may be assumed that stray finds represent domestic refuse discarded during brief visits to the localities in question. Similar considerations apply to sherds redeposited in the mounds of round barrows.

Such a detailed and, in some respects, artificial classification, which has necessarily involved arbitrary and subjective decisions or decisions based upon incomplete information, may seem of little value in connexion with the Windmill Hill culture. The primary purpose in undertaking it has been to devise a method whereby certain aspects of the Windmill Hill, Peterborough and Rinyo-Clacton complexes

may be compared and contrasted. Since the contexts (or even lack of contexts) in which pottery is found must betray the habits and preoccupations of its makers, it is possible to emphasize cultural similarities and differences by comparing the modes of occurrence of the pottery characteristic of the three major complexes that are the subject of this study. This matter will be discussed in greater detail in Part III in connexion with Peterborough ware. The modes of occurrence of Peterborough and Rinyo-Clacton wares have been listed in Tables VI and IX under the same headings, so far as possible, as those used in Table III for Windmill Hill ware.

A few points of interest in connexion with the activities of the makers of Windmill Hill pottery emerge from the figures given in Table III and may be considered briefly. If stray and redeposited sherds be taken to represent domestic refuse and included with those coming from definite settlements, 77% of the sites are seen to have been occupation sites. Pigott has shown that causewayed camps were probably frequented only in late summer and autumn (1954,28); although direct evidence is lacking, it seems equally probable that sites on the margins of the fens and on the Lyonesse surface were also occupied seasonally for wild-fowling and fishing. On the other hand, the large quantity of pottery recovered from the Hurst Fen site and the evidence it yielded for the production of specialized flint

implements might suggest more permanent settlement. It may also be taken that pits - probably cooking-holes - indicate relatively longer stays than stray sherds.

In only 17% of the sites is the pottery directly connected with burials and funerary or ritual structures; in this figure are included sherds from the primary silt of the ditches of long barrows, as it seems probable that here, as in the case of monuments of less obvious function, the pottery was deposited by the builders either during construction or in the course of subsequent ceremonies. But only in the case of the Whiteleaf Barrow is it possible to state with some assurance that the pottery actually represents a ritual deposit.

The excess of long barrows over sites yielding pottery in Hampshire and Sussex has already been noted; yet within this area only the Holdenhurst Long Barrow can with some degree of certainty be related to a group using a recognized ceramic style - Hembury ware. The sherds from the Badshot Long Barrow and from Julliberrie's Grave are too small and indeterminate to permit detailed classification. In East Anglia, on the other hand, there are many more habitation sites than long barrows, and there is as yet no means of connecting the barrows with the cultural group represented by settlement material.

But sherds of decorated Mildenhall ware are said to have been found in direct association with the as yet incompletely

excavated crematorium (?) at Worlington; and Mildenhall ware was again present in the two unusual and perhaps structurally related monuments at Whiteleaf and Site I, Barton Hill Farm.

Abingdon ware sensu stricto has not been found in sepulchral contexts, but a stylistically related pot accompanied a single inhumation in a simple grave at Pangbourne. As we have seen, the Windmill Hill pottery from the ritual or funerary sites at Dorchester and North Stoke appears to be connected with that found in a secondary position at Abingdon.

v. Economy

Nothing new can be added to Piggott's description of the basic economy of the Windmill Hill culture (1954, 89-91).¹ Grain-rubbers and bones of domesticated animals appear so regularly on major sites that there can be no doubt that all groups represented by the various ceramic styles depended chiefly on mixed farming. As previously mentioned, it might be expected that hunting, fowling, and fishing would have played a greater part at sites such as Hurst Fen; in fact, however, only the relative abundance of missile weapons (arrowheads and javelin-heads) suggests that this may have been the case, for teeth of sheep and ox only have been identified at the one site where there is any evidence at all (Briscoe, 1954, 20).

1. Further information is now, however, available as to the crops cultivated by the first settlers at Windmill Hill (Helbaek, 1952).

Participation in flint-mining is attested from Grime's Graves and Cissbury; a sherd of Whitehawk ware was found in a shaft at the latter site and flint-mine axes at Whitehawk Camp and at New Barn Down. But there does not appear to be a similar connexion between Grime's Graves and the surrounding East Anglian habitation sites. As already noted, the Windmill Hill pots from this mine are too simple to be attributed to any particular stylistic group and the flint-knappers at Hurst Fen preferred to use for their missile weapons flint from other, unidentified, sources. The axes, too, are made of light-coloured flint. On the other hand, flint from Grime's Graves seems to predominate (so far as can be seen - most of the objects are heavily patinated) in the material from such industrial sites as Cranwich, Norfolk, and Cavenham, Suffolk. Leaf-shaped arrowheads, javelin-heads, and probably some of the polished axes from surface collections in East Anglia, indicate that the Windmill Hill culture flourished more vigorously here than the long barrows or sites yielding pottery would suggest.

Whether or not the large-scale production of tools and weapons carried out in these localized areas, and the specialization attested at Hurst Fen, imply mass-production for trading purposes or simply for use by the manufacturing group must remain an open question. That some trading was carried on is evident from the presence of stone axes at Hurst Fen and it may be that the honey-coloured, brown and light grey flints in use there were also acquired by trade.

vi. Relative chronology

The chronological relationship between the sites yielding Hembury ware in the westernmost part of our area and the first periods of occupation at Hembury Fort or at Maiden Castle cannot be established with precision, for this simple ceramic style continued to be produced at both these camps for a long time. Since, however, other evidence seems to indicate that the initial Neolithic colonization took place to the west of our area and was followed by expansion towards the east, it is possible that the pottery from Holdenhurst, Haddon Hill and Southbourne should be assigned at earliest to the beginning of the Middle Neolithic. The other major groups with which we are concerned belong by definition to the Middle Neolithic.

As described in previous sections, associations and stylistic similarities show the Abingdon, Mildenhall and Whitehawk wares to have been regional varieties of the Windmill Hill ceramic tradition whose periods of manufacture must all have overlapped to some extent. Of these, Whitehawk ware is the one which seems most closely related to the pottery from the primary levels at Windmill Hill and which may have had the shortest life. The bag-shaped pots with lugs below the rim and the use of decoration on vessels with simple rims give a somewhat primitive, less evolved appearance to the Whitehawk group in comparison with Abingdon and Mildenhall wares. The absence of stone axe-factory products

from the Sussex camps may indicate that they were no longer occupied by the time trade in these products had been organized. At Whitehawk a small quantity of Ebbsfleet ware occurred in association with the Whitehawk ware from the initial phase onwards, but only one major period of occupation could be discerned and the site had been abandoned long before Beakers and rusticated ware were deposited in the top of the filling of the Third Ditch. On this evidence, it appears that Whitehawk ware had ceased to be manufactured before the end of the Middle Neolithic.

Mildenhall ware, which looks stylistically more evolved than Whitehawk ware, seems to have had a longer life. Its earliest appearance is at Peacock's Farm, in peat of Zone VIIa, but the community living at Hurst Fen in the same region had been able to acquire the products of a stone axe-factory. This settlement can thus be correlated approximately with the stone axe from Upware, found in a position equating with the Zone VIIa-VIIb transition (Piggott, 1954, 95), and so may belong to the end of the Middle Neolithic or even the beginning of the Late Neolithic. Although the segregation in separate areas of pits yielding Mildenhall ware and Rinyo-Clacton ware at Lion Point, Clacton (Warren et al., 1936, 181) need have no chronological significance, it may in fact indicate that here the representatives of these two different cultures were living side by side. As we shall see in Part IV, Rinyo-Clacton ware seems to belong exclusively to the

Late Neolithic period in south-eastern England. But a terminus ante quem for Mildenhall ware is provided by the stratification at Hayland House where, despite severe disturbance of the deposits, it was seen that the horizon yielding pottery of this class underlay one containing A beakers and rusticated wares (Leaf, 1934, 108).

The stratification in the ditches of Windmill Hill, where sherds of typical shell-gritted, heavy-rimmed pots occurred above the levels yielding pure Windmill Hill ware and below those yielding Peterborough ware or Beakers (Piggott, 1954, 72), affords a relative date for the appearance of Abingdon ware sensu stricto. Since, however, this ceramic style continued in use throughout the period represented by the silting of the deep Outer Ditch at Abingdon, it is not possible to correlate the secondary sherds from Windmill Hill with any precise phase of the occupation at Abingdon.¹ In the final phase at Abingdon, the new stone-gritted Ware II appeared together with B-beakers and this seems to be the time of the ceremonial sites at North Stoke and Dorchester. At Site I, Dorchester, Ware II was contemporary with Rinyo-Clacton ware - this is the only site in our area where there is clear evidence that the Windmill Hill

1. In the absence of detailed stratigraphical records, the Great Langdale axes from Abingdon (Stone & Wallis, 1951, 119) cannot be correlated with those in the Peterborough-Beaker levels at Windmill Hill either. It seems probable, however, that the axes belong to a late period of the occupation.

tradition was still being maintained after the Rinyo-Clacton culture had appeared. (There is, however, evidence for an overlap of the same kind at Woodhenge.)

Abingdon II, the Dorchester sites, and perhaps Playden - all with a few flat-based pots suggesting that the old ceramic tradition was undergoing modification as a result of contacts with new cultures - seem to represent the last appearance of the Windmill Hill culture as a recognizable entity in the archaeological record in south-eastern England. This cannot mean, of course, that the human population known to us through the medium of their artifacts and monuments became extinct. It simply means that in response to changing conditions the old techniques and customs were gradually abandoned and new ones evolved or adopted to replace them. All that is implied in the phrase "changing conditions" is not yet clear. One disturbing factor must have been the settlement in the south of England of other groups - representatives of the Rinyo-Clacton and B-beaker cultures. Others are likely to have been the alterations in the natural environment brought about by the activities of the first Neolithic settlers themselves and the increasing density of population, necessitating adjustment of social and economic organizations.

vii. Relationships with other Western Neolithic groups

a. Within the British Isles

The close relationship which seems to obtain between

the primary pottery from Windmill Hill and Whitehawk ware has already been touched upon. so far as decorative techniques are concerned, Mildenhall ware and the stone-gritted Ware II from Abingdon are also connected with this series, for they too have ornament in the form of shallow channellings and punctuations.

Outside south-eastern England a similar system of decoration is found only in the Class I and Ia pottery from Lough Gur, Co. Limerick (O'Riordáin, 1954). Here, however, the strokes are sharply incised and the punctuations take the form of stabs, resembling most closely the decorative techniques on Abingdon Ware I. Certain of the ornamental motifs in the Lough Gur pottery do not occur in England, but others can be matched quite precisely at Abingdon: a combination of dots and short strokes on the rim (compare O'Riordáin, 1954, fig.14:10 and Leeds, 1928, Pl.LXXII, fig.2:h); rows of short oblique strokes (O'Riordáin, 1954, Pl.XXIX and Leeds, 1928, Pl.LXXII, fig.2:f); and simulated cord impressions (O'Riordáin, 1954, fig.14:7 and Leeds, 1928, Pl.LXXII, fig. 2:i and l). One of the fragments from Lough Gur has also a line of stabs above the shoulder and two below (O'Riordáin, 1954, fig.51:17), again recalling the arrangement of dots on vessels from Abingdon (as Leeds, 1928, Pl.LXXIV, fig.2:a) and on many specimens in Whitehawk and Mildenhall wares. Although none of the T-shaped rims in Abingdon ware is of such exaggerated proportions as some of those in Class Ia

series from Lough Gur, nearly all the characteristic Abingdon rim forms (except the bulbous ones) can be matched here. Here, too, are pinched-out shoulders (O'Ríordáin, 1954, fig. 12:2) which recall the Abingdon type.

So far as morphological features are concerned, however, the Class I and Ia pottery from Lough Gur is far more closely related to Lyles Hill ware (Evans, 1953) than to any other ceramic group. The latter ware, which is decorated almost exclusively by flutings made with the finger-tip or with a rounded implement, seems in turn to be connected with the carinated and fluted bowls of the type found at Easterton of Roseisle (Callander, 1929, fig.34:4) and at other sites in Scotland, and again with the similar series from North-umberland and Yorkshire (Newbigin, 1937, Pl. XV:10). These vessels from the Highland Zone seem again to be connected with Mildenhall ware, insofar as the latter is also frequently fluted (though always in combination with other decorative motifs which occur rarely or not at all on the series referred to above). The trough-like shoulder on the Mildenhall bowl from Hayland House (Piggott, 1954, fig.11:4) seems to be another link, for it occurs once in Yorkshire (Newbigin, 1937, Pl.XVII:2) and very commonly in the Lyles Hill-Lough Gur series. But in their proportions and rim forms the carinated pots from Yorkshire and Scotland are more closely allied to Whitehawk ware - the greatest diameter is at the rim and the

rims themselves are everted, rolled outwards or flanged. T-shaped rims seem to be very rare between East Anglia and Ulster.

Piggott has discussed in detail (1954, 116-21) the probable relationships between the Windmill Hill pottery styles of south-eastern England, Yorkshire, Scotland and Ulster, suggesting that the evidence indicates diffusion northwards and westwards from centres in the south. In connexion particularly with the Yorkshire and Northumberland pottery, which occurs sometimes in association with crematoria under barrows, it may be remembered that Mildenhall ware has recently been found at Worlington, Suffolk, on the site of what may prove to be a crematorium of related type.

But the stylistic inter-relationships of all these ceramic groups are so complex that it is hardly possible to derive one directly from another. Each seems to represent a regional specialization, combining in various ways certain basic characteristics of form and decoration.

There is little evidence of connexions between the decorative schemes applied to pottery of Windmill Hill origin in the south and the designs which appear on the Becharra-Unstan series in western and northern Scotland. Only the panels on the bowl from Whiteleaf indicate that Windmill Hill pottery ever bore organized designs, and this particular design is not paralleled exactly elsewhere. It may be that,

as Piggett has suggested (1954, 183), the arrangement of the ornament on a sherd from The Trundle (Curwen, 1929, Pl.VIII:2) affords a hint that decoration of the southern type derives ultimately from the same sources as the Beacharra style, but there is little else to support this view. The only vessel in the south having the distinctive Beacharra carinated form, with the greatest diameter at the shoulder, is undecorated and associated with the Hambury ware from Holdenhurst (Piggett, 1937, fig.4).

b. Outside the British Isles

Since all the evidence suggests that south-eastern England was an area of secondary colonization by the Windmill Hill culture, the question of the ultimate origin of the culture does not come directly within the scope of this study. Indeed, nothing new can here be added to the studies recently made by Piggett (1954, and 1954a) of the Continental relationships of the Western Neolithic groups in the British Isles.¹

1. Notice must, however, be taken of Vogt's recent reclassification of the Michelsberg culture as a member of the Funnel-beaker family of cultures (Vogt, 1953), in view of the parallelisms between its Belgian and Rhenish facies and the Windmill Hill culture. This recognition of the true affinities of the Michelsberg culture does not throw any new light on the origins of the Windmill Hill culture, for as Mrs. Hawkes first showed (1935) the latter cannot be derived from the former. Moreover, it is not possible to indicate any allied Funnel-beaker group which might be ancestral, for, as in the Michelsberg ceramic series, all known Funnel-beaker groups include forms such as "baking-plates", lugged flasks, and handled jugs that are not represented, even by debased imitations, in the Windmill Hill repertory. And the baggy pots with lugs set close beneath

But certain of the more "developed" features of the Windmill Hill pottery have west European or Mediterranean analogues which may be mentioned briefly. Childe (1950a) has pointed to the stylistic affinities between decorated Becharra ware, Abingdon ware and the pottery from the passage-graves and such settlements as Vila Nova de San Pedro in Portugal, and has emphasized the fact that heavy rims seem to be confined on the Continent to the area round

the rim which seem to be ^{one of} the Urtypen of the western Neolithic ceramic groups in the south of England as well as in Scotland (cf. Scott, 1935, 536) find their counterparts only in specifically western Neolithic contexts on the Continent (Piggott, 1954a, 417; von Gonzenbach, 1949, Abb.1).

The Michelsberg culture in Belgium must have acquired its leaf-shaped arrowheads and antler combs through contact with another culture. This might be the Windmill Hill culture or, more plausibly, the still largely hypothetical western Neolithic culture in the north of France between Belgium and Brittany which Piggott has suggested (1954, 99) to be the immediate ancestor of the Windmill Hill culture. The stray antler comb from Heikendorf in Schleswig-Holstein (Schwantes, 1939, 142) is best interpreted as representing an otherwise unattested northward extension of the Michelsberg culture. The causewayed enclosures of this group are reminiscent in a general way of the English camps, but only Die Beusterburg (Tackenberg, 1951) has been interpreted as a cattle corral, and this has a single ditch, with the bank outside and a palisade inside, so that it differs in important details of structure from the camps of Windmill Hill type.

Of particular significance is the fact that in the rural economies of the Michelsberg and Windmill Hill cultures different kinds of wheat were cultivated. For Helbaek (1954, 204) states that Triticum compactum Host. constitutes the bulk of the grain associated with the Michelsberg pottery of Switzerland (and that it ^{impressions} also occur frequently in the earliest Funnel-beaker pottery of Denmark); but he was only able to find (1952) a single impression of T. compactum in the Neolithic pottery of southern England.* Helbaek has also shown that the impressions of flax-seeds in sherds from Windmill Hill (1952, 199) may indicate a link with the Early Cortaillod culture of Switzerland.

*Another impression has since been found in a sherd from Whiteleaf (Appendix III, 219).

the mouth of the Tagus. The likelihood of connexions between the Beacharra and the Portuguese pottery is increased by the fact that they have in common not only heavy rims but also such decorative motifs as concentric semicircles. But, though many of the rim forms in the Abingdon series (except the bulbous type) can be matched in Portugal, there seems to be no real similarity between the decorative styles of the Abingdon and Portuguese wares. The lines and dots on Abingdon ware seem to be purely decorative and non-symbolic, and in this respect the style cannot be separated from the similarly ornamented Whitehawk, Mildenhall and Lough Gur Class Ia and I wares.

Another, but unrelated, characteristic which seems also to have specifically south European and Mediterranean analogues is the use of fluted or burnished patterns which occur once at Whitehawk, and commonly on Mildenhall and the allied pottery from the north of England, Scotland and Ulster. Similar treatment was applied to the surfaces of vessels in the Lagozza variety of Western Neolithic pottery,¹ and again in the Neolithic wares of Crete (Furness 1953). It is impossible to point to any direct connexion between the groups thus ornamented in the British Isles and those in northern Italy or in Crete and the resemblance may be purely fortuitous. Nevertheless, it is perhaps

1. Information from Professor V. G. Childe.

significant that this particular technique does not appear to be recorded in ceramic assemblages of non-Western origin.

III

THE PETERBOROUGH COMPLEX

It is generally admitted that two important families of cord-ornamented pottery - Overhanging-rim Urns and Food Vessels - represent the strong survival in the Bronze Age of a ceramic tradition which first appears in the Neolithic period in the guise of Peterborough ware. Yet, despite its obvious bearing on our understanding of the development of Bronze Age culture, the precise nature of this relationship has not been examined in detail. This neglect is doubtless due in part to the fact that large concentrations of Peterborough ware are seldom found, but especially to the elusive nature of the "culture" represented by the pottery. For the pottery is not regularly found in primary association with monuments nor is it accompanied by a distinctive flint industry. A high proportion has been discovered by accident in the course of agricultural and industrial operations, in circumstances which have precluded the recording of detailed observations.

Professor Piggott (1954, 302) has included the Peterborough complex within his group of Secondary Neolithic cultures, with the reservation that ceramic style seems to be its sole distinguishing criterion. In the following pages we shall try by various means to clarify the cultural

status of the Peterborough complex and to sketch a provisional outline of the history of its development.

The south-eastern area was extremely important for the history of this ceramic group; not only are over 50% of all find-spots of Peterborough ware in Britain located within it, but it evidently was the scene of the evolution of Peterborough ware from simple Neolithic bowl to Bronze Age Overhanging-rim Urn.

The first two stages in this evolutionary sequence were recognized by Piggott when he demonstrated that Mortlake ware represents a stylistic development of the simpler Ebbsfleet type (Burchell & Piggott, 1939; Piggott, 1954, 310)¹. The third stage was recognized by Leeds as long ago as 1922, when in his description of the pottery from Peterborough itself he remarked (1922, 221-2) that "both the quantity that has been brought to light and the wide variation of the decoration seem to contain within itself (sic) the whole history of the final stages of the pottery of the Late Neolithic period and also afford a remarkable insight into the elements of Neolithic ceramic which survived in that of the Bronze Age". It can now be seen that Leeds laid too much stress on minor differences of form and decoration, thinking these to represent

1. He does not imply that this development was spontaneous, but suggests rather that it "might well be the result of the adoption of certain elements from the evolved Western Neolithic wares of southern England" (1954, 310).

various stages from early to late in the evolution of what we now call the Mortlake bowl type. But this does not alter the fact that, with customary perspicacity, he had grasped the true significance of a certain class of pottery from Peterborough. Yet his remarks have been virtually ignored ever since, although entirely comparable material is known from a considerable number of sites in England.

Thanks to the generosity of Mr. G. Wyman Abbott, who has made a temporary loan of his collection of Neolithic and Bronze Age pottery to the Institute of Archaeology, the present writer has been able to re-examine the material from Peterborough in detail. As a result of this study it has become clear that the bulk of the Neolithic pottery is typologically evolved and that certain specimens, notably those included in Leeds' group VI.b, are - if ceramic typology can be relied upon at all - indubitably the prototypes of the Overhanging-rim Urn.

It is therefore suggested that for this special group a fitting name would be Fengate ware or style, after the suburb of Peterborough where the finds were made and where their importance was first recognized. Peterborough ware would thus remain as a general term for the whole complex, of which the Ebbsfleet, Mortlake and Fengate styles would represent the successive developmental stages.

The unique character of the Peterborough complex derives

from the dynamic processes that can be detected within it; in this there is a contrast with the other two groups of Neolithic pottery with which we are particularly concerned, where active development is more difficult to trace. The discussion in the following pages will be based upon the explicit assumption that the Ebbsfleet, Mortlake and Fengate styles represent an evolutionary series. The testing of this assumption by independent dating evidence will be reserved for Section vi, but it may be stated here that this evidence does support the theory that the series is also a chronological one.

1. The distribution of Peterborough ware in the south-eastern area.

In his lists of 1931 and 1954, Piggott recorded 44 localities where Peterborough ware had been found in our area; 19 additional localities appear in Table IV, raising the total to 63. There are few large finds and many consist of a single sherd only; nevertheless it is interesting to see that the total number of find-spots of Peterborough ware in the south-eastern area is considerably higher than the total for either Windmill Hill ware (44) or for Rinyo-Clacton ware (33).

The outstanding feature of the distribution, as shown in text-fig.2, is the great concentration of find-spots along the course of the Thames and in the lower reaches of its tributaries. In contrast, the distribution maps of Windmill

TABLE IV

THE PETERBOROUGH COMPLEX

List of sites in the South-eastern Area

An asterisk indicates new or previously unrecognized material, or a site not included in Piggott's lists of 1931 and 1954.

Column 1: Pottery illustrated in the catalogue, not previously published.
 Column 2: Pottery illustrated in the catalogue, originally published elsewhere.
 Column 3: Unpublished pottery, described but not illustrated.
 Column 4: Pottery adequately illustrated elsewhere, but described in the catalogue.

		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
<u>Beds.:</u>	*Dunstable - Barrow 2, The Five Knolls	x			
	*Eaton Socon	x			
	Kempston - from the Ouse				x
	*Streatley - Barton Hill Farm, Site III	x			
<u>Berks.:</u>	Abingdon - causewayed camp		x		
	Blewbury - Churn Plain				x
	*Newbury - Enborne Gate			x	
<u>Bucks.:</u>	Hedsor - from the Thames		x		x
	*High Wycombe			x	
	Iver		x		
<u>Cambs.:</u>	*Chippenham - Barrow 5		x		
	*Thriplow				x
<u>Essex:</u>	Clacton - Lion Point	x			x
	Danbury				x
	Walthamstow			x	
<u>Hants.:</u>	*Bishop's Waltham			x	
	Hinton Ampner - Long Barrow				x
	Holdenhurst - Long Barrow				x
	Prior's Dean			x	
<u>I. of Wight:</u>	Niton				x
	Ryde			x	
<u>Hunts.:</u>	Orton Longueville	x			
<u>Kent:</u>	*Canterbury	x			
	*Canterbury (near)				x
	Ebbsfleet				x
	Folkestone - Caesar's Camp				x
	Tankerton Bay	x			
	*Tunbridge Wells - High Rocks Cave	x			

TABLE IV contd. (Peterborough site list)

		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
<u>London:</u>	*Hammersmith - from the Thames	x			
	Putney - from the Thames		x		
	Wandsworth - from the Thames		x		
<u>Middlesex:</u>	Heathrow			x	
<u>Norfolk:</u>	Edingtonthorpe	x			
	Grime's Graves - flint-mines				x
	Ickburgh			x	
<u>Northants.:</u>	*astrop		x		
	Peterborough		x		
<u>Oxon.:</u>	Asthall		x		
	Cassington - Tolley's Pit		x		
	Cassington - Tuckwell's Pit		x		
	Cassington - Partridge's Pit		x		
	Cassington - Smith's Pit II				x
	Dorchester				x
	*Eynsham - Foxley Farm	x			x
	Mongewell - from the Thames		x		
	Stanton Harcourt - Lynch Hill Pit		x		
<u>Suffolk:</u>	Barnham		x		
	*Creeping St. Mary	x			
	*Honington				x
	Icklingham		x		x
	Ipswich - Bramford Road	x			
	*Lakenheath			x	
<u>Surrey:</u>	Brockham - Barley Mow Sand Pit	x			
	Croydon - Beddington Lane			x	
	Farnham - Badshot Long Barrow	x			x
	Farnham - Bourne Mill Spring				x
	Mortlake - from the Thames	x	x		
	Thorpe			x	
	Weybridge - from the Thames		x		
	*Wisley		x		
<u>Sussex:</u>	Brighton - Whitehawk Camp	x			x
	*Friston	x			
	Jevington - Combe Hill		x		
	*Newhaven - Castle Hill		x		
	Selmeston				x
	Selsey				x

Hill and Rinyo-Clacton wares (text-figs.1 and 6) show the Thames valley as almost entirely blank as far west as the crossing of the Icknield Way; it is only beyond this point that in each case a concentration of find-spots occurs. In other regions the distribution patterns of all three groups are comparable; but Peterborough ware also extends into the territory north-west of the Chilterns, and this is almost a blank on the other maps. Attention may be drawn to the surprisingly small number of Peterborough find-spots in the coastal regions of Essex and East Anglia.

As will be apparent from the map, the Mortlake style is found almost everywhere within our area, whereas the distributions of the Ebbsfleet and Fengate styles overlap only in the Thames valley and at Clacton (at the latter site each style is represented by a single pot only). For the rest, Ebbsfleet ware occurs mainly south, and the Fengate group exclusively north, of the Thames. On the map only one Ebbsfleet find-spot on the Icknield Way is recorded; it will be recalled, however, that the "Mixed Groups" of Windmill Hill ware are distributed along this trackway and that some of the sherds in two of these groups - those from the White-leaf Barrow and Site I, Barton Hill Farm - are stylistically indistinguishable from Ebbsfleet ware.

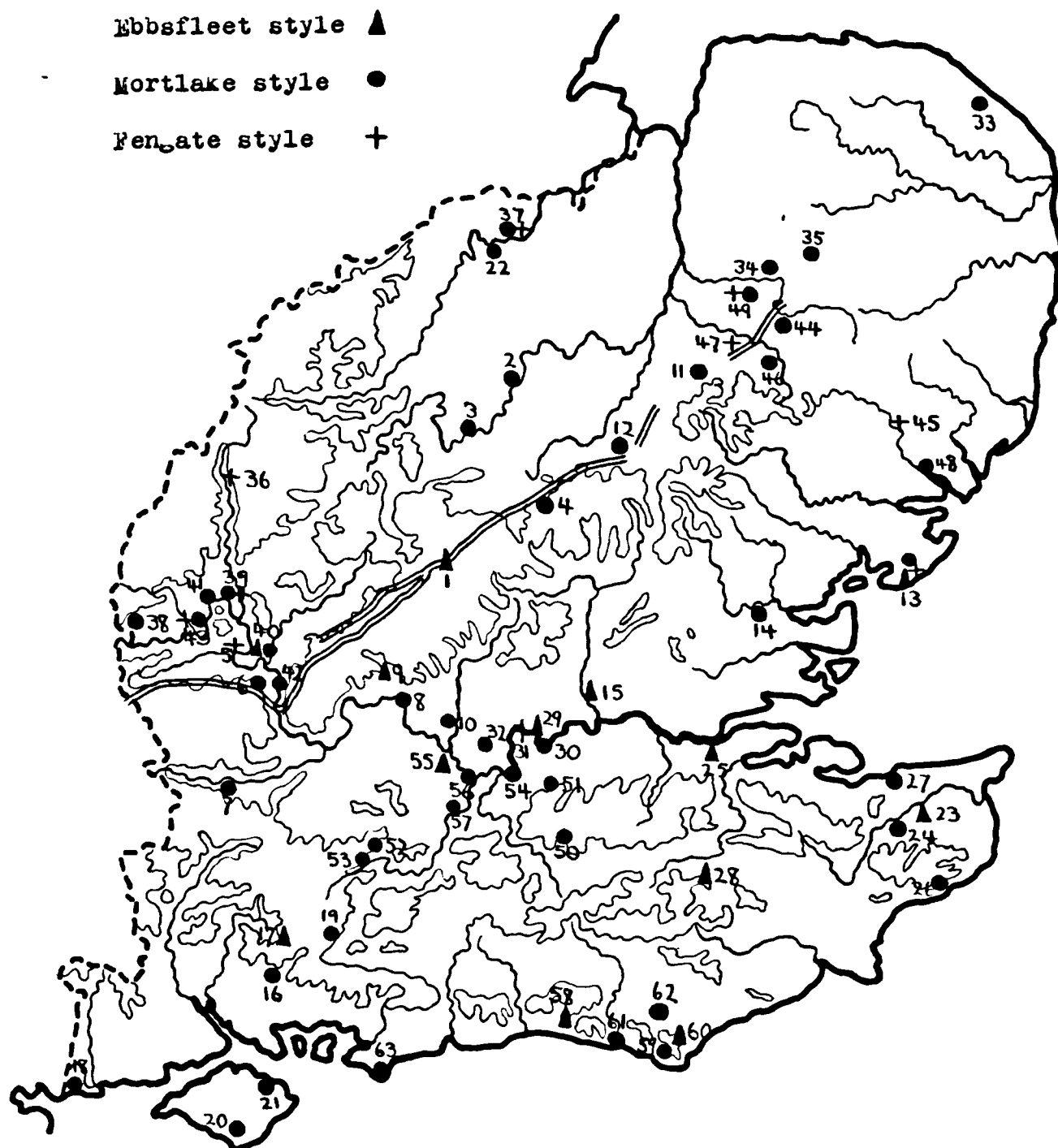
THE DISTRIBUTION OF PETERBOROUGH WARE IN
SOUTH-EASTERN ENGLAND

Key to map, text-fig. 2.

1. Beds.:	Dunstable - Barrow 2, The Five Knolls
2.	Eaton Socon
3.	Kempston
4.	Streatley - Barton Hill Farm, Site III
5. Berks.:	Abingdon
6.	Blewbury - Churn Plain
7.	Newbury - Enborne Gate
8. Bucks.:	Hedsor
9.	High Wycombe
10.	Iver
11. Cambs.:	Chippenham - Barrow 5
12.	Thriplow
13. Essex:	Clacton - Lion Point
14.	Danbury
15.	Walthamstow
16. Hants.:	Bishop's Waltham
17.	Hinton Ampner
18.	Holdenhurst
19.	Prior's Dean
20. I. of Wight:	Niton
21.	Ryde
22. Hunts.:	Orton Longueville
23. Kent:	Canterbury
24.	Canterbury (near)
25.	Ebbsfleet
26.	Folkestone - Caesar's Camp
27.	Tankerton Bay
28.	Tunbridge Wells - High Rocks Caves
29. London:	Hammersmith
30.	Putney
31.	Wandsworth
32. Middlesex:	Heathrow
33. Norfolk:	Edington
34.	Grime's Graves
35.	Ickburgh
36. Northants.:	Astrop
37.	Peterborough
38. Oxon.:	Asthall
39.	Cassington (all sites)
40.	Dorchester
41.	Eynsham
42.	Longwell
43.	Stanton Harcourt - Lynch Hill Pit
44. Suffolk:	Barnham
45.	Creeting St. Mary
46.	Honington
47.	Icklingham
48.	Ipswich
49.	Lakenheath

Key to map, text-fig. 2. - contd. (Peterborough ware)

- | | |
|-------------|-------------------------------|
| 50. Surrey: | Brockham |
| 51. | Croydon |
| 52. | Farnham - Badshot Long Barrow |
| 53. | Farnham - Bourne Mill Spring |
| 54. | Mortlake |
| 55. | Thorpe |
| 56. | Weybridge |
| 57. | Wisley |
| 58. Sussex: | Brighton - Whitehawk Camp |
| 59. | Friston |
| 60. | Jevington - Combe Hill |
| 61. | Newhaven - Castle Hill |
| 62. | Selmeston |
| 63. | Selsey |



Text-fig. 2: The distribution of Peterborough ware in south-eastern England.

Scale: 24 miles to the inch; 300' contour, major rivers, and course of the Icknield way shown.

11. The pottery

In this section our concern will be to establish the typological differences between the Ebbsfleet, Mortlake and Fengate styles and to illustrate the range of variations in form and decoration characteristic of each. As a preliminary to the description of the less well-known Ebbsfleet and Fengate styles we shall give lists showing the quantity of material upon which the classification has been based.

A word should be said here about the method of classification that has been used. At an early stage in the study of the pottery it became apparent that the most useful primary criterion was form. In practice, since so much of the pottery is fragmentary, the shape and angle of the rim have mainly to be used; but a sufficient number of complete or nearly complete pots exists to show that rim form is a quite reliable indicator of the general shape of the vessels. Profile drawings were made of some 350¹ rims (including, whenever possible, neck and shoulder); these must represent, so far as the writer has been able to ascertain, at least 85% of the Peterborough ware found to date in Britain. Analysis of this collection revealed that a number of constantly recurring variants could be singled out within each of the three major groups and also led to the recognition of certain regional styles which are not represented within the south-eastern area.

1. The figure includes material from the south-eastern area, from other parts of England, from Wales and from Scotland.

In text-figs. 3-5 are illustrated the various forms which the analysis has shown to occur most frequently in the Ebbsfleet, Mortlake and Fengate styles respectively. Naturally the specimens chosen for the type series are those that illustrate most clearly the range of forms which in each case fashion or tradition permitted the potter to manufacture. But, as is to be expected, intermediate and transitional forms constantly occur, since each hand-made pot is an unique creation.

It is not suggested that this classificatory scheme has any permanent value in detail. It is an expedient adapted for the purpose of reducing a mass of largely unclassified material to at least provisional order. But its use has brought to light certain hitherto unsuspected facts and has revealed more clearly the nature of the relationships between a number of ceramic styles.

a. The Ebbsfleet style

Material upon which the classification has been based

The primary basis for the classification is of course Piggott's description of the pottery from the type-site (Burchell & Piggott, 1939). But since it is our intention to attempt a somewhat more detailed analysis of Ebbsfleet ware, it will be as well to indicate the quantity of pottery upon which this analysis is founded. The following list will also serve as a guide to the sites that have produced Ebbsfleet

were within our area as well as to those outside it which are known to the writer.¹ In each instance the minimum number of individual pots, as represented by rims or other easily identifiable features, is shown. Documentation of the material found within our area is given in the catalogue and references are cited only for finds in other areas.

<u>Sites within the south-eastern area</u>	<u>No. of pots</u>	
Beds.: Dunstable - Barrow 2, The Five Knolls	1	(FIG.31)
Bucks.: High Wycombe	5	
Essex: Clacton - Lion Point	1	
Walthamstow	1	
Hants.: Hinton Ampner - Lamborough Barrow	1	.
Kent: Canterbury	3	(FIG.46)
Ebbsfleet	27	
Tunbridge Wells - High Rocks Caves	4	(FIG.47)
London: Hammersmith	3	(FIGS.49-51)
Surrey: Mortlake	4	(FIGS.90-2)
Thorpe	8	
	2	
Sussex: Brighton - Whitehawk Camp	13	(FIG.100)
Jevington - Combe Hill Camp	23	(FIGS.102-105)

1. The list is not complete; it neither includes the unpublished Ebbsfleet ware from Dorchester, Oxon., nor the sherds of Ebbsfleet type from the Whiteleaf Barrow and Site I, Barton Hill Farm. The latter can be discussed more conveniently in a later section.
2. The figure includes the cord-ornamented sherds figured in the excavation reports (Curwen, 1934 and 1936) and the following undecorated sherds, assigned to the Ebbsfleet group because of their characteristic shape: Ross Williamson 1930, Pl.XI:36; Curwen, 1934, figs.8, 25, 30, 35; and the decorated sherd illustrated in our FIG.100.

<u>Sites outside the south-eastern area</u>	<u>No. of pots</u>
Dorset: Maiden Castle	1 (Wheeler, 1943, fig. 34:118)
Glos.: Nympsfield Long Barrow ¹	2 (Clifford, 1938, fig. 3)
Lincs.: Grantham - Great Ponton ¹	1 (Phillips, 1935, 348)
Som.: Rowberrow Cavern	1 (Taylor, 1925, fig. 1:4)
Wilts.: Windmill Hill	10 (Avebury Museum)
Yorks.: North Deighton - Green Howe	11 (Sherds from material of mound - unpub. ²)
Thixendale - Gill's Farm	1 (Newbigin, 1937, fig. 6:1)
Thornton-le-Dale	2 (York Museum)
Weaverthorpe and other sites	5? (Newbigin, 1937)

Thus we have within our special area 13 sites which have produced a minimum of 94 pots; outside this area approximately 10 sites have yielded a total of at least 35 pots. Very nearly 130 vessels, represented by one or more sherds, are therefore available for study.

1. These vessels have hitherto been classified as Windmill Hill ware, though in each case it was admitted that the forms were atypical; it can now be seen that, typologically, they belong to the Ebbsfleet group. Since all three are nearly complete they are a valuable addition to this very fragmentary group.

2. Kindly made available for inspection by Mr. E. S. Wood.

Ware

Typical Ebbsfleet ware is comparatively thin and hard,¹ fairly well fired right through, and with surfaces rather gritty to the touch. It falls well within the range of variations to be found in the Windmill Hill complex, as demonstrated at Whitehawk where the texture of the Ebbsfleet sherds is said to be identical in consistency with the normal Windmill Hill wares of the site (Piggott in Curwen, 1934, 116-7).

The relative hardness of the ware implies firing at somewhat higher temperatures than were used for Mortlake and, especially, Fengate ware; but the thinner walls and finer, more abundant grit may also have helped to improve the quality. But certain vessels which in form are not far removed from Mortlake ware consist of heavier, more sparsely gritted fabric with a thick black core.

In section the sherds tend to be finely laminated, but not noticeably more so than the majority of Windmill Hill pottery in our area. It is to be presumed that the pots were ring-built, but, like Windmill Hill ware again, joints can rarely be detected. It is evident that a good deal of trouble was taken to beat out the walls and consolidate the joints.

Tempering material usually consists of small to medium-sized fragments of burnt or unburnt flint, but crushed granite

1. Unless fresh breaks are present, however, it is difficult to be sure of this.

and sand were also used in areas where flint was not abundant (as at Thorpe, Surrey). In normal Ebbsfleet ware shell grit appears to be uncommon.

On sherds with well-preserved surfaces it is evident that both interior and exterior were smoothed; tooling marks are sometimes retained on the interior, but the exteriors seem to have been finished by wiping a wet hand over the clay. This treatment has produced a kind of thick, matt "slip" which tends to flake off; this type of surface is particularly characteristic of the three groups of pottery from Kent.

Forms

The ceramic repertoire includes a small number of simple hemispherical bowls,¹ but the typical Ebbsfleet pot has a globular body surmounted by a clearly differentiated neck. Neck length in proportion to depth of body varies a good deal, but elongated necks are especially characteristic. Below the necks the profiles fall into three classes. The most distinctive is that in which the line of the wall curves smoothly outward and downward from the base of the neck, as in FIGS. 46 and 49. The second type is simply a variation on the latter form; here, as seen in FIGS. 50 and 51, there is a slight angularity at the base of the neck and the wall curves outward below this. The third type, with a sharp carination below which the wall curves down and inwards

1. Similar shoulderless bowls are also found in the Mortlake and Fengate styles, so that the type by itself has no diagnostic value.

(FIGS. 91 and 107:1), is the most closely related to the classical Mortlake shoulder form; it seems to occur in a small number of pots in most groups of Ebbsfleet ware.

Such bases as survive are round and none of the wall profiles suggests either flat or pointed bases.

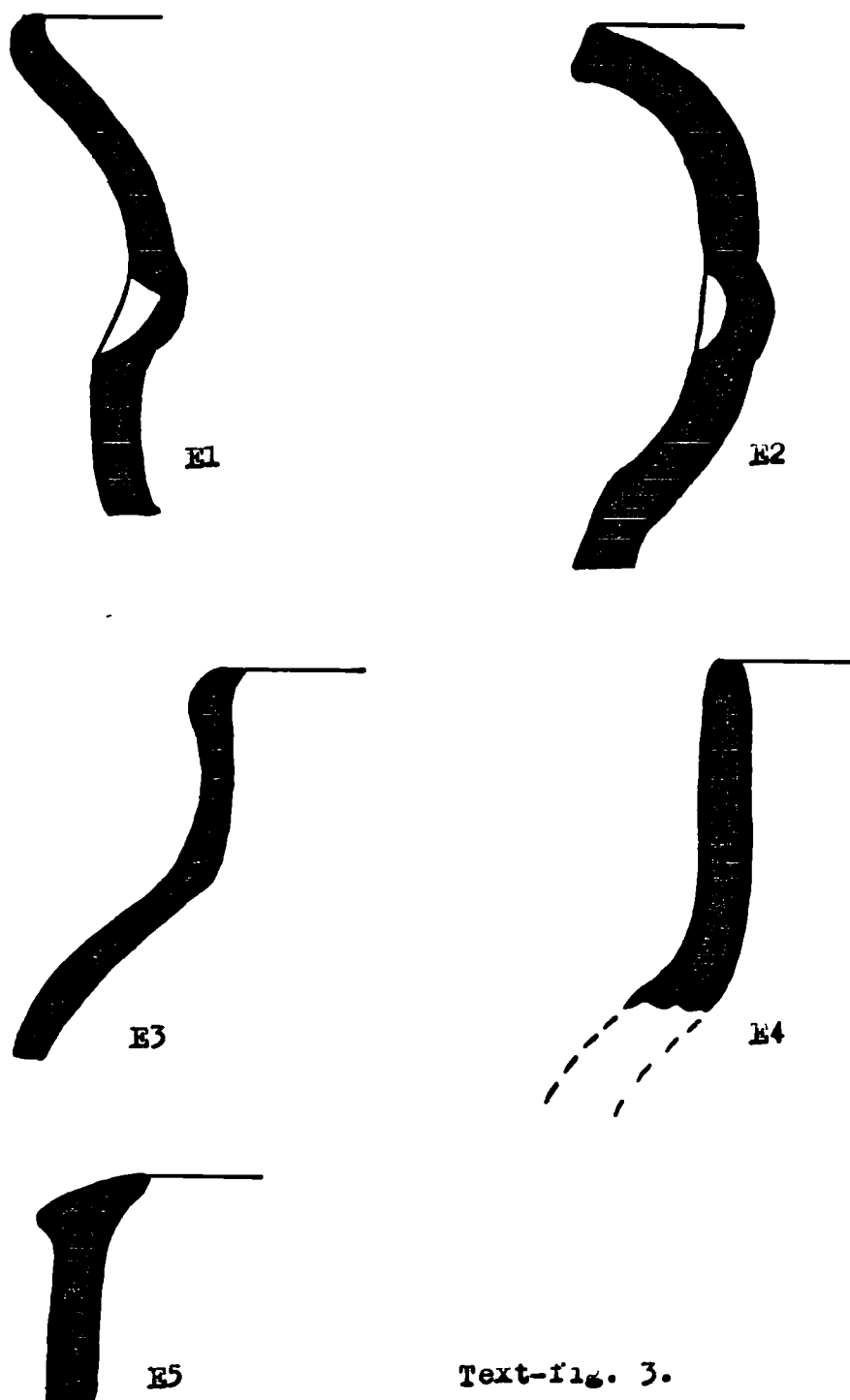
Since in Ebbsfleet ware the rims are frequently not clearly differentiated from the necks, the following classification is based, with one exception, on the shape of rim and neck and upon their relationship to the body of the pot. The five most characteristic profiles are illustrated in text-fig. 3.

In forms E1 and E2 the greatest diameter of the vessel is at the rim, thus producing a wide-mouthed bowl (see FIG.46). In form E2 the rim is simply everted and forms a flattened or rounded termination of the neck. In form E1 the rim is inturned so that the profile forms a flattened S-curve from the highest point down over the shoulder.

Forms E3 and E4 belong to vessels having the greatest diameter at a point well below a vertical neck, thus producing a necked bowl or jar (see FIG. 103:5). In form E4 (as in E2) the rim is flattened or rounded; in E3 it is inturned (as in E1).

It should be noted that the shape of these relatively thin rims is subject to secondary alteration during the application of ornament.

In the case of form E5, a T-shaped rim projecting on



Text-fig. 3.

Ebbsfleet ware: typical profiles

either side of the neck , the classification rests on the shape of the rim only. Not more than four such rims still attached to a complete neck are known to the writer, three from Windmill Hill and one from Ebbsfleet (Burchell & Piggott, 1939, fig.4), so that no generalization can be made as to the shape of the vessels to which this type of rim normally belonged. The four vessels referred to approximate to the necked bowl in shape and the rims lie horizontally.

In this series of forms it is E1, E3 and, to a lesser extent, E5, that have the greatest diagnostic value. It seems that the potter formed E1 and 3 by running her hand round the top of the neck, the fingers outside and the thumb inside. In this way the edge of the rim was drawn inwards to form a slight thickening of the outer side, or even a sharp ridge, as in FIG.104:11,12 and 16. Form E5 was made by adding a strip of clay to the outer edge of an inturned rim of the type just described; it clearly leads to the heavy rims characteristic of Mortlake ware and it occurs rarely in pure Ebbsfleet groups.

It will be useful now to see the proportions in which these various rim forms occur in the four groups of Ebbsfleet ware in our area to which such statistical treatment can be applied. In the following analytical list forms E1-E3 and E2-E4 are grouped together, since in many small sherds the shape of the neck is uncertain.

<u>Site</u>	<u>Rim form</u>	<u>Number</u>	<u>% of total rims</u>
Ebbsfleet	E1 and E3	9	42
	E2 and E4	10	48
	E5	<u>2</u>	<u>10</u>
		<u>21</u>	<u>100</u>
Combe Hill	E1 and E3	7	30
	E2 and E4	15	65
	Hemispherical bowl	<u>1</u>	<u>5</u>
		<u>23</u>	<u>100</u>
Thorpe	E1 and E3	4	57
	E5	1	14
	Hemispherical bowl	<u>2</u>	<u>29</u>
		<u>7</u>	<u>100</u>
Whitehawk	E1 and E3	3	33
	E2 and E4	5	55
	E5	<u>1</u>	<u>12</u>
		<u>9</u>	<u>100</u>

From this analysis it emerges that the simple everted or upright forms E2 and E4 occur more commonly than other types at three of these sites; small, plain sherds of this kind would not easily be distinguished from simple Windmill Hill rim forms. But forms E1 and E3 occur in significant numbers at all four sites, and it is these forms that have a real diagnostic value. They result from a technique of modelling the rim not normally employed by the makers of Windmill Hill ware, who customarily rolled their rims outwards. Further, it can often be seen that (as in Ebbsfleet form 5) the heavy rims of bowls of Mortlake type have been made by adding a strip of clay to a light inturned rim.

Decoration

It now remains to be seen whether Ebbsfleet ware has a decorative style of its own. The most convenient method will be to take the familiar Mortlake style as a standard of comparison and examine the extent to which Ebbsfleet ware deviates from this or approaches it.

The most striking deviation lies in the entire absence of decoration on a proportion of Ebbsfleet pots, since undecorated Mortlake ware is extremely uncommon. At

1. Inturned rims of similar kind do occur sporadically in practically every large assemblage of Windmill Hill ware, as at Lyle's Hill in Antrim (Evans, 1953, fig.13:15,17).
2. There is a single bowl from Selsey (White, 1934) and perhaps another from Tolley's Pit, Cassington, Oxon., with pits in the neck only (see catalogue entry).

the implement most frequently used. The fingernail was evidently employed on occasion for incising the rim or for producing rows of simple oval depressions (FIG.46); in FIG.91, however, the end of a hollow bone or similar object seems to have been used. Rustication of the surface rarely accompanies fingernail ornament.

Large and deep pits were produced normally with the tip of finger or thumb (FIGS. 46 and 49); but an implement with a flattened end was occasionally employed (FIG. 103:4; precisely similar pits occur on several sherds from North Deighton). In thin-walled pots the wall for some distance round the actual pit is often slightly depressed. In Mortlake ware, pits are almost invariably set along the central line of the hollow neck, but in Ebbsfleet ware the position is variable, for they may occur in a straight neck (as Ebbsfleet 10 and 14), on the shoulder (FIG. 103:4), or at the base of the neck (FIG. 46). The two sherds from Combe Hill (FIG. 103:24-5) with the pits inside the rim are unique. Short vertical strokes (as at Whitehawk, Curwen, 1934, fig.15) or vertical fingernail impressions (Ebbsfleet 4 and 26) may take the place of pits in the neck.

It should be emphasized that holes made before firing do not normally occur; the single exception is the sherd from High Rocks Caves (FIG.48:4). The sherd from Hammersmith illustrated in FIG.51 has a biconical perforation drilled after firing. In this respect the Ebbsfleet (and the other

Peterborough) styles differ from Windmill Hill ware, where both holes and pits frequently occur immediately below the rims of otherwise plain pots.

Punctuated decoration is uncommon in Ebbsfleet ware, but occurs four times at the type-site (nos. 2, 3, 6 and 17) and once at Mortlake (FIG. 90:5). Another bowl from Mortlake (FIG. 92) has had a line of punctuations around the neck in place of the normal large pits. Dots of this kind probably were made with bird-bones, but bird-bone patterns of the type seen on Mortlake ware do not occur.

Cord ornament is found on only one pot from Ebbsfleet (5) and one from Combe Hill (FIG. 102:1); whipped in the former case and twisted in the latter. Twisted cord impressions are, ^{however,} comparatively rarely seen, whereas whipped cord of varying degrees of fineness and coarseness seems to be much more common. An impression of the range of variation may be gained by comparing FIGS. 31 and 92. Very coarse maggots may sometimes seem to have been made by a comb with oval teeth; but close examination reveals that a flexible stamp has been used and sometimes, as in FIG. 92, one end of the core can be seen to project beyond the whipping.¹ Within our area these whipped cord impressions tend to be quite long, but at Windmill Hill and North Deighton short, fat maggots are characteristic. Curved or crescentic cord

1. A couple of wall sherds from North Deighton which may be Ebbsfleet ware do seem to have impressions made by a comb with small circular teeth, but the effect is quite different.

maggots do not occur in Ebbsfleet ware.

Chevron patterns are absent at Ebbsfleet and Combe Hill;¹ those on the ornamented sherds from Whitehawk are quite neatly arranged, but in general the cord-impressed chevron patterns in Ebbsfleet ware tend to be loose and confused in comparison with those on Mortlake ware; FIG.92 is a good example.

Scored lattice patterns on the rims are common and may be repeated on the shoulders (Ebbsfleet Nos.1 and 3) or on both sides of the neck (several examples from North Deighton). In Mortlake ware lattice patterns are confined, almost without exception, to the inside of the neck.

Decoration of the interior of the neck below the rim occurs on probably under 50% of those Ebbsfleet pots which are ~~decorated at all~~; in Mortlake ware the proportion rises to at least 75%. This internal ornament may simply be a repetition of motifs used on the outside of the vessel, or may take the form of oblique scorings. Most important, however, are the organized designs in the form of triangles pendant from the inner edge of the rim. In the specimen from Hammersmith (FIG.50), the triangles are filled with parallel lines and edged with a series of small semicircular impressions; in that from Mortlake (FIG.90:5) they are filled with lattice pattern. A small rim sherd, probably Ebbsfleet ware, from Windmill Hill (No.62) has had similar triangles formed by parallel lines of whipped cord and the

1. The nearest approach to chevrons is seen on FIG.102:2-3, but these were made with a V-shaped stamp of some kind.

design occurs again on the light-rimmed sherd from Barnham, Suffolk (FIG.83), in this instance evidently made with a bird-bone stamp. It should be noticed that these are angular designs and that curvilinear patterns and concentric semi-circles do not occur on Ebbsfleet ware. Attention has been drawn in Part II to the possible relationship between these angular patterns and the enclosed panels on the pot from the Whiteleaf Barrow.

A curious feature that recurs quite regularly is a broad, shallow groove made with the fingertip and encircling an otherwise plain and usually upright neck; this is seen at Combe Hill (FIGS.103:4; 105:22, 24), at Whitehawk (Curwen, 1934, fig.25) and at Windmill Hill (No.5951).

Finally we may remark that, in comparison with Mortlake ware, patterns tend to be rather open and simple; individual stamped impressions are more widely spaced, it is not usual to find that more than two decorative devices are combined on the same pot, and the necks are frequently left plain. When ornament extends to the lower part of the vessel it is, however, ^{normally} arranged in the same manner as in Mortlake ware: a zone of horizontal lines begins in the base of the neck and continues below for a variable distance, so that it seems to hang from the shoulder. The fringe of vertical twisted cord impressions on FIG.102:1 from Combe Hill seems to be just a variation on this motif.

b. The Mortlake style

The general characteristics of this style are well known, so that it is unnecessary to list the specimens upon which the following description is based; the total amounts to approximately 150.¹

Ware

The fabric is, on the whole, coarse and poorly fired; it often contains large, angular grits.

In section the sherds tend to have a flaky appearance, since the walls were less carefully beaten out and thinned than in Ebbsfleet ware. But some sherds have a jagged, irregular fracture surface, and are not noticeably layered.

Tempering material is usually burnt or unburnt flint in areas where flint is plentiful; but crushed granite, quartzite and shell were also used on occasion, as were comminuted potsherds. It seems to have been Leeds (1927, 460) who first published the statement that Peterborough ware "is nearly always made without grit, and has a greasy texture". This observation was doubtless based largely upon his experience of the pottery from Peterborough itself, where flint or stone grits were sparingly used; in the present writer's experience, however, the statement is a far more accurate description of southern Rinyo-Clacton ware than of the general run of Peterborough ware.

The thoroughness with which the pots were fired varies

1. The figure includes material found outside the south-eastern area.

a good deal, but on the whole the fabric is softer than in Ebbsfleet ware and thick black cores are commoner. Firing must have been carried out in a particularly summary fashion at Peterborough, to judge from the mud-like fabric of many of the pots.

Colour varies from black to red, but the predominant shade is brown. On well-preserved pots it can be seen that the surfaces have been smoothed by wiping with a wet hand or a wisp of grass, but little attempt was made to press projecting grits back into the clay.

Forms

Simple hemispherical bowls seem to be fairly common. Those from Asthall (FIG.75:2) and Grime's Graves (Clark & Pigott, 1933, fig.7:b) have pointed or flattened rims. But a more distinctive rim form - flat and projecting internally (see text-fig.4:12b for the shape) - is found on the specimens from Putney and Mortlake (FIGS.52 and 89:3), Eynsham (Bradford, 1943, Pl.XII:3), Heathrow, Honington (Fell, 1951, fig.5:3) and High Wheeldon, Derbyshire (Jackson, 1951, Pl.B:6). Perhaps the sherd from Ipswich (FIG.86) should also be included in this group. Of especial interest is the "hybrid" bowl from Easton Down, Wilts. (Pigott, 1934, fig.2), for it has the same flat, internally projecting rim, is decorated with whipped cord maggots, but has in addition small pointed lugs set below the rim.

The oval saucer from Heathrow, $6\frac{1}{2}$ " long, $3\frac{1}{2}$ " wide and $1\frac{3}{4}$ " deep, with a rounded base and flat, internally projecting rim, is the only reasonably complete specimen of its kind reliably associated with Peterborough ware. The small sherd with whipped cord ornament from Clacton, (FIG.40:3) may also come from a shallow dish or saucer. For reasons explained in the catalogue, it is uncertain whether the undecorated flat-based saucers from Iver (FIG.37:8) and Clacton (FIG.40:4) really belong to the Peterborough group. On the other hand, they are not unlike the specimen with holes through its base and wall from the West Kennet Long Barrow (Cunnington, 1927, Pl.XIII:113).

The dominant form in the Mortlake style is the familiar bowl with heavy rim, short concave neck, pronounced carination and round bottom. A few flat bases occur (as in FIG.39 from Clacton), but as a rule the flattening appears to be the accidental result of sagging before the pot was fired.¹ Pointed bases do not occur.

The body profile tends to be hemispherical, but a few specimens have straight walls (FIGS.39 and 45). The diameters of rim and shoulder are almost invariably nearly equal. The necks are, as a rule, deeply constricted and short in proportion to the height of the vessel; but one pot from

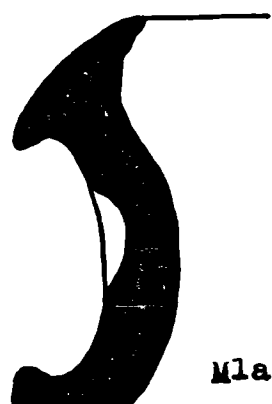
1. Piggett has claimed (1931, fig.23; 1954, 314) that one of the vessels from Ford, Northumberland, was conical in shape but no actual specimens of pointed bases are known and a different reconstruction of the vessel in question is possible. In any case it is doubtful whether this collection of sherds belongs to the Mortlake group.

Badshot (Keiller & Piggett, 1939, fig.58) has a long straight neck. In some instances the neck has been reduced to a mere groove - FIGS.75 and 94.

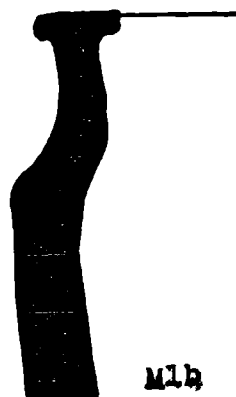
It is sometimes possible to see how the heavy rims have been made by adding a strip of clay to the top of the neck (FIGS.60; 61; 64:7; 88; 95). As shown in text-fig.4, these heavy rims fall into three main groups: (1) the rim is T-shaped and projects on either side of the neck; (2) the outer side of the neck curves smoothly up to the edge of a rim that projects internally; (3) the inner side of the neck curves smoothly up to the edge of a rim that projects externally. Forms (1) and (2) greatly outnumber form (3). The rims may rest at an angle (forms M1a-M3a) or lie horizontally (forms M1b-M3b). The latter position is rarely seen in the south of England except at Peterborough (see FIGS.59, 61, 62), but the majority of enlarged rims from Hedderwick and Glenluce seem to be horizontal and flat-topped.¹

With the exception of a few simple forms (as FIG.36:4 from Iwer and FIG.99:3 from Wisley), all the rims found within our area fit reasonably well into the categories just described. Quite a different form, and one not as yet reported from the south-eastern area, consists essentially of a simple upright rim enlarged by the application of a flat strip of clay below the outer edge; such a rim has usually

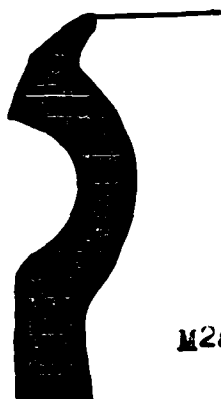
1. Hardly any of the stamp- or cord-ornamented pottery from Hedderwick conforms in shape with the Peterborough ware of the South, but some of the pottery from Glenluce may fall within the range of southern forms.



M1a



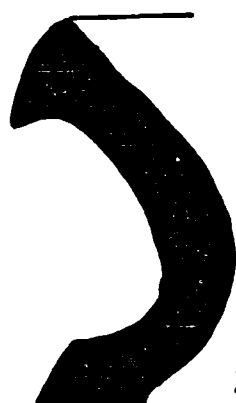
M1b



M2a



M2b



M3a



M3b

Text-fig. 4.

Mortlake ware: typical profiles.

an angular profile with two or more facets. There are five specimens of this type from Bryn yr Hen Bobl, Anglesey (Hemp, 1935, fig.2:14, 15, 19; fig.3:1, 4), three from Winterbourne Dauntsey, Wilts. (Stone, 1934~~g~~, Pl.3:1-3), one from west Kennet Long Barrow (Cunnington, 1927, Pl.IX:79), and one from North Deighton, Yorks.

As for the dimensions of the enlarged rims of normal type, the majority are under 1" in breadth and none is wider than $1\frac{1}{4}$ ". The original shapes of the rims have often been modified when the ornament was impressed; this is especially noticeable where the stamp has produced deep grooves (FIG. 107:2) or facets (FIGS.44, 98).

Decoration

Except for one entirely plain pot from Selsey (White, 1934) and a few sherds with pits in the neck only from Tolley's Pit, Cassington, all the carinated bowls have decoration on the rims and on the walls for a variable distance below the shoulder. Some kind of ornament is nearly always present in the necks as well, and at least 75% have internal decoration.

The standard arrangement of the ornament, in horizontal rows of short stamp marks, tends to give an impression of monotonous uniformity. But close examination reveals that, within the limits of this convention, a wide range of

decorative effects was produced. No vessel is precisely similar to any other and repetition seems to have been avoided it is unusual to find three pots which look so much alike as those illustrated from Orton Longueville (FIGS.43-44) and Cassington (FIG.76:1).

The stamped ornament is arranged in horizontal rows consisting of series of short vertical or oblique impressions; the latter may all run in the same direction in successive rows, but in the great majority of instances the direction alters from one row to the next, so that a chevron or herring-bone pattern results. The upper row lies usually in the base of the neck, the remainder below the shoulder.

The devices used as stamps include short lengths of twisted or whipped cord, cuneiform implements, fingernails, and the articular ends of bird-bones. Chevron patterns were also produced by series of short incisions. Two, and frequently more, of these devices were often used to ornament the same pot.

Long lines of twisted or whipped cord impressi~~ons~~ sometimes divide the ornament into zones (FIG.32), finish off a pattern (FIG.58), or appear alone (FIGS.59, 94, 95). Continuous lines of fingernail impressions set end-to-end were also used to define zones (as FIG.39), to decorate the rim (FIG.96) or to emphasize the shoulder (FIG.87), but this

technique is uncommon in Mortlake ware. Roughening or rustication of the surface occasionally accompanies finger-nail impressions of the more ordinary kind.

A number of pots are encircled by series of ridges which were either pinched out or applied separately. Such ridges form the sole ornament on the walls of the pot from Weybridge (FIG.98). In other instances (as FIG.62:2) indeterminate marks fill the spaces between the ridges. Several sherds from Heathrow have ridges formed between grooves drawn in the clay with a broad point; more frequently the ridges have been forced out between deep grooves made by closely spaced impressions of a bird-bone or similar stamp (FIGS. 36:4; 37:6 and 107:2) or by long lengths of cord (as on the rim of FIG.36:1, and on two sherds from Kempston illustrated¹ by Piggott, 1931, fig.16:3 and 8). The transverse or oblique incisions which commonly appear on such ridges (FIGS. 36:1; 37:6; 107:2) seem to have been made by the potter's finger- or thumb-nail as the ornamental device was being pressed into the clay.

The purely horizontal arrangement of ornament on the walls was on occasion abandoned for a panelled effect, as in FIG.81 from Mongewell and sherds from Badshot (Keiller & Piggott, 1939, fig.57) and Bourne Mill Spring, Farnham (Clark & Rankine, 1939, fig.24:4), or for curvilinear

1. The lines on No.8 are not comb-impressed as at first sight they appear to be, but have been made with long lengths of coarse whipped cord.

patterns. Unfortunately, none of the latter can be completely reconstructed. The two fragments from Iver (FIG. 36:2 and 3) have evidently had an elaborate arrangement of concentric semicircles made by an extremely fine cord which has first been whipped, then twisted. Two sherds from Heathrow bear parts of what may also have been semicircles, but here the patterns are grooved. A sherd from the West Kennet Long Barrow (Thurnam, 1861, fig.14) has beneath the shoulder a band of undulating lines. The odd combination of incised curved lines and small pits on the wall of the bowl from Asthall (FIG.75:1) does not seem to be organized in any recognizable pattern.

Within the south-eastern area curvilinear designs occur inside the rims of pots of Mortlake type at two sites. From Heathrow comes a sherd with crudely drawn concentric semicircles pendant from the rim; this design partly overlaps a confused lattice pattern. A vessel from Badshot (Keiller & Piggott, 1939, fig.55) has a series of multiple arcs pendant from the rim; these, Piggott has suggested, were made by pressing a string of small vertebrae into the clay. The sherd illustrated in our FIG.88 comes from the same site and seems to have belonged to a second vessel; in details of form and decoration it differs from the first, but the single arcs inside the rim have been made by the same device as that used in the published example. A sherd

from the West Kennet Long Barrow (British Museum, reg. no. 73.12-19.71; exterior illustrated in Cunnington, 1927, Pl. IX:84) has inside the rim an undulating line (or perhaps series of arcs) that may also have been made with a string of vertebrae or perhaps by overlapping impressions of the articular end of a small bone.

The other semicircular designs on Peterborough ware within our area occur on pots in the Fengate style and will be discussed later. Outside the area semicircles appear on the rims of pots from Nympsfield, Glos. (Clifford, 1938, fig.4:20), Ford, Northumberland (Piggott, 1931, fig.23) and Glenluce (Callander, 1933, fig.8:2), but none of these seems to be typical Mortlake ware.

Other decorative motifs inside the rims of Mortlake bowls take the form of a repetition of the external decoration, scored oblique lines, or scored lattice pattern. It should be noted that in the Mortlake style lattice pattern is, with very few exceptions, confined to the interior of the vessels.

Deep pits, frequently accompanied by internal bosses, are normally made with the finger-tip, though a small conical implement has occasionally been used (FIGS.37:5; 95, and others). With the exceptions mentioned below, the pits are confined to the centre line of the neck. The sherds from Barton Hill Farm, Site III (FIG.33) and Asthall (FIG.75:1)

have each, in addition to a line of pits round a vestigial neck, a further series on the wall below; and the simple rim from Wisley (FIG.99:3) has a small pit immediately below its outer edge.

Finally, brief reference may be made to two unusual forms of decoration. In view of the amount of attention they have attracted, it is surprising to note that curved or crescentic maggots are really quite uncommon. Within our area they are found only at Kempston (Piggott, 1931, fig.16:2), Iver (FIGS.36:1 and 37:5), and Peterborough (FIG.60); outside the area a few sherds thus decorated occur in the large collections of pottery from the West Kennet Long Barrow, North Deighton and Hedderwick. There may be other examples not mentioned here, but such are unlikely to be numerous. Even if we include in the reckoning the Becharra C and Irish Sandhill pots with crescentic maggots, the total number of specimens is very small in proportion to those with straight maggots.

The two shoulderless bowls from the Thames at Putney (FIG.52) and Mortlake (FIG.89:3) are the only specimens of Peterborough ware with "barbed-wire" decoration. As described in Appendix I, this kind of decoration is proper to a special class of Beakers. But these bowls are morphologically identical with others found in direct association with Mortlake ware and the overall chevron patterns are also characteristic of this style, so that there seems to be no reason for excluding them from the group.

c. The Fengate style

In this section we shall direct our attention to a third, and hitherto imperfectly recognized, ceramic style within the Peterborough complex. As the Mortlake style can be seen to develop from the Ebbsfleet, so the Fengate style clearly develops from the Mortlake. But before proceeding to describe the characteristics of the Fengate style, it will be well to list the minimum number of individual pots upon which our classification is based.

List of pots in the Fengate style available for study

(a) Within the south-eastern area

<u>Site</u>	<u>No. of pots</u>	
Berks.: Abingdon	2	(FIG.34:1-2)
Essex: Clacton - Lion Point	1	(FIG.40:2)
London: Wandsworth	1	(FIG.53)
Northants.: Astrop	4	(FIGS.55:1-2; 56; 57)
Peterborough	13	(FIGS.63; 64:8; 65; 66; 67; 68:13; 69-72)
Oxon.: Cassington (Tolley's Gravel Pit)	2	(FIG.76:2-3)
Cassington (Partridge's Gravel Pit)	5	(FIGS.77-78)
Eynsham - Foxley Farm	1	(FIG.79)
Suffolk: Creeting St. Mary	1	(FIG.84)
Icklingham	3	(Piggott, 1954, Pl. X:2 and FIG.85:1,5-6)

(b) Outside the south-eastern area

<u>Site</u>	<u>No. of pots</u>	
Dorset:		
Thickthorn 162A	3	(Drew & Piggott, 1936, P.6, P.9, P.24)
Handley Down - Barrow 26	2	(Pitt-Rivers, 1898, Pl.294:2 and 4)
Wor Barrow	1	(Pitt-Rivers, 1898, Pl.261:11)
Glos.:		
Bourton-on-the-Water ¹	1	(Dunning, 1932, fig.2:1; Warren et al., 1936, Pl.XLI:1)
Wilts.:		
Avebury	1	(Gray, 1934, fig.7:167)
West Kennet Avenue	1	(Avebury Museum, P.680-4)
West Kennet Long Barrow	4	(Cunnington, 1927, Pl.1.4, 6, 8; Pl.IX:80)
Windmill Hill	2	(Avebury Museum, Nos. 3460-1 and 7603-5)
Yorks.:		
Driffield - St.John's Road	4	(Private hands)
Acklam Wold - Barrow 211	2	(Mortimer, 1905, fig. 219 and unpublished sherd in Mortimer Museum, Hull)

Thus a total of 54 specimens (33 found within the south-eastern area and 21 outside it) may be used to define the characteristics of shape and decoration peculiar to the Fengate style.

1. This large rim sherd has been classified by Piggott (in Warren et al., 1936) as Grooved (now Rinyo-Clacton) ware, but Dunning's original comparison with sherds in the Fengate style from Peterborough was correct.

Ware

Some of the pottery is of reasonably good quality, not inferior to the better class of Mortlake ware; but the material from the Northamptonshire and Thames Valley sites is sometimes incredibly ill-made and ill-fired. (It is probable, in fact, that a proportion of the pots from Peterborough were wasters.) Thick, flaky, blue-black cores are normal at these sites; flint or stone grit was used sparingly or not at all, but crushed potsherds appear rather frequently.

Despite all this it seems that special pains were sometimes taken with the surface finish. ^{beds, parts of p. 105} The sherds from Astrop, Clacton, and a number of those from Peterborough, have a very thin, smooth, glossy skin over the black core. At Peterborough and Clacton this skin is pinkish-grey or reddish-brown; at Astrop it is grey. Elsewhere the surfaces are similar to those in Mortlake ware: black, red, or (usually) brown, and rather gritty.

Forms

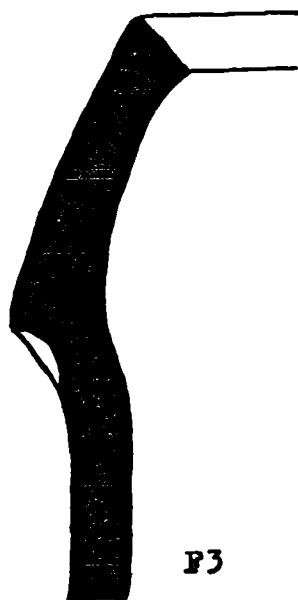
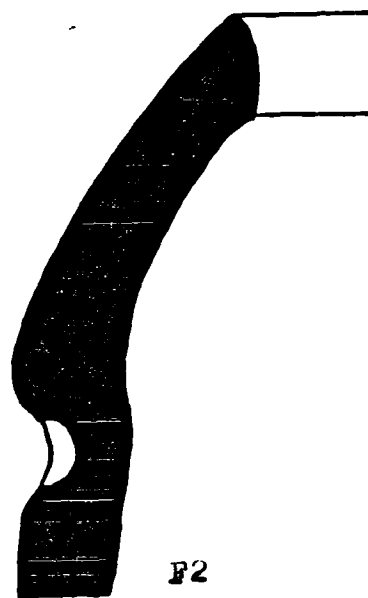
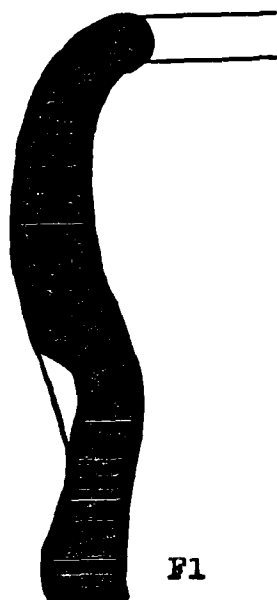
A few simple hemispherical bowls may be assigned to the Fengate group, either by reason of their association with pots of standard form or because they are decorated in a characteristic manner. There are two such bowls from Icklingham (Piggott, 1931, fig.17:1 and 2) which evidently were associated with the rest of the pottery; one has a confused incised

pattern, the other three horizontal lines of twisted cord below a notched rim. The bowls from Clacton (FIG.40:2) and Peterborough (FIGS.64:8 and 71:18) are related by the patterns made with fingernail impressions on the flat, slightly in-turned rims and on the exteriors to other pots which will be described below.

Shallow dishes or saucers do not, on present evidence, seem to occur in the Fengate group. The "saucer" from Icklingham (Piggott, 1931, fig. 17:7) is correctly represented in our FIG.85:5 as an elongated rim with an overhang. A "saucer" from the West Kennet Long Barrow (Cunnington, 1927, Pl.I:4 and Pl.XII:4) has been misinterpreted in the same way, for it too is part of an overhanging rim.

Pots in the Fengate style may be identified primarily by their elongated rims (text-fig. 5). But other morphological changes may also be detected: a flattening of the contours has taken place so that the walls have lost their curvature, the necks have become vestigial or disappeared altogether, and the bases (such as survive) are flat.

The rims may be divided into three sub-types according to their contours and the angle at which they lie, as shown in text.fig. 5. In form F1 the rim is set vertically and it is externally convex. The lower edge overhangs the neck or wall and the upper edge curves inwards to overhang the interior. Form F2 retains the external convexity, but the



Text-fig. 5.

Fengate ware: typical profiles.

rim is set at an angle. A line drawn through the axis of the rim from top to overhang will meet a vertical line at an angle of about 30° . The greatest diameter of the pot is thus at the lower edge of the rim. Form F3 differs from F2 only in that the external surface is flat or even slightly concave. In shape this rim cannot be distinguished from those of many Overhanging-rim Urns.

These elongated rims average from tip to overhang $1\frac{1}{2}$ " to $2\frac{1}{4}$ " in length; in a minority the rim is 1" or less in length. The form appears to have evolved mainly from the Mortlake type (M2a) which projects internally only. A series of intermediate forms leading from the Mortlake to the Fengate type can be discerned. Beginning with the typical M2a rim illustrated in FIG.32, we can follow a gradual process of lengthening and alteration of the angle in FIG. 80:1; FIG.82:1; FIG.97 and FIG.99:2. It may be noted that a few vertical rims occur already in the Mortlake style, as the pot from Church Dale, Derbyshire (Harris, 1953, fig. 2:2).

Certain variations in the shapes of the tops and bottoms of the rims in the Fengate series may be pointed out. In form F1 (but occasionally also in F2) the top of the rim curves smoothly round to form an internal overhang (FIGS.69; 77:1 and 2; 79; 85:5). In form F2, the overhanging top is normally flattened and may be thickened to produce a wide bevel (FIGS.56; 70:17; 71:18; 72, and the pot from Bourn-

on-the-Water). Unexpanded bevels also occur in F2 and almost always in F3 (FIGS.55:2; 71; 85:1; a sherd from Windmill Hill, No.7603; the sherd from Wor Barrow).

In certain instances the outer overhang is accentuated by a horizontal projection of the lower edge of the rim (FIG.34:2; Cunnington, 1927, Pl.XII:6). On the other hand, there may be no angle at the junction of the rim and wall, but simply an outward curve (FIGS.78:6 and 85:6) or the base of the rim may be indicated by a horizontal line drawn round the wall. This feature is seen in the pots from Bourton-on-the-Water and Acklam Wold 211 (Mortimer, 1905, fig. 219); in other respects these pots conform to type.

Few complete or restorable vessels exist, but nevertheless we can form some idea of the range in shape and size. In shape the pots appear to fall into two groups: those that are cylindrical and those that take the form of a truncated cone. The only restored vessel of the cylindrical type is the large one from Icklingham (Piggott, 1954, Pl.X:2), but others of the same shape are represented by sherds (FIGS.56; 66; 77; 85:6). Complete or restored conical pots with flat bases are illustrated in FIGS.53 and 69 and others are represented by sherds (FIGS.63; 67; 72). The basal sherd illustrated in FIG.76:2 and the flat base with "widely splayed angle" from Thickthorn 163a (P.7) must have belonged to similar pots. The restored

pot from Icklingham is 15" high and 8" in diameter; FIG.66 from Peterborough may have been even larger, for it is 11" in diameter. The conical vessels range in size from that found at Wandsworth (FIG.53), 4" high and $7\frac{1}{4}$ " at greatest diameter, to that from Peterborough (FIG.63), $11\frac{1}{2}$ " high and nearly 19" at greatest diameter.

A well-defined neck is still present in FIGS.53 and 63, but in FIGS.56, 77 and 85:1 it has been flattened or reduced to a mere groove. The neck has entirely disappeared in FIGS.55:2; 66; 67; 69; 71 and 72. The curious attenuation of the wall below the rim in FIGS.72 and 84 and in the pot from Bourton-on-the-Water may represent a vestigial neck.

The bases fall into two classes: those that seem to have been flattened accidentally and those that were deliberately made flat. The base of the restored pot from Icklingham seems to fall into the first class, as the angle at the junction of wall and base is rounded both outside and in. The other surviving bases belong to conical pots and all (except perhaps FIG.63) fall into the second class. In most cases a well-defined foot is present (FIGS.53; 67; 69; 72; 76:2). (The basal sherd illustrated in FIG.55:1 has a foot-ring, but

1. Although the vessel is so fragmentary that the rim diameter has had to be calculated by projection of the angle of the lower wall, the error is probably not great, since the diameter/height ratio is similar to that seen in more complete pots of the same type.

this fragment is clearly part Beaker and we shall consider its significance at a later stage.) Hardly one of these vessels can have stood securely on its ridiculously narrow base.

We may now sum up the morphological characteristics of the Fengate style. The rims are elongated, normally over $1\frac{1}{2}$ " long, and are set either vertically or at an angle deviating by about 30° from the vertical; they typically overhang both the interior and exterior of the pot. Necks are generally vestigial or absent. The walls are straight and the form either cylindrical or conical. The conical type often has a well-defined foot of a size quite out of proportion with rim diameter. This tendency to top-heaviness seems to show that we are dealing here with a transitional stage; in the succeeding Overhanging-rim Urn stage certain alterations have been made in order to restore the balance and produce a pot which will stand reasonably securely on its base.

Decoration

In many pots of the Fengate type, the decorative techniques and motifs characteristic of Mortlake ware naturally persist, though some are already beginning to disappear. But those pots which have developed furthest in the direction of Overhanging-rim Urns have also a distinctive style of decoration.

In the first place it is to be remarked that the line of pits continues to appear below the rim: these help to reassure us that we really are concerned with Neolithic pots and not with Bronze Age urns. The pits may lie inside a reduced neck (FIGS. 56 and 77:1 and 2), but if there is no neck they are pressed into the overhang of the rim itself (FIG. 55:2; two sherds from the West Kennet Long Barrow, Cunnington, 1927, Pl. I:8 and Pl. IX:80; the unpublished sherd from Acklam Wold 211; and a sherd from St. John's Road, Driffeld).

In the Mortlake style the decoration on the rims is often repeated on the walls of the pots; in the Fengate style there is a marked tendency towards differentiation between rim and wall decoration. The rim ornament is rarely repeated and characteristically takes the form of organized designs; the walls are normally decorated in a simple fashion or even left plain. Bird-bone and whipped cord impressions occur infrequently and chevron patterns seem as a rule to be confined to the rims. Internal decoration is present in less than 25% of the pots.

Rim decoration is most commonly produced by twisted cord or fingernail impressions. Cord-impressed chevrons appear in FIG. 57 and 76:3 and twice on rims from the West Kennet Long Barrow; but a new design consists of filled triangles (FIGS. 56; 57; 78:4; 84; sherd from West Kennet Barrow and P:6 from Thickthorn). A series of cord-impressed triangles and

lozenges ornaments the rim of a pot from Peterborough (FIGS. 67:11a and 68:11b). Concentric arcs embellish the sherd from Acklam /old 211 (Mortimer, 1905, fig.219) and are sometimes combined (as in P;6 from Thickthorn and perhaps FIG. 78:3) with triangles. Short lengths of cord appear occasionally on the inner rim bevels (FIG.56 and others).

Rims may be ornamented with single (FIG.69) or paired (FIG.72) fingernail impressions; sometimes the surface is rusticated (FIGS.66 and 72). But the two absolutely characteristic uses of the fingernail are for the production of chevron patterns and of continuous lines. A long fingernail has been pressed carefully into the clay so that small, sharply cut arcs result.

Chevron patterns made with the fingernail are seen on the outer surfaces of the rims of FIGS.34:2; 66; of the sherd from Bourton-on-the-Water; and of one from the West Kennet Long Barrow (Pl.I:8). But a pattern of this kind appears so commonly on the inner rim bevel as almost to serve by itself as a diagnostic feature of the Fengate style: see FIGS.55; 65; 66; 68:11b; 70; 71:18,19; 72; 97; the sherds from Wor Barrow, Bourton-on-the-Water, both those from Acklam /old 211, two from West Kennet Long Barrow.

We have already seen that in the Mortlake style continuous lines of fingernail impressions set end to end were

sometimes used; in the Fengate style this laborious technique was frequently resorted to. The four horizontal lines on the rim of FIG.77:2 and the design inside consist of unusually widely spaced impressions; in the other instances there is no interval between one impression and the next. Parallel oblique lines made by this method are seen in FIG.68:13 and it has been used at Abingdon, Astrop, Peterborough, Wandsworth and the West Kennet Avenue (P.682) to produce filled triangles or concentric arcs. As with the cord-impressed designs, angular and curvilinear motifs are sometimes combined, as in FIGS.64 and 65 from Peterborough. But concentric arcs alone appear in FIGS.34:1; 40:2; 53; 66; 70:17; and 85:5. The pair of undulating lines on the pot from Bourton-on-the-Water may represent debased triangles or arcs. A panelled design (hurdle pattern), consisting of groups of horizontal and vertical lines, appears on FIG.85:6 from Icklingham.

Wall decoration sometimes still takes the form of horizontal lines: stamped with a bird-bone in FIG.77:1 and 2, drawn or impressed by the fingernail in FIG.55:1 and 2. But the general tendency appears to be toward scattered fingernail impressions (FIGS.59 and 69) or long vertical or oblique lines. Vertical twisted cord lines occur in a sherd from West Kennet Long Barrow (Pl.I:8) and on P.9 from Thickthorn; oblique cord lines can be seen on FIGS.76:3 and 78:4 and P.40 from Thickthorn. Haphazardly arranged twisted cord lines cover the walls of FIGS.76:2 and 78:5 and of P.26 from Thickthorn. A widely spaced lattice pattern has been scratched on the restored pot from Icklingham. Three pots from Peterborough (FIGS.66, 67 and 71:21) have groups of shallow lines which evidently have been drawn with a comb-like device. Some walls are quite plain: FIG.72 and Bourton-on-the-Water.

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It may be observed that, although it has been suggested that the Mortlake style represents the middle stage in the typological development, in some respects the decoration on Fengate ware resembles more closely that on Ebbsfleet than that on Mortlake ware. Triangular designs and the use of sharp, oblique, fingernail impressions to ornament the edges of rims are, for example, common to both but not especially characteristic of Mortlake ware. But so far as form is concerned, it would be difficult to derive the Fengate style,

with its straight walls, flat bases and elongated rims directly from the globular shapes and light rims of the Ebbsfleet style. In the Mortlake series there are, on the one hand, vessels whose features recall the Ebbsfleet style, and, on the other, vessels whose features herald the development of the Fengate style; but there are no vessels showing a direct transition from the Ebbsfleet to the Fengate styles. On purely typological grounds, therefore, the developmental sequence seems to be well established - though future discoveries may upset it.

iii. Other artifacts associated with Peterborough ware
in the south-eastern area

In Table V are shown all the objects found directly associated with Peterborough ware in our area. Since it is so important for our understanding of the Peterborough complex to know exactly what implements of flint and other materials were used by the people who made the pottery, care has been taken to include only closed finds or finds made in such circumstances that there is no reason to suspect contamination. For the

TABLE V

Artifacts associated with Peterborough ware in the
South-eastern Area

	Flint axes	Fragments of polished flint axes	Leaf-shaped arrowheads	Scrapers	Serrated flakes or blades	Trimmed flakes or blades	Utilized flakes or blades	Untrimmed flakes or blades	Cores	"Spurred" implements	Tranchet-axe	Grain rubbers
<u>a. Ebbsfleet ware</u>												
Canterbury	-	-	-	-	-	-	-	-	-	-	-	-
Combe Hill	X	-	-	-	-	-	-	-	-	-	-	-
Ebbsfleet	-	-	-	-	-	-	-	-	-	-	-	-
High Rocks Caves	-	-	-	-	-	-	-	-	-	-	-	-
Thorpe	X	-	-	-	-	-	-	-	-	-	-	-
<u>b. Mortlake ware</u>												
Asthall	-	-	-	-	-	-	-	-	-	-	-	-
Badshot	-	X	-	X	-	-	-	-	-	X	-	-
Bourne Mill Spring	-	X	-	-	-	-	-	-	-	-	-	-
Cassington	-	-	-	-	X	-	-	-	-	-	-	-
Eaton Socon	-	-	-	-	X	-	-	-	-	-	-	-
Honington	-	-	-	X	-	-	X	-	X	-	-	-
Iver	-	-	-	X	-	-	X	-	-	-	-	-
Newbury	-	-	-	-	-	-	-	X	-	-	-	-
Peterborough - Tebb's Pits	-	-	-	-	-	X	-	-	-	-	-	-
<u>c. Fengate ware</u>												
Cassington	-	-	-	-	-	-	-	X	-	-	-	-
Creeping St. Mary	-	-	-	-	-	X	-	X	X	-	-	-

sake of clarity, the sites have been listed under the headings Ebbsfleet, Mortlake and Fengate wares, but there does not appear to be any significant difference between the associations of one group and another. All these sites appear to have been domestic.

On looking at the table, two things are immediately noticed: the small proportion of sites (22% of the total of ¹72 separate finds) where there is a reliable association of pottery with other artifacts of any kind, and the even smaller proportion (8% of the total) where ^{carefully made} ~~actual~~ implements are present. This table, with its high proportion of sites yielding only waste flakes and its narrow range of implement types, contrasts strikingly with Tables II and VIII, which show the artifacts associated with the Windmill Hill and Rinyo-Clacton complexes respectively.

Further, it is to be noted that, except for the tranchet axe from Combe Hill (which was not found in situ) and perhaps the "spurred" implement from Badshot, there is not a single association with a type defined by Pigott as Secondary Neolithic (1954, 283-6). Honington is an especially significant site in this connexion, since no "non-Western" types were found with the Peterborough ware, whereas petit tranchet derivative arrowheads and other Secondary Neolithic types were associated in considerable numbers with the Rinyo-Clacton ware in the higher level. (We have already seen in Part II that the pottery from Grovehurst cannot be attributed to the 1. The figure includes five sites at Cassington and six at Dorchester.

Peterborough group and that it is in any case unsafe to assume that it was associated with the single-piece flint sickles and other objects of flint from the site.)

As our special area is so unproductive of associated material, despite the fact that over 50% of find-spots of Peterborough ware are concentrated within it, we may look beyond its boundaries for supplementary evidence. For reasons previously stated, only closed or uncontaminated finds are relevant to our present enquiry. Many of the "associations" listed by Piggott (1954, 310-12) are therefore automatically excluded, since Western Neolithic, Rinyo-Clacon or Beaker pottery was also present. Direct associations are then found to be few in number and the evidence from occupation sites is limited to that from Winterbourne Dauntsey, Wilts., where an axe of flint-mine type, "thumb-scraper", blades or knives and waste flakes came from the pit fillings; a leaf-shaped arrowhead was found at a higher level and the excavator did not believe it to have been associated (Stone, 1934a, 449).

The other associations all occur in sepulchral contexts. There is an arrowhead from the Church Dale rock shelter, found with skeletons and a bowl of Mortlake type, which has been claimed to be a petit tranche derivative (Harris, 1953, fig. 2:1; Piggott, 1954, 307, 311). But this object is quite clearly a leaf-shaped arrowhead with rudimentary trimming at

the points and part way along the edges. Similar economy of retouch is fairly often seen in arrowheads from causewayed camps (cf. Piggott, 1954, fig.12:9 and 11, from Whitehawk and Windmill Hill) and there is a specimen from the Whiteleaf Barrow (Appendix III, fig.4:3).

The polished flint knife, fragment of bone skewer pin,¹ jet belt-sliders and pottery from the Gop Cave burials (Boyd-Dawkins, 1901; pottery better illustrated in Crawford, 1927) can be accepted as directly associated, as can the belt-slider with the burial in Barrow 26, Handley Down, Dorset (Pitt-Rivers 1898, 140-2), where Peterborough ware was found in the (?)² primary silting of the ditch as well as in the mound (five fragments of the same pot seem to have been inserted together). On the strength of these associations we may include (as Piggott has suggested, 1954, 311) the polished flint knife and jet belt-slider found with a skeleton at Linch Hill Corner, Stanton Harcourt, Oxon. (Grimes, 1944) and perhaps also the polished-edge knife accompanying the primary burial under Barrow 5, The Five Knolls, Dunstable (Dunning & Wheeler, 1931). All these knives, incidentally, are of the long, narrow type and not the discoidal or sub-rectangular types which seem to be associated quite regularly with Rinyo-Clacton ware.

1. Mentioned in Atkinson et al., 1951, 143.

2. Unfortunately, Pitt-Rivers gives neither a plan nor a detailed description of this barrow.

In a small pit under Barrow 30 of the Aldro group in Yorkshire, described on p.134, were found "half a disc of grey flint" and "the burnt longitudinal half of a cylindrical jet bead with rounded ends, which had been bored lengthwise from opposite ends".

The pottery from the Gop Cave, from Barrow 26, Handley Down, and from Barrow 30 of the Aldro group is in each case of developed Mortlake or Fengate type and for this and other reasons the whole series of burials is to be assigned to the closing phase of the Neolithic period.

So far as implements and weapons from domestic sites are concerned, the associations are all with Ebbsfleet or Mortlake ware. These consist of three flint axes (all likely to be flint-mine products), two fragments of polished flint axes, a leaf-shaped arrowhead, scrapers, serrated blades, and grain rubbers - all of types indistinguishable from those found regularly with Windmill Hill pottery. In addition there are the unstratified tranchet axe from Combe Hill and the "spurred" implement from Badshot, but in the circumstances these are not very significant.

From the foregoing it is clear that present evidence does not allow us to attribute petit tranchet or derivative arrowheads to the Peterborough complex. It may be objected

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that in certain instances such types have been found associated with Western Neolithic and Peterborough pottery and that since they are "non-Western" they must necessarily be assigned to the group-making "non-Western" pottery. But in Table IIB it is shown that at two sites arrowheads of the type in question have been found in "pure" Western Neolithic contexts (Dovercourt and Hurst Fen). It seems, therefore, that the occasional use of such arrowheads (in all cases only one specimen was found) is just as likely to be a Western Neolithic trait as a Peterborough one.

Thus, so far as the scanty evidence allows us to draw general conclusions, it seems that there are no grounds for differentiating between the flint-working traditions of the groups making Peterborough and Western Neolithic pottery until a stage in the history of the former when the ceramic forms were typologically advanced. At this stage, which is late in the Neolithic period, polished flint knives (and ornaments of jet or lignite) are associated in graves with Peterborough ware. There is, on the other^hand, a sharp distinction between the kinds of artifacts associated with Peterborough and with Rinyo-Clacton pottery (see Table VIII); it is with the latter that types defined as Secondary Neolithic by Piggott regularly occur.

1. At Whitehawk Camp (Ross Williamson, 1930) and ^{under} ~~at~~ the chambered sairn of Bryn yr Hen Bobl, Anglesey (Hemp, 1935).

iv. Mode of occurrence

Table VI lists the contexts in which Peterborough ware has been found in the south-eastern area. The system of classification follows that used for the Windmill Hill and Rinyo-Clacton complexes in Tables III and IX.

Including strays and sherds redeposited in the mounds of round barrows (in all the cases with which we are here concerned the latter may be interpreted as accidentally incorporated), 64% of the finds represent domestic occupation. The high proportion (13%) of finds recovered from the beds of the rivers Ebbsfleet, Ouse and Thames is remarkable, though the significance of this occurrence remains obscure. Most of the pottery is fragmentary, but there are six complete vessels from the Thames. Whether these finds represent canoeing accidents, flooded riverside habitations, or votive deposits, they indicate that the makers of Peterborough ware habitually engaged in some kind of activity in which the makers of Rinyo-Clacton ware seem never to have participated and the makers of Windmill Hill ware rarely.

Since the frequenting of river banks (or travel on rivers) is the only activity which seems to be distinctive of the Peterborough group, more information may perhaps be derived from a comparison of the modes of occurrence of all three complexes. (For convenience of reference, a combined table

TABLE VI

Mode of occurrence of Peterborough pottery in the South-eastern Area

	<u>No. of sites</u>	<u>Percentage of total</u>
1. Primary in causewayed camps	2	3
2. In ditch-filling of camp, stratigraphical position uncertain	1	1
3. In pits, assumed to be domestic	13	18
4. On hut floors	2	3
5. On occupation sites, no structures detected	7	9
6. In primary association with a ritual/funerary monument	2	3
7. In secondary association with a ritual/funerary monument	6	8
8. In primary silt of ditch of long barrow	1	1
9. In secondary silt of ditch of long barrow	2	3
10. In shaft-filling of flint-mine	1	1
11. In bed of river	9	13
12. Multiple strays	4	6
13. Single strays	13	18
14. Redeposited in mound of round barrow	4	6
15. Circumstances uncertain	<u>5</u>	<u>7</u>
	72	100

A complete list of sites, divided into the categories used in this table, appears in Appendix VI.

is given in Appendix VIII.)

Given the relatively limited number of sites with which we are dealing, too much stress cannot be laid on minor differences, since in some cases even a single addition would alter the balance of percentages in the categories concerned. Nevertheless, certain tendencies can be discerned. In contrast with Rinyo-Clacton ware, both Windmill Hill and Peterborough wares occur in primary association with causewayed camps, in the silting of the ditches of long barrows¹, in the beds of rivers, in hut floors and as multiple or single strays. Neither, on the other hand, is found as frequently in pits as is Rinyo-Clacton ware. For what this evidence is worth, then, it seems that the ways of life (as betrayed by the contexts in which they left behind their pottery) of the people who made Windmill Hill and Peterborough wares were not dissimilar, whereas the Rinyo-Clacton group stands apart.

Although Peterborough ware is not shown in Table VI to occur in funerary contexts other than in the ditches of long barrows, there is a large series of more direct associations with tombs and burials (mostly outside the south-eastern area) which may now be considered. We shall deal first with the connexions with monuments of chambered tomb-long barrow type

1. Since the sherd from Hinton Ampner is of Ebbsfleet type, its alleged position in the primary silt of the long barrow ditch is perhaps less surprising than Piggett suggests (1954, 306).

(i.e. those in which collective burial was the normal rite) and then with round barrows and related monuments of the type in which single-grave burial was the normal rite.

Two important monuments within our area have not been included in the list of Peterborough find-spots because they already appear in the Windmill Hill section, under the heading of "Mixed Groups". These are the Whiteleaf Barrow and Site I, Barton Hill Farm, where sherds typologically indistinguishable from Ebbsfleet ware were associated with Mildenhall ware (see Appendix III and FIG.2). Both monuments appear to have been structurally related. At Barton Hill Farm, it will be remembered, an area enclosed by a circular ditch with a causeway contained traces of the footing trenches of what may have been a rectangular wooden structure; outside the latter were two crouched inhumations in shallow graves. Any mound which may originally have existed had been ploughed away. The Whiteleaf Barrow, with its wooden chamber and forecourt, seems in turn to reflect, however vaguely, the architectural traditions of the Severn-Cotswold chambered tombs. There can be no doubt that the pottery was made and scattered in the mound during the course of construction by the people who built the monument. The presence of sherds of Ebbsfleet type at Whiteleaf gives added significance to the fact that, as we have seen, there are two pots in the Ebbsfleet style from the Severn-Cotswold tomb at Nympsfield (Clifford, 1938, fig.3).

One of these was found in the antechamber, but the other was incorporated in the structure itself, accompanied by a packet of bones. On the evidence available (Clifford, 1938, 201), it is impossible to decide whether this represents a deposit made when the tomb was under construction (and therefore by the builders) or a later deposit (which might have been made at any time after building and before the final blocking of the entrance). It is theoretically possible that some of the dry-stone walling in the antechamber could have been removed, the deposit inserted, and the hole neatly sealed so that no disturbance was visible to the excavator.¹ Whether these Ebbsfleet pots represent initial primary or subsequent primary,² or even secondary, deposits in the tomb must remain an open question. The Whiteleaf evidence, however, seems to weight the balance slightly in favour of one of the two first-mentioned alternatives.

Sherds indicating that the makers of Peterborough ware placed deposits in chambered tombs at a late stage in the period of use of the latter, or participated in the ceremonies attendant upon the final blocking, have been found in a number of Severn-Cotswold tombs; Nympsfield (Mortlake ware), Notgrove (Clifford, 1936), Bown Hill and Poles Wood South (Crawford, 1925, 85; 125), Gatcombe Lodge (Piggott, 1931, 150)

1. Mr. R.J.C. Atkinson has kindly passed on information about occurrences of this kind at the West Kennet Long Barrow.
2. These terms are here used in the senses defined by Daniel (1950, 4).

and Burn Ground (unpublished, possibly Ebbsfleet ware)¹.

A large quantity of Peterborough ware (Ebbsfleet, Mortlake and Fengate types are represented), together with sherds of Rinyo-Clacton and Beaker wares, occurred as secondary deposits in the east Kennet Long Barrow. Peterborough ware also was found in two chambered tombs belonging to other groups: at Five Wells, Derbyshire (Ward, 1901)², the sherd was in the chamber, but its chronological relationship to the Western Neolithic pottery also found is uncertain; at Cairnholly I (Piggott & Powell, 1949) sherds occurred with the final deposits and in the blocking.

But Peterborough ware alone accompanied collective burials in two sub-megalithic tombs inside caves or rock-shelters - at the Gop Cave in Flintshire and Church Dale in Derbyshire - so that the construction of these monuments may be attributed to the makers of the pottery.

At this point it may also be recalled that Peterborough ware occurred not only in the ditch-silting of three long barrows in the south-eastern area (Badshot, Hinton Ampner and Holdenhurst) but also in the ditches of Thickthorn 163a and Wor Barrow. Pottery found in these circumstances is usually interpreted as representing casual visits or temporary camps

1. Information from Mr. W. F. Grimes.
2. At first sight the published profile of the sherd suggests that it belongs to a Food Vessel. It could, however, be an incorrectly orientated rim and wall of Fengate type.

in the shelter of the hollows; the evidence for the interest of the makers of Peterborough ware in chambered tombs suggests the possibility of a different interpretation.

On the whole it seems reasonable to conclude that the people who made Peterborough ware had a special interest in collective burial, chambered tombs and earthen long barrows, which was not generally shared by the people who made Rinyo-Clacton ware in the south of England, for in this region Rinyo-Clacton ware has been found only at West Kennet. (In the Highland Zone, however, there is a Rinyo-Clacton pot from Unival, a sherd from Tormore (Piggott, 1954, 329) and other artifacts of types known to belong to the northern facies of the Rinyo-Clacton complex have been found in several tombs.)

The series of round barrows with which late forms of Peterborough ware occur in primary association may be divided into two groups: those which have yielded burials and those which have not. Barrow 26, Handley Down, Dorset (Pitt-Rivers, 1898, 140-2) evidently was surrounded by an irregular ditch, 40 feet in diameter and interrupted by a causeway. Fragments of a skeleton were found on a heap of flints in the centre; another, contracted, skeleton accompanied by a jet belt-slider was found one foot from the surface, and thus presumably in the mound itself. Also in the mound were five sherds of a pot with a rim of Fengate type (Pl.294:2) and a similar rim and other sherds were found at a depth of 2 feet in the ditch.

Beaker occurred at a higher level, so that the Peterborough sherds seem likely to have lain in the primary filling.

Acklam Wold 211 (Mortimer, 1905, 92-3) was a low barrow, without a ditch and about 50 feet in diameter. In the centre was an oval grave containing a crouched skeleton accompanied by two flakes and a flint knife of plano-convex type, an implement made from the rib of a large animal, and a "Food Vessel"¹; of the latter only a small fragment, ornamented with a herringbone pattern in whipped cord, survives. A circular cavity, 2½ feet in diameter and 10 inches deep, had (according to Mortimer) been cut into the side of the grave-pit behind the head of the skeleton. In the dark filling were fragments of flint, and sherds of a cylindrical pot in the Fengate style with a series of upright, cord-impressed semicircles below the rim and a chevron pattern made with the fingernail on its inwardly projecting edge. From the material of the mound came a typical rim sherd of Fengate type (form F3), with chevrons made by the fingernail on the inner level, paired fingernail impressions outside, and pits made with the fingertip below the overhang (Mortimer Museum, no.lxv).

In a small barrow built on the bank of the double-entrance henge-monument of Arbor Low, Bateman (1848, 64-6) found a cist containing cremated bones, a bone pin, a flint and a piece of

1. Not illustrated by Mortimer, who gives for this the same figure number as that for the pot from the cavity.

pyrites, and two pots. One is a simple cup-like vessel, ornamented with vertical cuneiform impressions and with a distinct foot which recalls those on several of the pots from Peterborough. The other vessel (re-drawn with a round bottom by Piggott, 1931, fig.18:3) has a rim of a form not normally seen on Peterborough ware, though closely paralleled by FIG. 61 from Peterborough itself. The decoration on the inner bevel, consisting of continuous lines of fingernail impressions set end-to-end, seems to link it unmistakably with the Fengate style. The external ornament of whipped cord impressions could belong just as well to a Food Vessel and this pot may well represent a transitional form. This seems to be the only instance in which recognizable Peterborough ware has been found with a cremation.

Although there need be no connexion, it is worth recalling that beside the pit at Bourton-on-the-Water which yielded two sherds of Peterborough ware, one in the Fengate style and another with a rim of form M1b, there was a second pit in which lay part of a woman's skull and a complete shed antler (Dunning, 1932).

Surprising as it may seem, there can be no doubt that the primary pottery from the site at Moneen, Co. Cork, excavated by O'Kelly (1952) belongs to the Fengate type of Peterborough ware. Inside a shallow ditch, 52 feet in diameter, were found stake-holes and pits containing the sherds, patches

of charcoal and fragments of a human skull. All these had been covered by a low mound formed of the upcast from the ditch. Implements of flint and crystalline quartz were incorporated in this mound and are not necessarily connected with the pottery. One of the vessels (O'Kelly, 1952, fig.7) has a vertical rim, over $2\frac{1}{2}$ inches in length, its lower edge overhanging the neck. It approximates to form F1. On the rim and walls are incised lines forming loose chevron patterns or triangles. A second rim (fig.8:7) is probably not correctly orientated in the illustration; it approximates to form F2 and has on the top traces of a typical, sharply-cut chevron design; chevrons drawn with an implement appear also on the outer surface of the rim and below the overhang. There are other small fragments of overhanging rims and one fragment of a flat, splayed base. The rim of the first pot (fig.7) and of a second (fig.8:1) are remarkably similar in form, and in the case of the second also in decoration, to two rims from the ditch-filling of Avebury II (Gray, 1934, fig.7: 163 and 167).

We come now to two barrows in which Peterborough ware, but no signs of burial, were found. It is possible in each case that the association was fortuitous, but the evidence described above lends support to the view that it was not. Barrow 24 on Handley Hill (Pitt-Rivers, 1898, 147) ^{was surrounded} had, like Barrow 26, ^{by} a circular ditch, just over two feet deep, inter-

rupted by a causeway and enclosing an area 23 feet in diameter. Within this area were three empty cavities. A sherd of Mortlake type (Pl.298:8) was found "at a depth of one foot on the chalk floor within the barrow". The meaning of this statement is obscure, but in any case the sherd appears to have been in a primary position and there seems no reason to doubt the connexion.

Aldro 30 (Mortimer, 1905, 68) was another small barrow, 30 feet in diameter and without a ditch. No grave or traces of burial were found, but off-centre was a circular hollow, 14 inches in diameter and one foot deep, which contained charcoal, hazel-nut shells, half a disc of flint, half a cylindrical bead of jet, and sherds of two pots. One (fig. 142) has a flattened profile with a rim of type M1b; there are sharply incised chevrons on the horizontal top of the rim and irregular incised patterns on the exterior and interior of the wall below. The other sherd (fig.141) is part of the lower wall and flat base of a pot with scattered finger-nail impressions, similar to those seen on FIGS.56 and 59.

These associations with monuments of uncertain purpose lead us to another series of associations with monuments which may be interpreted as combining both ritual and funerary elements or as purely ritual constructions. It will be recalled that three of the monuments described above - Site I, Barton Hill Farm and Barrows 24 and 26, Handley - had each a

circular ditch interrupted by a causeway. A direct relationship with the henge monuments of Class I seems certain, although the rôle of the Peterborough group in connexion with the building and use of actual henge monuments is not clear, as the following examples will show.

A maggot-decorated sherd was found in the primary filling of Ring-ditch A, Smith's Pit II, at Cassington; but a sherd of B beaker occurred at the same level and the nature of the monument seems never to have been fully elucidated. Similarly, a sherd, probably of Mortlake type, occurred in the ditch-filling of the small Class II henge at Fargo Plantation; but the interior of the circle was occupied by Beaker and Food Vessel interments (Stone, 1939). In both cases the sherds may, but need not, be intrusive. The relationship of the Peterborough group to the monuments at Dorchester is not much easier to interpret. Ebbsfleet or Mortlake ware occurred at six of the sites, but only at Site XI did identifiable sherds occur in a primary position and then in an outer ditch which may be slightly later than the central features. Yet it is worth noting that at Sites II, V, and VI sherds lacking distinctive features of form or decoration, but resembling Peterborough ware in fabric, also occurred in primary positions. In any case, the makers of Peterborough ware evidently participated in activities connected with these ritual/funerary monuments, and at Sites I and XI contributed additional

features to the enclosures.

Some "influence" from Peterborough ceramic traditions is evident in the pottery recovered from Durrington Walls (Stone, Piggott & Booth, 1954, fig.8:17,23,25,27), but, with two possible exceptions, the cord and bird-bone decoration appears on vessels of a form characteristic of the Rinyo-Claeton ware on the site. Peterborough ware was present on the sites of the various features of the Avebury II-Kennet Avenue-Sanctuary complex, associated with Beaker (and perhaps Rinyo-Claeton ware) in the postholes of The Sanctuary, but not clearly connected with the structure of the Avenue. Yet abraded sherds of Mortlake type were found under the bank of Avebury II and one Fengate rim and an atypical form (as well as a number of sherds of uncertain affinities) were in the chalk rubble of the ditch-filling (Gray, 1934, figs.6 and 7). The only evidence for the presence of the makers of Beakers on the site consists of four sherds, all from the same vessel, which were found at a higher level than the Peterborough ware. Since the excavation at Durrington Walls has shown that all Class II henge monuments cannot be ascribed to the makers of A-C beakers¹, and since the makers of Peterborough ware were on the site of Avebury II both before and shortly after² the construction of the monument, we cannot dismiss altogether the possibility that

1. As had been suggested by Atkinson (Atkinson et al. 1951, 91).
2. Gray (1934, 120) estimated that the chalk rubble stage of filling would have been completed in little more than a decade. The rim sherd of Fengate type was found in a patch

they were the builders.

v. Economy

Owing to the fact that Peterborough ware is not often found in direct association with other objects of any kind, evidence for the nature of the basic economy upon which the complex depended is scanty. Nevertheless, such evidence as there is indicates a food-producing economy based upon agriculture and stock-breeding.

That cereal foods were consumed is indicated by the grain-rubbers from Combe Hill and Enborne Gate, Newbury, and by impressions of what clearly have been cereal grains on one of the pots from the Thames at Mongewell (FIG.80:2). Unfortunately these have not as yet been examined by an expert.

As for domesticated animals, bones of ox and pig occurred at Combe Hill, Eynsham and Acklam Wold 211, and ox, pig and sheep at Winterbourne Dauntsey. The evidence from the Gop Cave is particularly important, for the sub-megalithic tomb had been built in a layer of habitation refuse which also yielded sherds of Peterborough ware. In this layer the bones of domesticated animals predominated over those of wild animals and ox, pig, dog and sheep/goat were represented, the latter being the most abundant. (It was also claimed (Boyd-Dawkins,

of burnt material and so was clearly deposited during the time the chalk rubble was forming and cannot have been derived from the make-up of the bank.

1901) that both wild and domesticated horses were present, but the identification of the latter seems questionable.)

Food-gathering and hunting seem to have played no greater part than in Western Neolithic groups. Hazel-nut shells in the pit under Aldro 30 are the only evidence for the former activity and bones of wild animals were associated with the pottery at only four sites: red deer at Winterbourne Dauntsey, Arbor Low and Acklam Wold 211; fox, martin, badger, horse, deer and hare at Gop Cave; and a fox's skull in a niche in the Church Dale rock-shelter. The use of the bones of small mammals and birds (Liddell, 1929) for ornamenting the pottery suggests that these were taken in some numbers, but probably only to supplement the diet. The pit-fall traps at Mye Plantation near Glenluce (Piggott, 1954, 306) indicate systematic hunting, it is true, but it is still uncertain whether the associated pottery really belongs to the Peterborough group. It might be expected, since so much Peterborough ware has been found in rivers, that fishing and the trapping or shooting of water-fowl would have been important activities, but there is no direct evidence of this either from food refuse or from specialized equipment.

Participation in extractive industries is attested in the flint-mining at Grime's Graves and Easton Down and the flint axes from Winterbourne Dauntsey, Combe Hill and Thorpe are likely to have been products of such mines. But no stone

axe-factory products have been found associated with Peterborough ware ¹alone, so that it is impossible to assert that the makers of this kind of pottery were responsible for the initiation of such industries. The evidence from Ehenside Tarn and elsewhere does suggest, however, that the Peterborough group engaged in this trade in co-operation with other groups (as evidently was the case in the flint-mines too).

The one specialized industry we can attribute to the Peterborough group was the manufacture of jet or lignite belt-sliders. These objects have twice been found with Peterborough ware (Gop Cave and Barrow 26, Handley Down), but never directly associated with any other kind of pottery. They seem normally to have been most carefully made, attesting to a standard of craftsmanship of which no other evidence survives. It is interesting to note that on the basis of their distribution (some thirteen specimens are listed by Piggett, 1954, 311), it may be possible to detect the presence of members of the Peterborough group in areas of Scotland not otherwise known to have been frequented by them.

vi. Relationships and dating

The classification, in Section ii, of the Peterborough ceramic complex was primarily a typological one, based on the assumption that the three styles - Ebbsfleet, Mortlake and Fengate - represent a developmental series. We must now see

1. Grimes (1951, 47) says that macroscopic inspection suggests that axes from the Gop Cave may be products of the Graig Lwyd factory.

whether this assumption can be supported by external dating evidence. In the following paragraphs the only sites considered will be those of which we have reasonably detailed and accurate records. The fact that two rim sherds of Fengate type were found at Abingdon, for example, is of no value for the present purpose since we do not know the level from which they came in the ditch-filling.

It must be admitted at the outset that there is very little direct stratigraphical evidence to support our hypothesis. In the ditch-fillings of Windmill Hill and Maiden Castle, the three Peterborough styles appear together in the secondary silt and it cannot be shown that one is necessarily older than another.¹ The Ebbsfleet ware deposited inside the Nympsfield² chambered tomb must, however, be older than the Mortlake ware

1. The stratigraphical position of isolated sherds of artifacts within secondary silts cannot, of course, be expected to give a true indication of relative age within narrowly defined limits. From the period of primary occupation onwards, sherds and other objects must have been lying about near the edges of the ditches; during the formation of the first rapid silting, contemporary with the first period of use, the accidental dislodgement of such objects will not affect the interpretation of the stratigraphy. But during the relatively much longer period represented by the formation of secondary silting, objects belonging to the first and to subsequent periods of use could fall from the edges into the filling and come to rest above material which actually was younger, but which had been deposited directly in the ditch. In such circumstances only objects associated with hearths or other evidence of occupation of the ditches can afford the possibility of an accurate chronological separation.
2. A single sherd of Mortlake ware found in the antechamber may have been dropped during an earlier investigation of the tomb (Clifford, 1938, 205).

found in the final blocking of the entrance, though it is not possible to estimate how much older. Similarly, the Fengate ware in the ditch of Avebury II ^{were in d.?} is younger than the Mortlake ware found beneath the bank, though probably no long interval of time separated the two. For the rest we shall have to rely for external dating evidence upon associations with monuments or pottery belonging to other complexes. In the light of present knowledge we may take it that the customs of building causewayed camps and of depositing the dead in collective tombs (either chambered or not) were introduced by the earlier Neolithic settlers in the south of England and that such monuments were no longer being built by the date when the bearers of the Beaker cultures introduced the custom of single-grave burial under round barrows. We may then, in the sense defined above, speak of a class of early monuments and a class of late ones.

We have seen that Ebbsfleet ware is the only representative of the Peterborough group to appear in primary association with monuments belonging to the early class, in what may be described as pure Windmill Hill (or Western Neolithic) contexts. It has been found twice in the lowest levels of the ditches of causewayed camps (Combe Hill and Whitehawk), once in the primary filling of the ditch of a long barrow (Hinton Ampner), and once was indisputably contemporaneous with a tomb which seems to be related to the Severn-Cotswold series (Whiteleaf);

in the fifth instance (Site I, Barton Hill Farm) there is little reason to doubt that the pottery was contemporary with a monument which, though it has unusual features, seems to have connexions with the collective tomb tradition. At Whitehawk, Whiteleaf and Barton Hill Farm the Ebbsfleet ware was also contemporary with stylistically developed Windmill Hill ware. There is no evidence to show that either the Mortlake or the Fengate styles were in existence as early as this. But evidently pots of Ebbsfleet type continued to be made after the Mortlake style had developed and possibly even overlapped with the first appearance of the Fengate style. The single Ebbsfleet bowl from Clacton was in a pit with beakers of type B and all the pottery seemed to be contemporary. Similarly, some sherds from Peterborough show Ebbsfleet characteristics (FIGS. 58 and 73:23-24), although there is no evidence that they are earlier than the A-C beaker settlement on the site.

Mortlake ware occurs, as we have seen, in the secondary silt of the ditches of long barrows and, in chamber tombs, appears in the blocking or in positions indicating contemporaneity with the final period of use. But, together with Fengate ware, it does appear in primary positions under round barrows and in the ditch-fillings thereof (Handley 24 and 26; Aldro 30). Ebbsfleet ware is not found in such contexts.

At Site 107, Clacton, sherds of Mortlake ware (FIG.3:1-3) may have been associated with Mildenhall ware; but on the whole the period of manufacture of the Mortlake style seems to run parallel with that of Rinyo-Clacton ware and of Beakers of various types. At Site I, Dorchester, Mortlake ware was later than Rinyo-Clacton ware; at Honington the position was reversed; at Orton Longueville and Edingtonthorpe the two were found together in pits or hollows. Mortlake ware continued to be produced after the Fengate style had developed, for both styles are represented in the group from Icklingham and in Group vi.b from Peterborough.

The only piece of evidence to show that Fengate ware might antedate Mortlake ware is the sherd of the former type which lay at a lower level in the ditch-filling of Wor Barrow than sherds of the latter type; but Pitt-Rivers recorded (1898, 100) that the silting had probably been disturbed by badgers, so that the position has little significance. At Thickthorn 163A the Fengate ware came from the upper levels of the ditch. As previously described, Fengate ware occurs with significant frequency in primary association with round barrows (Acklam Wold 211, Aldro 30, Arbor Low, Handley 26, Moneen).

Thus the theory that the three styles of Peterborough ware represent a developmental sequence is supported by a modest amount of independent evidence. Although there was evidently some overlapping of the periods of manufacture of

each, no Mortlake or Fengate ware can (as yet) be shown to occur in contexts as "early" as Ebbsfleet ware sometimes does; Ebbsfleet ware, on the other hand, does not occur in such specifically "late" contexts as Mortlake and Fengate wares sometimes do.

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Contacts between the makers of Peterborough ware and other groups are implicit in the circumstances found at many of the sites described in this section and need no further discussion in general. There is, however, one matter - the influence of other ceramic styles upon Peterborough ware - which has not yet been touched upon.

Piggott has suggested (1954, 74, 310) that carinated bowls of Mildenhall type had a formative influence in the development of the Mortlake bowl. There are indeed general similarities between the two in shape and in disposition of ornament; the two share also certain decorative motifs - chevron and lattice patterns - which do not occur in other ceramic styles in the south of England; but the only decorative technique they have in common is the use of the leg-bones of birds. Some kind of relationship seems to be indicated by these similarities and this is a subject to which we shall return in a later section.

There is no evidence that the Rinyo-Clacton ceramic style had a marked influence on the Peterborough series, though it may be that occasional appearance of cordons or grooves indicates the borrowing of specific techniques. In only one instance does anything like a typical Rinyo-Clacton design appear; this is on a rim sherd of Fengate type from Windmill Hill (no. 3460-1), which seems to have borne a pattern consisting of multiple triangles, the central voids being filled with dots.

But there are instances of unmistakable influence from Beaker ceramic traditions; it is significant that no trace of such influence is to be seen in Ebbsfleet ware and that all the examples are to be assigned to a time when the Mortlake style was fully developed and the Fengate style had already appeared. In three cases the pots in question are shoulderless bowls with flat-topped, inwardly projecting rims of the type assigned to the Mortlake style in Section 11. On those from the Thames at Putney and Mortlake (FIGS.52 and 89:3), the chevron patterns have been made by a "barbed-wire" stamp of the type described in Appendix I; stamped impressions of this kind are otherwise seen only on a special class of Beakers. But characteristic Beaker notched stamp impressions occur on the third bowl, which comes from the Holdenhurst Long Barrow (Piggott, 1937, fig.6:2). This sherd was associated with Beaker and rusticated ware and lay at a higher level than the

sherds of a typical shouldered bowl of Mortlake type. The notched stamps have been used to make a series of small lozenges on the broad, flat rim; short, rather maggot-like notched impressions fill the lozenges and adorn broad ridges on the outer wall of the bowl. A ridged bowl of similar type accompanied the Mortlake ware from Heathrow; and small lozenges, evidently drawn with a pointed implement, are to be seen on FIG.41:5 from Clacton.

One of the most obvious manifestations of Beaker influence is seen in the basal sherd from Astrop (FIG.55:1). In ware and technique of decoration (made exclusively by separate fingernail impressions or by lines drawn with the fingernail), the sherd resembles closely those from the site with typical Fengate rims. Yet the foot-ring and the arrangement of the external decoration - notably the bar-chevron and the basal zone filled with single vertical fingernail impressions - are clearly imitated from beakers of A-C type; the series of horizontal lines extending to the base inside owe nothing to Beaker traditions, of course.

At Peterborough itself the evidence is less explicit; but reference has already been made to certain sherds from this site (Group VI.b) that have a special surface finish: a thin, brittle, glossy skin with a pinkish-grey or reddish colour. One such sherd retains a Mortlake form, but the rest are of Fengate type (FIGS.64:7,8; 65-68). It seems probable

that the surface finish (so unlike that on normal Peterborough ware) represents an attempt to imitate the attractive appearance of the A-C beakers being made by another group inhabiting the site at the same time. Quite possibly the idea of providing pots with narrow flat bases came from the same source.

Thus in the late Mortlake-Fengate phase we can already detect the first stage in the process of cultural fusion which was to produce characteristic Bronze Age funerary ceramics and customs (the significance of the association of Mortlake-Fengate ware with round barrows has been touched upon previously).

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In the absence of detailed analytical studies, and even of comprehensive corpora, of the cord-ornamented Neolithic wares from Hedderwick and Glenluce in Scotland and from sandhills and other sites in Ireland, it is possible at present to make only a provisional assessment of their relationship to the Peterborough ware of the South. The following observations are based mainly upon the Scottish material published by Callander (1929, 1933) and on the Irish material from Lough Enagh (Davies, 1941), Island MacHugh (Davies, 1950), Dundrum (Collins, 1952) and Lyles Hill (Evans, 1953).

As mentioned in an earlier section, the rims from Hedderwick and Glenluce differ in shape, and especially in the angle at which they are set, from normal Mortlake ware. When they

fall into any of the categories recognized in the South, their similarity is to rims of forms M1-3b; they lie horizontally and, in general, have flat tops. There is indeed one cord-ornamented rim from Glenluce (Callander, 1933, fig.6:8) which resembles the Ebbsfleet type E1/3. This sherd, however, is matched in form by another from the site with flutings on the rim (Callander, 1929, fig.44:18) and the form recurs among the undecorated Western Neolithic wares from Lyles Hill (Evans, 1953, fig.13:15,17).

In fact, if the profiles of the cord-ornamented Scottish and Irish wares be compared with the large series of Western Neolithic pots from the Eilean an Tighe kilns (Scott, 1951a), it is found that virtually every variant ^{to be seen} ~~found~~ in the former series can be matched with precision in the latter. It would be outside the scope of the present study to enlarge in detail upon this matter, but it may be pointed out that the basic distinction between the Irish and Scottish series is that only in the former do hammer-head rims, lugs and shouldered forms appear. The Irish cord-ornamented wares are thus more closely connected with the Eilean an Tighe series and the relationship extends even to such details as the method of inserting lugs into the walls of the pots (compare Scott, 1951a, fig.9:2,34 and Hewson, 1938, fig.14).

So far as morphology is concerned, the ceramic traditions represented by the Scottish and Irish cord-ornamented wares and the Western Neolithic wares

of Eilean an Tighe and, to some extent, Lyles Hill type are one and the same. The long necks characteristic of Lyles Hill ware do not often occur with cord ornament, but typical stepped shoulders thus decorated come from Lyles Hill (Evans, 1953, fig.16:75,76) and Dundrum (Collins, 1952, fig.9:19; 11:8). Both Evans and Collins have remarked upon the difficulty of making clear-cut distinctions between the Western Neolithic and the cord-ornamented series; the only real difference (apart from the decoration) seems to be that the latter are frequently, but not invariably, of coarser fabric than the former.

Decoration by means of twisted and whipped cord and bird-bone or other stamps producing irregular impressions are thus seen to have been techniques adopted by people who were already in possession of an established Western Neolithic ceramic style. According to Scott's interpretation of the Eilean an Tighe material, hammer-head rims did not appear until the final phase of activity at the site, for all the published specimens come from Kiln II. Since this rim form is one of the commonest on Irish cord-ornamented wares, it seems probable that cord decoration was not introduced until the Western Neolithic tradition had reached full development. This assumption is supported by the fact that the designs on Irish cord-ornamented wares are quite evidently expressions of the same ideas as

those which inspired the designs used at Eilean an Tighe and in other decorated Western Neolithic ceramic groups in western and northern Scotland and in north-eastern Ireland (the Beacharra B and Unstan groups). These designs consist of filled triangles, concentric arcs, and panels of alternately vertical and horizontal lines (hurdle pattern).

It has been suggested by Childe (Piggott & Childe, 1932), and the theme has subsequently been elaborated by Piggott (1954, 188-9 and 320), that the cord ornament on Beacharra C and Irish wares of sandhill type must indicate connexions with the Baltic. There are indeed many astonishingly precise parallels in decorative motifs and techniques, and even in shape, between some Hiberno-Scottish vessels and certain Danish specimens found in passage-graves or belonging to Becker's funnel-beaker group C. But the only piece of independent evidence that has been adduced to support this theory is the presence of impressions of grains of Triticum monococcum¹ of sherds from Dunloy (Piggott, 1954, 189). Piggott has in fact admitted that the argument is weakened by the lack of intermediate links between western Scotland and Ulster and Scandinavia; the cord-ornamented wares from Hedderwick in eastern Scotland cannot qualify as such, neither can those from Yorkshire to which Piggott (1954, 321) has drawn attention in this connexion; the latter consist in part of typical Ebbsfleet ware and in part of wares of Western Neolithic form with

1. But these need have no particular significance for Helbaek (1952, 197) states that T. monococcum occurs everywhere in Europe as a sporadic component of the prehistoric T. dicoccum cron: he has also identified two impressions at indmll HMI

cord and other unusual ornaments which doubtless reflect a mingling of traditions.

As we have seen, the forms and ¹all the decorative motifs on the Beacharra C and Sandhill wares were already current in western Scotland and in Ulster before the new techniques were introduced.² Therefore all that we have to explain is the substitution of impressed cords for the normal Western Neo-³lithic channelling technique. As will be described below, there is a substantial amount of evidence to show that it was in fact the makers of Peterborough ware who were responsible for this substitution.

In general, as Piggott has emphasized (1954, 320), Beacharra C and Sandhill wares do not resemble Peterborough ware in the arrangement of the decoration; but this is simply because cord impressions have been used to reproduce geometric patterns. Yet elements in the decoration of certain pots can only be interpreted as reflecting the intrusion of characteristic Peterborough decorative motifs into this established

1. Including the rim **design** consisting of a zone of horizontal cord lines with a fringe of vertical strokes below which Piggott specially mentions (1954, 320) as indicating a connexion with the Scandinavian funnel-beaker group of phase C. This design appears several times on Unstan ware (cf. Scott, 1951a, fig. 7:0.40 and 0.87).
2. As shown by the sequence of Beacharra styles worked out by Piggott (1954, 185) and by the fact that the Sandhill wares can be correlated as to form with the fully developed series at Eilean an Tighe.
3. It may be objected that the raised ribs on pots such as that from Dunloy (Evans, 1938, Vessel A) require an alternative explanation. But groups of vertical ribs occur on a Class 1a pot from Lough Gur (O'Riordain, 1954, Pl. XXX) and Class 1a wares cannot be entirely unrelated to the Ulster series.

tradition. Such elements may be summarized briefly as follows: closely spaced herring-bone pattern on rim and walls, differing in character from the looser patterns used at Eilean an Tighe (Dundrum: Collins, 1952, fig.11:2); pits made with the fingertip and arranged in a line round the neck or below the rim (Dundrum: Collins, 1952, fig.10:1; Island MacHugh: Davies, 1950, nos.N.69 and N.72; Lough Enagh: Davies, 1941, nos.ix, xiv, xxvi); traces of incised lattice patterns (Knowles, 1895, fig.15; Lyles Hill: Evans, 1953, fig.15:59; Island MacHugh: Piggott, 1954, fig.50:1); impressions made with the end of a bird's leg-bone or similar object (Audleystown: Collins, 1954, fig.7:3,4; Dundrum: Collins, 1952, fig.11:5-6; Lough Enagh: Davies, 1941, nos. xxvi, xxxi, xliii); small nicks made with the tip of the fingernail (Dundrum: Collins, 1952, fig.10:1,2; Lough Enagh: Davies, 1941, no.xix; Island MacHugh: Davies, 1950, nos.N.2, N.8). All these devices were regularly used by the makers of Peterborough ware, but not by any other group/ ^{in the British Isles;} the straight or curved maggots which also occur sporadically in the Beacharra C-Sandhill wares must come from the same source. Moreover, as we shall see, the traffic was not all in one direction, for the results of such contacts can be detected in the south of England as well.

Fortunately it is possible to establish with some precision the period at which these contacts must have taken

place. Piggott (1954, 185) has demonstrated (1) that in the Beacharra tomb itself a jet belt-slider of a type associated in England and Wales with Peterborough ware was stratified above pots of Beacharra A and B types, and (2) that Beacharra C ware can be correlated at Dunloy with a Tievebullagh axe. The period of activity of the Tievebullagh axe-factory can in turn be correlated with Zone VIIb of the post-glacial climatic sequence (Jessen, 1949, 142). The Neolithic occupation at Island MacHugh was shown by Mitchell (in Davies, 1950, 3-6) to belong to a late phase of Zone VIIb; but in Somerset Mortlake ware occurred just above the VIIa-VIIb junction (Piggott, 1954, 315).

On existing evidence, jet belt-sliders and curved maggots belong to an advanced stage in the development of Mortlake ware, when the Fengate style was already emerging. Thus the Beacharra belt-slider and the curved maggots on Beacharra C-Sandhill wares can be correlated with this stage. Further, the only truly characteristic fragments of Peterborough ware (at any rate among the published material) from either side of the North Channel belong to the rims of pots of Fengate type. One, with a cord-impressed lattice pattern, comes from Dundrum (Collins, 1952, 25 and fig.11:3). Collins pointed out that in form, fabric and decoration the sherd suggested a cinerary urn of the Middle Bronze Age. But the overhang at the base of the rim is almost imperceptible and

the form is best paralleled by the Fengate pot from Bourton-on-the-Water (Dunning, 1932, fig.2:1). The other, found below the blocking of Cairnholy I in Galloway (Piggott & Powell, 1949, fig.8:4), has a pronounced overhang, but the top of the elongated rim is missing. Piggott has argued (1954, 185) that the Peterborough (and B-beaker) sherds at this site provide a terminus ad quem for the cessation of burial in the Clyde-Carlingford tombs. This argument may apply very well to tombs on the Scottish mainland, but need not apply in the islands or in Ulster.

As we have seen, it is in the more developed stages of Mortlake ware (as at Iwer and Heathrow) and in Fengate ware that formal designs occur rather frequently. Hatched triangles are common on Fengate rims (FIG.55:2 and many others); the hurdle pattern makes its only known appearance in Peterborough ware on such a rim (FIG.85:6); and, although the concentric arcs on some pots cannot always be distinguished from triangles that have lost their angularity (as FIG.65), it is probable that those on FIG.66 or on the pot from Acklam Wold were not accidental.

Hatched triangles, hurdle pattern and concentric arcs are the three important elements in the decorative repertory of the potters at Eilean an Tighe and of the makers of Beacharra C and Sandhill wares. Mrs. Hawkes has demonstrated (1938) not only the rôle played by semicircular and hurdle

patterns in the system of magico-religious beliefs which extended from the Iberian peninsula to Ireland and Scotland, but that the use of such symbols (together, presumably, with the concepts they represented) could be transferred from one group to another. Although Mrs. Hawkes was uncertain of the status of triangular designs, these occur so frequently in Irish Passage-grave art, together with semicircles and hurdle patterns, that they undoubtedly had also a symbolic significance.¹

Therefore the appearance of such motifs in the later stages of Peterborough ware in England is surely to be interpreted as a reflex of cultural contacts in the North Channel area.² The matter will be discussed more fully in the next section, but it may be noted here that both the hurdle pattern and triangular designs (though not semicircular ones) are important elements in the decoration of Overhanging-rim Urns; since these urns must derive from Fengate ware it is evident

1. This need not imply synchronism between the passage-graves and Eilean-an-Tighe, Beacharra B or C, or Sandhill wares; the intention is merely to demonstrate the significance of triangular motifs. The system of symbols may well have been introduced to the British Isles independently of the passage-grave idea.
2. Another manifestation of such contacts is perhaps to be seen in a vessel from a high level in the Middle Ditch of Windmill Hill (no;9955). This is a small bowl with a simple, slightly inbent rim, and ornamented with rows of fingernail impressions. In form and ornament it is so nearly identical with specimens from Ulster (Audleystown: Collins, 1954, fig. 7:1; Island MacHugh: Davies, 1950, N.1 and N.51) that inspiration from this area, where the form occurs repeatedly seems highly probable.

that the motifs in question had a real meaning and value for the makers of Peterborough ware. We shall see again in Part IV that elements of the Irish passage-grave repertory were also adopted by the Rinyo-Clacton culture, so that in the final phases of the Neolithic period and in the Bronze Age the potent concepts represented by these symbols were influencing the lives of people in parts of the British Isles far distant from Ireland and western Scotland.

Organized patterns of the kind described above appear only twice at Glenluce - twisted cord semicircles over the rim of one pot (Callander, 1933, fig.8:2) and what appears to be part of a hanging triangular design on the walls of another (Callander, 1929, fig.54:1). The latter design is formed by lines of closely spaced whipped cord maggots ^{set end-to-end,} a device often used by the makers of Peterborough ware (e.g. pots from Holdenhurst Long Barrow and Rowberrow Cavern) but not, apparently, by potters in Scandinavia. The same technique is to be seen on a rim from Hedderwick (Callander, 1929, fig.52:6). For the rest, the pottery from both Hedderwick and Glenluce is decorated with lines of twisted or whipped cord, straight or curved maggots, stamped impressions made with a bird's leg-bone or similar implement, and occasionally with fingernail impressions. Scored lattice patterns occur once or twice at Glenluce and some of the more complete vessels have flattened bases (e.g. Stevenson, 1950, Pl. XXVII:2). But, as already

explained, neither the pottery from Glenluce nor that from Hedderwick resembles Peterborough ware in details of form.

It seems then that the custom of using the cord-impressed and stamped decoration was acquired at both localities by indigenous Western Neolithic groups through contact with the makers of Peterborough ware. The stray belt-slider from Berwickshire is significant in this connexion; and this object, as well as the presence of curved maggots on the pottery from both sites, seems to indicate that such contact took place at much the same time as Peterborough decorative techniques were introduced to Ulster and Arran.

The most obvious explanation for the presence of the makers of Peterborough ware in Ulster would be that they were engaged in activities connected with the Tievebullagh axe-factory; but there is no direct evidence that this was so.

If the foregoing interpretation of the evidence for culture contacts in Ulster and the neighbouring parts of Scotland is correct, it has some interesting implications. It is clear that in the south of England the late Mortlake-Fengate stages of the Peterborough ceramic style are contemporary with A-C beakers and that relationships were being established between the two groups concerned. At Cairnholy I in Galloway B beaker sherds were associated with the Peterborough ware, but in Ulster no Beaker elements or influences can be discerned among the representatives of the Peterborough

complex who were responsible for introducing the novel decorative techniques. Late and debased forms of Beaker first appeared in this area after the cord-ornament tradition had been firmly established.

vii. The survival of the Peterborough ceramic tradition

It is a commonplace in British archaeology that the decorative traditions of Peterborough were survived in the Bronze Age (see, for example, Piggott, 1938, 90-1; Childe, 1949, 146), but no study has yet been made of the precise nature of the relationship between Peterborough and Bronze Age ceramic forms and ornament. No such detailed study will be attempted here, for it would involve a discussion of disproportionate length in the present context and must, in any case, await the publication and chronological interpretation of the corpus of Bronze Age pottery now being prepared under the auspices of the Council for British Archaeology. But we can attempt here to bring the matter into focus and to direct attention to a few points of particular importance.

Our special concern will be with the relationship between Peterborough ware and Overhanging-rim Urns, where a direct line of descent can be discerned. The heritage of the Food Vessel¹ is more obscure, since many of the morphological

1. Unless otherwise specified, the term "Food Vessel" in the following pages refers exclusively to the Yorkshire and the English Ridged types.

features are difficult to explain in terms of Neolithic traditions and the decorative devices come from a variety of sources. But in order to clarify the relationship between the cord-ornamented Bronze Age and Neolithic wares it will be necessary to begin with a few general observations on the chronology and stylistic differences of Food Vessels and Overhanging-rim Urns.

It has often been inferred (as by Stone, 1948, 150) that the Food Vessel must represent an intermediate stage between Peterborough ware and the Overhanging-rim Urn. It is now clear, however, that the prototypes of both Food Vessels and Urns emerged at the same time in the south of England and, as Childe has recognized (1949, 146), the two forms represent parallel developments. The contemporaneity of proto-Food Vessels and proto-Urns with A beakers is seen, for example, at Maiden Castle and again at Peacock's Farm (in a level corresponding with that at Plantation Farm (Clark, 1933) which yielded A beakers and early Food Vessels). One sherd from Peacock's Farm (Clark, 1935, fig.13:2) has the everted and internally bevelled lip characteristic of many Food Vessels; at least two others have narrow overhanging rims (fig.13:1 and 4) and might well have been included in our list of Fengate pots. The Food Vessel is less well represented at Maiden Castle, though one sherd (Wheeler, 1943, fig.31:92) probably belongs to the group. But good specimens

of overhanging rims occur (fig.30:67; fig.34:127; several other sherds probably come from the upper parts of such rims) and the cord and fingernail ornament, as well as the form, link these specimens directly with the Fengate series. The latter types, as described in a previous section, were also contemporary with A beakers and occur at many sites unaccompanied by Food Vessel elements. It is significant, in view of the great disparity in numbers between Overhanging-rim Urns and Food Vessels in Bronze Age graves in southern England, that there is a similar disparity in the number of sites yielding proto-Urns and proto-Food Vessels. Similarly, the proto-Food Vessel element is better represented in East Anglia than elsewhere in the south and it is precisely in East Anglia that "Food Vessels" of various kinds are comparatively numerous.

We have seen that at Astrop, at Peterborough and at a few other sites there is evidence that the Peterborough ceramic tradition was influenced to some extent by Beaker techniques and styles of ornament. But, so far as pottery is concerned, this phase of interaction seems to have been transitory. Once the Overhanging-rim Urn had become established as a more or less standardized form, very little trace of Beaker influence can be detected. A few Urns, and notably that from Normanton 72 (Piggott, 1938, fig.21:1) seem indeed to reflect Beaker traditions in ware and arrangement of the

decoration. But it is important to note that, contrary to statements that have sometimes been made, the decoration has been produced by a finely whipped cord and not by a notched stamp (as pointed out by Stone, 1948, 152, and as can be seen from Piggott's drawing). Stone has further commented upon the absence of Beaker elements in the Bronze Age ceramics of Wessex,¹ and, with the few exceptions noted, such elements are in fact not discernible anywhere in the south of England. Further, Overhanging-rim Urns with hyphenated ornament are extraordinarily rare everywhere, if any such actually exist.[?] It may be that the comb-like impressions on certain Urns represent imitations of notched stamps, but the implements used have had teeth that were always circular and usually rather widely spaced (see, for example, Abercromby, 1912, 11, fig.17). Otherwise, every regularly recurring decorative motif and technique in Overhanging-rim Urns can be matched in Peterborough ware.

But notched-stamp impressions, coarser than those used on Beakers, appear commonly on Food Vessels (and occasionally also on Encrusted Urns) in the Highland Zone. This, together

1. Stone overlooked, however, the hyphenated ornament on a miniature cup recovered during the 1805 excavations at Site II, Snail Down (Devizes Museum) and a similar cup from Barrow 4, Everley (Abercromby, 1912, II, fig.242), which seems to be similarly ornamented. It is probable, too, that foot-rings of the kind seen on the Food Vessel from Fargo Plantation (Stone, 1939) are of Beaker inspiration.

with the fact that nearly everywhere in this area Food Vessels accompany inhumations more frequently than cremations, indicates that Beaker cultural traditions survived more strongly¹ here than in the South.

Stone has suggested (1948) that the reason why there are relatively few Beakers in the Wessex area, and why the Beaker episode had so little influence on native cultures, was that these intruders simply moved across Wessex on their way to the ore-bearing regions to the north and west. This suggestion fails to take into account the profound influence on funerary customs which the Beaker cultures seem to have exercised. For, so far as can be seen at present, it was they who introduced the custom of single-grave burial under round barrows. But another possible explanation of the phenomena referred to by Stone is that the Neolithic population was so large in the south of England that little suitable territory was left for settlement. Atkinson (1951, 79) has been able to demonstrate that in the upper Thames valley, where there is a remarkably high density of Beaker burials, the total number recorded is less than half the number of individuals represented by cremations in the relatively minute area

1. This observation is, of course, a direct contradiction of Fox's Law (that invasive cultures tend to impose themselves in areas of easy settlement and to be absorbed in areas of difficult settlement). But this Law, though a convincing generalisation in the light of existing knowledge some thirty years ago, was necessarily based upon incomplete and imperfectly understood evidence. Recent research is beginning to show that as a generalisation it is of doubtful validity.

occupied by the Neolithic cemeteries at Dorchester. And, although large bodies of workers need not have been engaged in their construction, the enormous ritual monuments of Wessex the Dorset Cursus, Durrington Walls, Avebury and others - as well as the number of long barrows, imply the presence of a far bigger native population than can be inferred from other existing archaeological evidence.

Returning now to the question of Food Vessels and their relationship to Peterborough ware, we may note first the decorative techniques shared in common. We shall here concentrate upon the Food Vessels of Yorkshire type, and for the sake of brevity single illustrative examples will be cited from Mortimer (1905), the numbers cited being the serial numbers of his figures. Those features of the Food Vessels which seem to derive directly from Peterborough traditions are long lines of twisted (13) or whipped (394) cord; continuous lines made by impressions of short lengths of whipped cord placed end to end (358); straight cord maggots (375); curved maggots (37); irregular impressions made with a bird's leg-bone or similar implement (390); insised lattice pattern (371); herring-bone patterns made by incision or by pressing into the clay a simple stamp such as the edge of a flint flake (291). The first and last of these techniques could of course derive just as well from corded Beakers and from the related group, Willmot's "cord-zoned G", but it would be

difficult to find parallels for the rest except in Peterborough or Peterborough-influenced wares.

In general there is little similarity between the rim and body shapes of Food Vessels and Peterborough ware and no light can here be thrown on the factors responsible for the morphological characteristics of the Yorkshire Food Vessel. On the other hand, the ridges of the English Ridged Food Vessel (as that from Fargo Plantation, Stone, 1943, Pl.III:B) might well be related to ridged Peterborough pots of the type illustrated in FIG.98. Further, the distinctive triangular form of the rim of the Fargo Plantation Food Vessel is well matched on a pot from Peterborough (FIG.61) and also on the Peterborough pot from Arbor Low (Piggott, 1931, fig.18:3). But some other ancestor or ancestors as yet untraced must have been responsible as early as A beaker times for the proto-Food Vessels of East Anglia, which are clearly related in form to the Yorkshire type in general.

The developmental history of the Overhanging-rim Urn seems to be relatively straightforward by comparison. Although a few collared Beakers do exist which bear a superficial resemblance in shape to Overhanging-rim Urns¹, it would be difficult indeed to show that there was any connexion between the two. The prototypes of the urns are clearly to

1. E.g., a specimen from Houghton, Hunts.; Museum of Archaeology and Ethnology, Cambridge, no.30.65.a.

be found in the Fengate type of Peterborough ware,¹ which in turn derived just as clearly from Mortlake ware. Since the chronological succession of urn forms (if such indeed can be demonstrated) has still to be worked out on the basis of independent dating evidence more reliable than that used by Abercromby, we cannot here make reference to "early" or "late" types. In this connexion, however, certain observations may be made. The Neolithic Fengate material includes both very narrow rims (FIG.71:21) as well as many rims as deep as those on average urns (FIGS.65, 84, 85). Further, conical pots, whose form is dominant in urns,² are nearly all bipartite (FIGS.⁵³69, 71, 72); the only specimen with a neck at all similar to those seen on tripartite urns is FIG.63. Since, however, the existing material consists so largely of rim sherds, it is possible that there were more tripartite forms in the Fengate series than at present appears. In any case, it is evident that neither depth of rim nor shape below the rim can safely be taken as indicators of the relative dates of urns. Finally, it is noticeable that, although the majority of urns stand reasonably securely on their bases, some of the specimens figured by Abercromby (1912, 11) are very nearly as top-heavy as some Fengate pots seem to have been and a high

1. As already recognized by Abercromby (1912, 11, 9), who cited the Peterborough pot from ~~Upper~~ Swell (Pales Wood South) as the prototype.
2. The cylindrical pots of Fengate type seem to have had few successors. Note, however, cylindrical urns figured by Abercromby (1912, 11, fig.493a) and by Mortimer (1905, fig. 335).

proportion retain the distinctive base in the form of a narrow foot that is seen in FIGS. ^{53,} 67, 69 and 72.

The similarities in decoration between Peterborough ware and Overhanging-rim Urns can most conveniently be shown by reference to Abercromby's corpus (1912, 11) where a representative series of some 215 decorated urns of this type is illustrated. A general comparison may be made in tabular form, showing the motifs and techniques, examples of their use in Peterborough ware, and the approximate number of urns bearing the same motifs illustrated by Abercromby.¹

<u>Motif</u>	<u>Peterborough ware</u> (representative specimens)	<u>Overhanging-rim</u> <u>Urns</u> (approximate no.)
Herring-bone or chevron patterns, cord-impressed	FIGS. 47; 76:3	24
Herring-bone or chevron patterns, impressed with edge of flint flake, caneiform stamp, or drawn	FIGS. 43, 63	25
Chevron or herring-bone pattern in framework of horizontal or vertical lines, cord-impressed	Wheeler, 1947, fig. 30:67	15
Lattice ² pattern, cord- impressed or incised	FIGS. 96, 107:2; Piggott, 1954, Pl. X:2	34
Rim or neck covered with pits	Piggott, 1954, Pl. X:2	16 ²

1. Only approximate numbers can be given, since Abercromby's illustrations do not always show detail clearly.
2. Excluding lines of small pits made with a comb-like implement.

<u>Lotif</u>	<u>Peterborough ware</u> (representative specimens)	<u>Overhanging-rim</u> <u>Urns</u> (approximate no.)
Crescentic cord maggots	FIGS.36:1; 60	7
Filled triangles, cord impressed or incised	FIGS.55; 78:4; 84	29
Lozenge patterns, cord impressed or incised	FIG.67	5
Hurdle pattern, cord impressed or incised	FIG.85:6	24

This list accounts for nearly all the major decorative features to be seen on the urns figured by Abercromby. Two techniques, impressions made by plaited cords and by combs with widely spaced, circular teeth, have not yet been recorded in Peterborough ware. About fifteen of the urns figured by Abercromby have a line of pits, made with the tip of the finger or with an implement, encircling the base of the neck, the shoulder or other parts of the vessel. It seems probable that such features represent the survival of the line of pits in the neck so common in Peterborough ware, even in its Fengate style. It may also be noted that whipped cord impressions are comparatively rare in Fengate ware as in Overhanging-rim Urns (only 6 specimens figured by Abercromby can be seen to have whipped cord) and that twisted cord was evidently preferred by the makers of both these ceramic forms.

In view of the suggestion previously made that hurdle and triangular patterns had a symbolic value and may represent

the adoption in some form by the makers of Peterborough ware of a system of beliefs introduced primarily to Ireland and western Scotland by immigrants from the Mediterranean, it is interesting to see that these patterns survive strongly on Overhanging-rim Urns. Of the 215 decorated urns of this type illustrated by Abercromby, hurdle and triangular designs occur on about 53 specimens; the herring-bone or chevron and lattice patterns, which in Neolithic ceramics are the distinctive features of Peterborough ware, occur on some 83 specimens altogether. Now it might be suspected that the Irish Sand-hill wares would have played some part in the development of Bronze Age ceramics in Ireland and perhaps in Scotland, since the hammer-head rim could very well have evolved into an overhanging rim. If this were so, we should expect to find in these areas a very high proportion of urns bearing geometric patterns. But, so far as can be judged from the random and incomplete selection of Scottish and Irish Overhanging-rim Urns figured by Abercromby, there is no indication that such symbolic designs occur more frequently here than elsewhere. Further, herring-bone, lattice and pitted motifs seem to be just as common as in the south of England.

Future research may reveal that certain motifs tend to occur more frequently in some areas than in others; but at present no differentiation on a geographical basis can be seen. It looks, then, as though the Overhanging-rim Urn really did

originate in the south of England (as suggested by Abercromby, 1912, 11, 23¹), so that the presence of this ceramic form in the Highland Zone indicates a northward and westward movement of population. The symbolic designs which appear on such urns in Scotland and Ireland will in fact have been carried back again towards their centre of diffusion.

viii. The origins of the Peterborough complex

It will have been noticed that in the preceding description of Peterborough ware, its associations and relationships, the term "culture" has not been used. As Piggett has emphasized (1954, 302), a culture may not be defined solely by a ceramic style; yet there are remarkably few elements of material culture, apart from ceramic style, which can serve to distinguish the way of life of the makers of Peterborough ware from that of other contemporary groups in Britain. As was shown in the discussion of the mode of occurrence of Peterborough ware, this kind of pottery is frequently found in the beds of rivers, whereas Rinyo-Claston ware is not. We may therefore deduce that the makers of Peterborough ware engaged in some kind of activity not shared by the other group.² But the bowl of Mildenhall type from the River Nene

1. Though probably not south of the Thames as he thought.
2. Since we are here engaged in defining the cultural distinctions between formally Neolithic groups, the fact that Beakers and other kinds of pottery also occur in the beds of rivers is not immediately relevant.

shows that people of Windmill Hill origin did, at least to some extent, share in this activity, and as is evident from the comparative table of the modes of occurrence of all three Neolithic groups (Appendix VIII), the patterns of the Windmill Hill and Peterborough groups in south-eastern England are remarkably similar. Outside our area, Peterborough ware has been found with collective burials in sub-megalithic tombs in caves or rock shelters; but collective burial is the rite proper to the Western Neolithic cultures and even the use of caves for the purpose is not absolutely confined to the makers of Peterborough ware, for sherds of Western Neolithic pottery are said to have been found in similar circumstances in a cave at Ebberston, E. R. Yorks. (Stickland, 1952). Again, the custom of building round barrows was, as we have seen, evidently adopted by the makers of developed styles of Peterborough ware from the intrusive A-C beaker groups with whom they came in contact. The jet belt-sliders from some of these graves are the only artifacts which seem to be associated exclusively with Peterborough ware; but these, too, appear at a late stage in the stylistic development of the pottery and probably are not altogether unconnected with the jet rings and buttons used by A-C Beaker folk. Thus it is difficult to define in any satisfactory manner an independent Peterborough culture. Yet, as shown by the comparatively high number of localities yielding Peterborough ware in south-

eastern England alone and by the dominance of the Peterborough tradition in Bronze Age ceramics, we are obviously dealing with a large and flourishing portion of the total population of southern England in Middle and Late Neolithic times.

The question of the origins of this group is thus of fundamental importance to our understanding of the composition of the population and of the elements contributing to the cultural pattern of the Neolithic and Bronze Ages. In Section vi an attempt has been made to show that the Peterborough ceramic complex can be divided into three developmental phases which succeed one another in time and that, although less evolved styles evidently persisted after more evolved ones had appeared, Ebbsfleet ware can be seen to have been the earliest in the series and Fengate ware the latest. If these arguments are valid, it then follows that our concern here is with the origins of Ebbsfleet ware and of the cultural elements associated with it.

The sites which are of importance in this connexion are the two causewayed camps of Whitehawk and Combe Hill, the Severn-Cotswold chambered tomb of Nympsfield, and the related tombs of Whiteleaf and Site I, Barton Hill Farm. As described in detail in a preceding section, we find that at these sites Ebbsfleet ware occurs in purely Western Neolithic contexts and that at Barton Hill Farm and at Whiteleaf it was actually manufactured by potters who also produced the

Mildenhall variety of Windmill Hill ware (Appendix III, 224). Further, such characteristically Ebbsfleet-Peterborough motifs as chevron and lattice patterns appear on the bowls of developed Windmill Hill type at Whiteleaf¹, so that the two ceramic traditions are here interfused. Moreover, in no instance can it be shown that an artifact of "non-Western" type was directly connected with the presence of Ebbsfleet ware.

The sites we have been discussing are all likely to be Middle Neolithic in date, so that evidence for a certain amount of cultural interaction is to be expected, and this might afford an explanation for the presence of the "alien" ceramic style. But, owing to the fact that, as demonstrated in Section II, Ebbsfleet ware is characterized not simply by decoration but also by individualities of shape, it is also possible to find traces of this ceramic style in primary or otherwise pure Western Neolithic contexts. To the list of such occurrences given in the Whiteleaf report (Appendix III, 227) the following may be added: Haldon, Devon - sherd from a necked jar (Willock, 1936, Pl.LXVII, T(a)); Hambury Fort, Devon - sherds from necked jar of form E4, with fingernail impressions inside the rim and on the shoulder (Liddell, 1936,

1. As also at Lion Point, Clacton (FIGS.4, 5, and Appendix II). The small circular dots on an Ebbsfleet sherd from the Thames (FIG.90:5) and on others from the type-site (Burchell & Piggott, 1939, figs. 4(a), 5 and 7:6) are similar in character to the punctuations on Mildenhall ware too.

no.P.422); Maiden Castle, Dorset - from the ditch-filling of the Long Mound, necked jars and externally thickened rims (Wheeler, 1943, fig.30:77, 83; fig.31:87). In every instance the sherds in question were singled out in the original reports as being atypical, yet there is no doubt of their contemporaneity with the Western Neolithic wares with which they were found. The fact that one of the atypical sherds from Maiden Castle lay in a hearth in the ditch-filling of the Long Mound, below the lowest level yielding Beakers, gives a clue as to the approximate date at which these novel forms appear in Wessex.¹ Such a date, somewhere in the Middle Neolithic period, would seem appropriate for the two bowls of Ebbsfleet type from Nympsfield.

Although, in the circumstances, it is impossible to be sure that the Nympsfield bowls were the property of the builders of the tomb, it is at any rate suggestive that a close parallel for the necked jar (and thus for the whole series of necked jars in Ebbsfleet ware) comes from La Planche-a-Puare, Ile d'Yeu (Daniel, 1939, fig.9:C). This transepted gallery grave is one of the Retz group which Daniel believes to be ancestral to the Severn-Cotswold tombs. It is therefore conceivable that settlers from the Morbihan

1. An earlier appearance may be indicated by the rim sherd of form El/3 found at a depth of 6-7 feet in the Outer Ditch of Windmill Hill (no.19418) but the correlation in date between the primary periods of Windmill Hill and Maiden Castle is uncertain.

and round the mouth of the Loire were responsible for the introduction of the ceramic forms characteristic of Ebbsfleet ware (for it is to be remembered that the pottery we have been discussing is plain or decorated in the simplest fashion).

It may be that in the mixture of styles to be seen in Whiteleaf pottery we can detect evidence for the movement of this group from the area of primary settlement in an easterly direction and for contact with other groups of Western Neolithic origin. At Combe Hill, Whitehawk and Ebbsfleet there are still many plain or simply ornamented pots; but the more elaborate decorative style which is beginning to emerge at these sites perhaps reflects the influence of the lavishly ornamented wares of Windmill Hill origin in eastern England. We have already seen that certain decorative motifs and techniques are shared by Ebbsfleet and Mildenhall wares, and, given the general impulse to embellish the pottery in a variety of ways, it can readily be seen how such seemingly "non-Western" motifs could develop. For incised lattice and chevron patterns may represent merely elaborations of simpler patterns of oblique strokes which appear so commonly in developed Windmill Hill wares. The large pits which appear at Combe Hill and Ebbsfleet look exotic; but the idea of ornamenting a vessel with a line of pits (or holes) can be traced back to the pottery from the primary levels of Windmill Hill. The difference lies in the fact that the makers

of Ebbsfleet ware normally used the tip of the finger or thumb and that the pits were most frequently made in the hollow of the neck. It is interesting to see, in this connexion, that a sherd from Whiteleaf (Appendix III, fig.6:22) has had a line of perforations round the neck; in form it is allied to the Ebbsfleet group and it may be taken as marking a stage in the development towards the more characteristic decorative style. Simple bird-bone impressions were used sometimes by the makers of Mildenhall ware; from this it is but a step to using the articular ends of such bones to produce a more elaborate effect (such effects, however, are more characteristic of the developed Mortlake style).

This leaves only the cord impressions unexplained. It may well be that the idea of ornamenting pottery by pressing twisted or whipped cords into the clay was introduced from abroad. On the other hand, this idea is not unrelated to that of using a string of small seeds in the same way, as was done by the potters at Michelmersh, Abingdon, Whitehawk and Selsey. And lines of small rounded impressions, evidently made by a similar device, occur on a sherd of Ebbsfleet ware from Thorpe and on a sherd of Mortlake ware from Kempston. At Abingdon and Lough Gur, too, there are rims ornamented in such a way as to produce the effect of twisted cord. Since one seed-impressed rim sherd is known to have come from the bottom of the outer ditch at Abingdon, it is just possible

that this technique was evolved before the use of cord was introduced. Of course the seed and pseudo-cord ornament might just represent attempts to imitate real whipped and twisted cord impressions, though there is no evidence to suggest that such were in use prior to the initial occupation at Abingdon.

One further feature seems to link the Ebbsfleet, and in fact all Peterborough, styles with the Whitehawk-Mildenhall styles - the custom of applying ornament to the interior. Except in Rinyo-Clacton ware, internal decoration is uncommon in other Neolithic ceramic groups in Britain (and seems hardly ever to appear in the Neolithic pottery of western or northern Europe except in the broad-rimmed vessels of the evolved Passage-grave style). The general similarity in form between the carinated Mildenhall bowls and the developed Mortlake style has already been commented upon.

The theory which seems to account most satisfactorily for all the relevant facts is that the Peterborough complex sprang directly from a Western Neolithic source. The plain pottery of characteristic Ebbsfleet forms which first appeared in (probably) the course of the Middle Neolithic in Gloucestershire and Wessex retained its morphological identity during the migration towards the east of England but, under the influence of ceramic fashions in that area, developed its own ornamental style. It is probable that Whitehawk and

Combe Hill, those causewayed camps in which Ebbsfleet ware occurs in a primary position, were the last to be constructed. The social (or economic) system represented by the camps had become outworn. A new way of life, presumably better adapted to conditions existing after the primary period of Neolithic settlement, was begun. There is at present little that can be said about this new way of life, except that it was evidently nomadic, with stock-breeding perhaps playing a more important part in the economy than agriculture, and that it involved some kind or kinds of activities which resulted in pottery coming to rest in the beds of rivers.

The available evidence suggests that this change took place in south-eastern England. By the time the Mortlake style had developed, the Windmill Hill culture (as represented by pottery and monuments, at any rate) was beginning to disappear. Cord-ornamented sherds were dropped in the partially filled ditches of the causewayed camps in Wessex and cord-ornamented sherds were incorporated in the final blockings of the chambered tombs. By the time the Fengate style had appeared, the Windmill Hill culture as such seems to have become extinct,

But it is incredible that the bearers of the culture had also become extinct. The solution to the mystery of the Windmill Hill culture's disappearance is surely that the people had changed their pottery style and their habits, so

that in the archaeological record they appear in disguise.
The real mystery lies in the reasons for these changes.

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The foregoing suggestions as to the origins of the Peterborough complex are of course entirely contrary to currently accepted theories. The latter have most recently been summarized by Pigott (1954, 312-16) and they involve two hypotheses: (1) that there is a Mesolithic element in the complex; (2) that the Ebbsfleet ceramic style must reflect the arrival in Britain of a hybrid group from the Baltic, incorporating elements proper to the Eurasiatic (or Pit-comb Ware) cultures and to the C group of the TRB¹ (or Funnel-beaker) culture; It will be convenient to examine these hypotheses in the order stated.

(1) The postulated Mesolithic element. As explained in connexion with the artifacts associated with Peterborough ware, there is no evidence that the makers of this kind of pottery had a flint-working tradition in any way distinguishable from that of the Windmill Hill culture. It is possible that the single specimens of petit tranchet or derivative arrowheads that have occasionally been found with Western Neolithic ware or with Western Neolithic plus Peterborough ware indicate the absorption of Mesolithic peoples, but this

1. This convenient designation has recently been suggested by Becker (1955) for the Trichterbecher or Tragtbäeger cultures.

is another matter. Such concrete evidence as there is for the basic economy of the Peterborough complex indicates that it was a food-producing one and that hunting or other methods of exploiting natural food resources played little part. Only the riverine distribution of the pottery might be interpreted as a contra-indication of this. But the presence of pottery in river beds may just as well represent either an activity not directly connected with food supplies or the rational exploitation of natural resources to supplement the diet at a time when the original economy introduced by the Windmill Hill culture was being adapted to altered conditions.

(2) The postulated Eurasiatic-TRB element. As Scandinavian archaeologists proceed with the classification and chronological ordering of the Neolithic cultures of Denmark and Sweden, it becomes more and more difficult to find there the necessary correlations and combinations to explain the Peterborough complex. In the most recently published study of the south Scandinavian Neolithic (Becker, 1954^a) it is shown that the possibility of fusion between the C group of the TRB culture and the Eurasiatic culture is remote indeed, for the former occupies the final phase of the Early Neolithic and the latter is not known to have appeared before Middle Neolithic II.¹ In any case, another and more economical explanation has been put forward in the preceding pages for the lattice and pitted ornament in Peterborough ware which

1. Though see Adenbaum at the end of this section, p. 183.

Piggott would derive from the Eurasiatic stylistic tradition; the vessels of conical shape, to which he also refers in this connexion, have been shown to belong to the final, not the initial, stage of the Peterborough complex.

If there is to be a connexion between Ebbsfleet ware and the TRB complex, it should be with group C of the latter since this is the first group in which both twisted and whipped cord were used. But apart from the use of cord impressions, Ebbsfleet ware has almost nothing in common with this TRB group. The crescentic maggots and concentric semi-circles to which Childe has drawn especial attention as indicators of the place of origin of the Peterborough complex (Piggott & Childe, 1932; Childe, 1952) do not appear in England until the late Mortlake-Fengate stage. By this time the A-C Beaker cultures were already established in Britain and the period can be correlated with the Late Neolithic in Scandinavia. The bone ring-pendant, associated with a Beaker in a grave secondary to, but not necessarily much later than, the ring-ditch enclosing an inhumation with a jet belt-slider and polished-edge knife at Linch Hill Corner, Stanton Harcourt, is best paralleled by the ring-pendants from the Late Neolithic stone cists of Sweden (Grimes, 1944), but by itself has perhaps little value as dating evidence. Of much greater value is an object from an A-beaker grave in Yorkshire which must have been imported from Denmark. This is an amber button,

oval in plan and triangular in ^{cross-}section, with a V-shaped perforation through the flat underside (Mortimer, 1905, fig.213). It was associated with fragments of an A beaker, a flint dagger a small jet button and a jet ring in the primary grave of Barrow 124, Acklam Wold. Becker has recently shown (1954b) that such buttons were manufactured in Late Neolithic times in Denmark. Since the Acklam Wold specimen is made of amber, it can only be an import from this source. The other buttons of this shape in Yorkshire (Mortimer, 1905, figs.290 and 607) are made of jet, and are presumably local imitations. Thus, since the concentric semicircles and curved maggots in Peterborough ware are approximately contemporary with this A-beaker grave, they are separated by the whole of the Scandinavian Middle Neolithic period from the similar motifs on the C group of the TRB culture. In view of this, the alternative suggestion put forward as to their origin in Section vi seems more plausible.

If it is thought that nevertheless it is necessary to look for a foreign origin for the cord ornament on Peterborough ware, there is one piece of evidence that could be interpreted as representing the presence of the group who might have introduced this technique. The thin-butted flint axe from the mound of Julliberrie's Grave (Jessup, 1939) would be appropriate to the C group of the TRB culture and the long barrow itself may well have been constructed at about the time when cord ornament first appears on Ebbsfleet

ware. But if this were the case, only the axe¹ and the technique of decoration could be attributed to such immigrants. For the chevron and lattice patterns characteristic of the Ebbsfleet and Mortlake styles do not appear in the pottery of any TRB group. Although it has been suggested (Childe, 1952; Pigott, 1954, 314) that single vessels from Combe Hill and Ebbsfleet resemble funnel-beakers in form, this is in fact a very generalized shape. Further, all known groups of the TRB culture used also funnel-beakers with lugs, lugged and collared flasks and other types² which have no counterparts or imitations in the Peterborough ceramic complex. It is therefore difficult indeed to see how the Peterborough style could derive from such a source.

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The alternative theories as to the origins of the Peterborough complex which have been suggested in this study leave many problems unsolved. But at least they appear to account for all the known facts in a more economical and satisfactory manner than the theories currently entertained.

1. There are, it is true, other specimens of thin-butted axes in southern England (e.g., one, or perhaps two, from the Thames in the Layton Collection, Brentford Public Library), but the total number seems to be very small. The later, thick-butted, type occurs in much greater numbers in Britain. But neither the place of origin of the thin-butted axes nor the relative date at which they arrived in this country can be determined exactly, for the type continued in use in Scandinavia during the first phase of the middle Neolithic and probably later still in the Passage-grave culture of north-western Germany and northern Holland.
2. As shown by Becker (1947 and 1954a).

Addendum

Since the remarks on p.179 were written, Ayräpää (1955) has published a new study of the relationships between the Finnish and Swedish Eurasiatic wares and the TRB C-group. He argues that the Sperrings style (I.1a) can be correlated with the final phase of the Early Neolithic in the Scandinavian chronological scheme, and suggests that the whipped cord ornament on pottery of this earliest type in Finland may be interpreted as reflecting contact with the C-group. Thus the necessary preconditions may after all exist for Piggott's theory that Ebbsfleet ware may be explained in terms of such a hybridization. But this new evidence does not materially affect the argument set forth in the preceding pages.

THE RINYO-CLACTON COMPLEX

When we come to the Rinyo-Clacton¹ complex it seems, on present evidence, that we may safely equate ceramic style with culture. Not only is the pottery distinctive in form and decoration, but it is typically found in association with a variety of other distinctive artifacts. Although such artifacts may occur occasionally and singly in direct association with other kinds of pottery, they are never thus found as assemblages. The pottery and artifacts are further associated together in special contexts - within and round the houses of the unique villages in the Orkneys and characteristically in pits in the South. In addition there is evidence, albeit negative in nature, that the basic economy of this culture may have been more specialized than that of other Neolithic groups in Britain.

Discoveries since 1936 have not necessitated any major revision of Professor Piggott's first classification (in Warren et al., 1936) of the pottery in its southern, or Clacton, facies. As this style has again been fully described by the same author at a more recent date (Piggott, 1954, 338 ff.), it will be unnecessary to deal with it at length here; we shall, however, discuss in greater detail one or two sub-groups which it is now possible to distinguish.

1. The nomenclature recently suggested by Piggott (1954, 322) will be followed.

1. Distribution of the pottery in the south-eastern area

To the lists published by Piggott in 1936 and 1954¹ fifteen new sites have been added, extending the distribution to Bedfordshire (2 sites), Northamptonshire (2 sites) and Sussex (1 site); sites from counties already represented in the previous lists are increased as follows: Berkshire, 1; Cambridgeshire, 3; Oxfordshire, 2; Suffolk, 4. Thus Rinyo-Clacton pottery has been found at 33 sites in 31 localities spread over 13 counties in the south-eastern area, as against 15 localities in the western portion of the southern province, of which 11 are in Wiltshire.² As the distribution map, text-fig. 6 shows, the main concentrations are in the Upper Thames Valley and in East Anglia, with peripheral scatters to north and south.

The present distribution indicates that riverine and fenland environments were frequented to much the same extent as the chalk downlands. It should be noted, however, that no Rinyo-Clacton pottery has been recovered from river-beds.

In Table VII are listed, by counties, all the sites known at present in the area.

1. Here the term "site" is equated with "find-spot", of which there may be more than one in a "locality"; locality is used in the sense of a place of which the name appears in Bartholomew's Survey Gazetteer of the British Isles.
2. The figures for the south-western region are based upon Piggott's lists (1936 and 1954) with the addition of three more sites: Durrington Walls, Wilts. (Stone, Piggott & Booth, 1954); Snaildown, Wilts. (information from Mr. N. Thomas); and West Harptree, Som. (information from Mr. A.M. ApSimon).

TABLE VII

THE RINYO-CLACTION COMPLEX

List of sites in the south-eastern area.

An asterisk indicates new or previously unrecognized material, or a site not included in Piggott's lists of 1936 and 1954.

Column 1: Pottery illustrated in the catalogue, not previously published.

Column 2: Pottery illustrated in the catalogue, originally published elsewhere.

Column 3: Unpublished pottery, described but not illustrated.

Column 4: Pottery adequately illustrated elsewhere, but described in the catalogue.

		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
<u>Beds.:</u>	* Dunstable - Barrow 2, The Five Knolls.	x	-	-	-
	* Leagrave - Waulud's Bank.	x	-	-	-
<u>Berks.:</u>	* Abingdon.	-	-	-	x
	Blewbury - Churn Plain.	-	x	-	x
	Sutton Courtenay.	-	-	-	x
<u>Cambs.:</u>	Cambridge - Hills Road.	-	-	-	x
	* Cherry Hinton - South Barrow.	x	-	-	-
	* Chippenham - Barrow 2	-	x	-	-
	Ely	x	-	-	-
	* Shippea Hill - Plantation Farm.	-	-	-	x
<u>Essex:</u>	Clacton - Lion Point.	x	-	-	x
	Newport	-	-	x	-
<u>Hants.:</u>	Christchurch - Furzy, Latch Farm. . .	-	x	-	-
	Christchurch - Hurn, Barrow 1	-	-	-	x
	Roundwood - The Round Barrow.	-	x	-	-
<u>Herts.:</u>	Pishobury	-	-	-	x
<u>Hunts.:</u>	Orton Longueville	-	-	-	x
<u>Kent:</u>	East Malling - Snodland Quarry. . . .	-	-	x	-

TABLE VII

THE RINYO-CLACTON COMPLEX (contd.)

		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
<u>Norfolk:</u>	Edingtonthorpe.	x	-	-	-
	West Runton.	-	-	-	x
<u>Northants:</u>	*Peterborough - Fengate Site.	-	x	-	-
	*Peterborough - Tebb's Pits	x	-	-	-
<u>Oxon.:</u>	Cassington - Tolley's Pit.	-	-	-	x
	*Cassington - Pit I ;	-	-	x	-
	Dorchester - Site I.	-	-	-	x
	*Stanton Harcourt - Partridge's Pit . . .	x	-	-	-
<u>Suffolk:</u>	Creeping St. Mary.	x	-	-	x
	*Great Bealings	-	-	x	-
	Honington.	-	-	-	x
	*Icklingham	x	-	-	-
	*Ipswich - Dales Road Brickfield. . . .	x	-	-	-
	*Pakenham - Grimstone End	x	-	-	-
<u>Sussex:</u>	*Findon - Church Hill Flint Mine. . . .	-	-	x	-

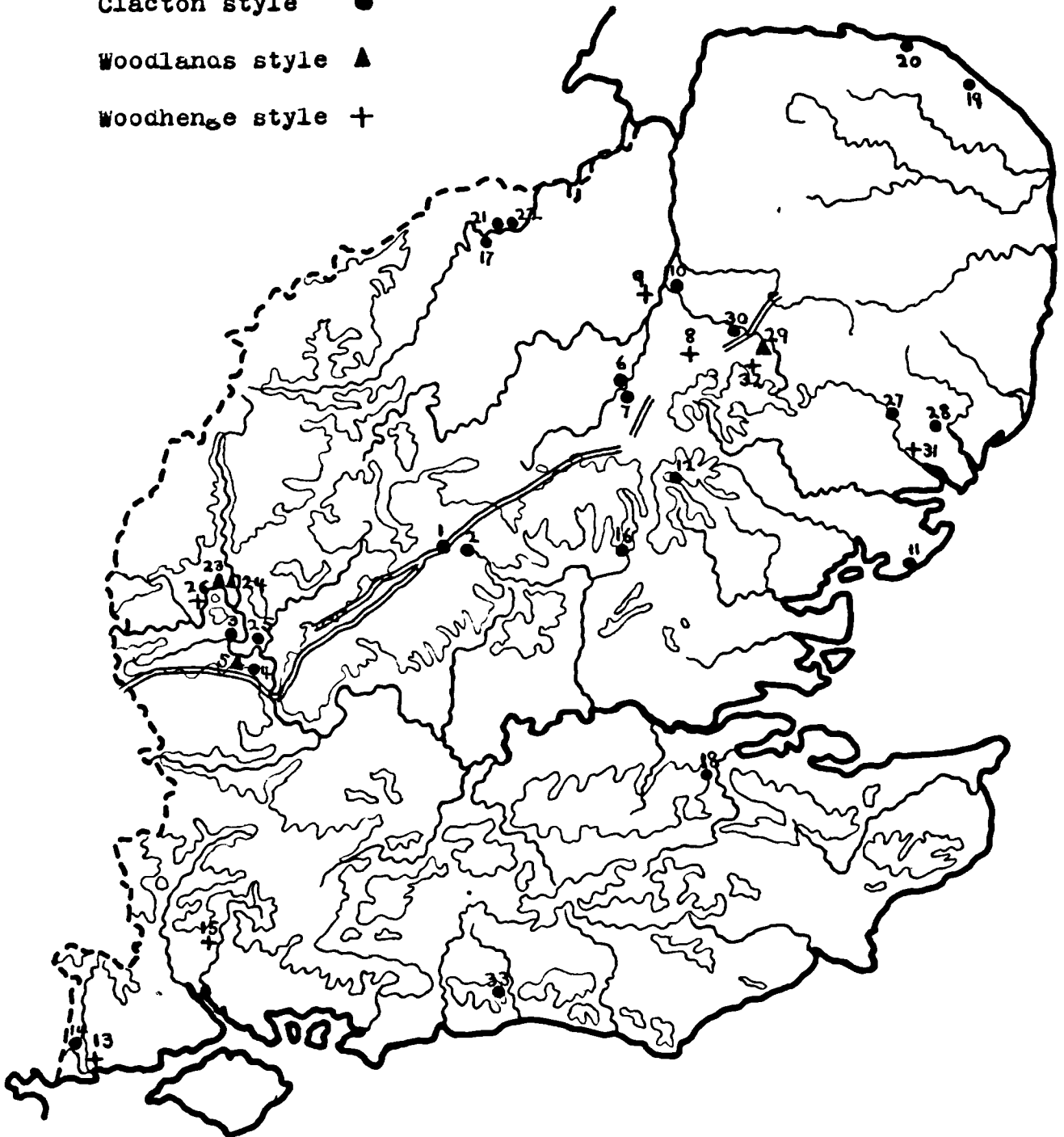
THE DISTRIBUTION OF RINYO-CLACTON WARE

IN SOUTH-EASTERN ENGLAND

Key to map, text-fig.6.

- | | |
|----------------|---------------------------------------|
| 1. Beds.: | Dunstable - Barrow 2, The Five Knolls |
| 2. | Leagrave - Waulud's Bank |
| 3. Berks.: | Abingdon |
| 4. | Blewbury - Churn Plain |
| 5. | Sutton Courtenay |
| 6. Cambs.: | Cambridge - Hills Road |
| 7. | Cherry Hinton - South Barrow |
| 8. | Chippenham - Barrow 2 |
| 9. | Ely |
| 10. | Shippea Hill - Plantation Farm |
| 11. Essex: | Clacton - Lion Point |
| 12. | Newport |
| 13. Hants.: | Christchurch - Furzy, Latch Farm |
| 14. | Christchurch - Hurn, Barrow 1 |
| 15. | Roundwood - The Round Barrow |
| 16. Herts.: | Pishobury |
| 17. Hunts.: | Orton Longueville |
| 18. Kent: | East Malling - Snodland Quarry |
| 19. Norfolk: | Edingthorpe |
| 20. | West Runton |
| 21. Northants: | Peterborough - Fengate Site |
| 22. | Peterborough - Tebb's Pits |
| 23. Oxon.: | Cassington - Tolley's Pit |
| 24. | Cassington - Pit I |
| 25. | Dorchester - Site I |
| 26. | Stanton Harcourt - Partridge's Pit |
| 27. Suffolk: | Creeping St. Mary |
| 28. | Great Bealings |
| 29. | Honington |
| 30. | Icklingham |
| 31. | Ipswich - Dales Road Brickfield |
| 32. | Pakenham - Grimstone End |
| 33. Sussex: | Findon - Church Hill flint mine |

Clacton style ●
 Woodlands style ▲
 Woodhenge style +



Text-fig. 6: The distribution of Rinyo-Clacton ware in south-eastern England.

Scale: 24 miles to the inch; 500' contour, major rivers, and course of the Icknield way shown.

11. The pottery

Ware. In marked contrast with the Rinyo facies, where the clay is full of coarse fragments of stone (Childe, 1948, 34 ff.) the fabric of the southern wares is characteristically gritless - or at any rate lacking in visible grit. This may simply mean that the potters in the south took greater pains to remove impurities from the clay; Professor Childe has expressed doubts to the writer as to whether the fragments of stone in the Orcadian pottery had been added deliberately to serve as temper. The general absence of visible grit in the southern facies does, however, contrast markedly with the gritty fabrics normally found in other kinds of Neolithic pottery in the area. Flint and stone grits are quite rare and when they do occur the fragments are of small size; shell and potsherd grits occur more frequently; vesicularity of surfaces in certain instances, as at Clacton, seems to indicate the loss of soluble temper of some kind. Varying amounts of sand may be present in the clay, but such mixtures need not be deliberate.

As in the North, the fabric is comparatively soft and the pots have been ring-built; but, owing to the naturally smoother surfaces of the semi-finished pots, thick slip was much less frequently used in the South, even for securing relief ornament. Laminated or flaky structure is not characteristic.

Colour varies from black and grey through brown to red and buff or yellow, but the range in the pottery from any one site is limited.

It may be observed that where, as at Clacton, more than one kind of pottery comes from the same site, the Rinyo-Clacton ware is nearly always distinguishable from the rest on grounds of paste and colour alone. This is even the case at Abingdon, where shell was used to grit both the Western Neolithic and the Rinyo-Clacton pottery. The same phenomenon was observed at Rinyo (Childe, 1948).

Forms. In all cases the pots have flat bases, occasionally splayed at the junction with the wall or with slight concavity of the underside and corresponding convexity inside. Both these features are represented at Pishobury (Piggott, 1954, fig. 57: 2, 3). The fragment of base from Tebb's Pits, Peterborough (Fig.119) is also splayed. The walls are usually straight, with the greatest diameter at the rim, forming the typical "flower-pot". But some pots seem to have been more or less cylindrical, as that from Ely (Fig.113); in a few cases there has been slight curvature of the walls (Peterborough, Fig.118:1); and once the form is biconical (Stanton Harcourt, Fig.120).

Decoration. The existence of a small number of undecorated pots which appear to belong to the group may be noted here -

from Honington (Fell, 1951, 40) and Waulud's Bank, Beds. There is at present no direct evidence for assigning such plain pots to a late phase in the South, though the apparent association of one with a crouched inhumation at Totterdown, Amesbury, Wilts. (Stone, 1935) may be of chronological significance. At Rinyo, however, lack of ornament was seen to be a late feature (Childe, 1948).

Following Piggott (1954, 338), we shall distinguish within the southern province two styles of decoration which take their names from Clacton and Woodhenge respectively, to which we shall suggest the addition of a Woodlands style, first recognized in the pottery from Pit 4, Woodlands, Amesbury, Wilts. (Stone & Young, 1948; Stone, 1949).

a. The Clacton style

Here external decoration is mainly by grooving and punctuation. The continuous "grooves"¹ are typically flat-bottomed (as Creeping St. Mary, Figs. 121:10 and 122:15, 21), but in fact they vary from narrow incisions (Dunstable, Fig. 108:2; Creeping St. Mary, Fig. 121:6) to broad troughs, up to $\frac{1}{2}$ " wide, with rounded bottoms and clearly made with the fingertips (Blewbury, Fig. 110:1; Edingtonthorpe, Fig. 117:6; Creeping St. Mary, Figs. 121:3, 9 and 122:18, 22). Punctuation

1. The technique is quite distinct from the "channelling" on Western Neolithic pottery.

has sometimes been applied by means of a small point with a rounded end (Creeting St. Mary, Fig.121:12), but often the depressions tend to be oval in shape (at Clacton, as in Warren, 1936, Pl.XL: 7,8); irregular impressions occur occasionally (Peterborough, Fig.118:4). Related to this dotted ornament, and characteristic at Clacton, is the technique whereby larger oval depressions have been formed either by pressure or by scooping out a small quantity of clay (Warren, 1936, Pl.XL: 13-16).

Grooves may simply encircle the pot in more or less continuous lines from rim to base (as Pishobury, Piggott, 1954, fig.57;3, and probably some of the pots represented by large sherds from Creeting St. Mary). But formal arrangements seem to be more common; the patterns are normally in horizontal bands and take the form of concentric lozenges, multiple chevrons (i.e., chevrons set one within another), or a series of triangles set one within another and sharing a common base. Dotted ornament may fill the centres of such patterns or extend over all the voids¹. In the more elaborately decorated vessels three ornamental bands may be present, separated from each other by simple grooves. All these motifs and arrangements are to be seen in the pottery from Clacton (Warren, 1936, fig.4 and Pl.XL).

1. It is important to note that dot-filled triangles and lozenges are typical of the Clacton but of no other style. In the Highland Zone they occur on the vessel from Unival (Scott, 1948, Pl.VII), but are quite uncommon at Skara Brae and Rinyo.

External relief ornament was sparingly used in the Clacton group. At Clacton itself there are a few small sherds with flat applied cordons in the Rinyo style and one of the sherds from Icklingham (Fig.123:1) is similarly decorated. Deserving of special note, however, is the small sherd from Clacton (Fig.114:2) with three tiny applied pellets. These appear to be unique in the South, but are clearly related to the Rinyo II style of the northern province.

But internal relief ornament is particularly characteristic at Clacton and a few other sites, though only at the former are the applied strips worked into elaborate designs¹ - as Warren, 1936, fig. 4:2 and 4. Elsewhere such internal decoration is confined to horizontal cordons, often bearing transverse notches (as Creeting St. Mary, Fig.122:23-24). More or less well developed internal rim bevels, sometimes also notched to form a ladder-pattern (Sutton Courtenay, Warren, 1936, fig.7:1-2; Creeting St. Mary, Fig.121:5) are typical of the Clacton style.

In a few instances the edges of rims are notched - Tebb's Pits, Peterborough (Fig.119) and Creeting St. Mary (Fig.122:20, and Piggott, 1954, fig.57:4-5).

Skeuomorphism. The technique whereby oval or elongated depressions were made in the clay has been referred to above

1. Such decoration is represented in the North only on a single unpublished sherd from Skara Brae (now in the British Museum, reg. no. 1938.1-1.106).

and is fully described by Piggett in his original account of the Clacton material (in Warren, 1936, 192). The manner in which these depressions form an interlocking horizontal pattern, often with transverse incisions on the untouched areas between (cf. Warren, 1936, Pl.XL: 13-14), suggests that the intention was to imitate the appearance of basketry, network or containers made of some woven material. Such designs occur, in a simpler form, at Creeting St. Mary (Fig.121:13) and Roundwood (Fig.116:2 & 4). There is one unpublished rim sherd from Woodhenge with oval scoops similar to some from Clacton (as Warren, 1936, Pl.XL, 15-16).

In the Upper Thames Valley this technique seems to be represented on a sherd from Abingdon (Leeds, 1928, Pl.LXXIV: 2,h) and again at Cassington (Leeds, 1940, Pl.II:J). On the Cassington sherd the desired effect has been produced by luting on to the wall of the pot minute rolls of clay to form a zone (or zones) of lozenges demarcated above and below by grooves.

We may note, in passing, that the effect so obtained on the Cassington sherd is remarkably reminiscent of the faceted butts of certain antler and stone maceheads - for example, those from Liff's Low and Maesmore.

As indicated by Piggett (1954, 340), skeuomorphism may be detected in another group of pots, best represented by

those from Woodlands, Amesbury, Wilts. (Stone, 1949). As this group appears to be characterized by a number of distinctive features, to be described below, a separate classification seems to be justified.

b. The Woodlands style

The close relationship between the pottery from Pit 4, Woodlands, Amesbury, and that from Honington was emphasized by Piggett in an appendix to Stone's description of the former. To this group may now be added the as yet unpublished sherds from Pit I, Cassington, Oxon., excavated in 1951.

The salient characteristics of this style are: small size of the vessels - the restored specimen from Woodlands is only $2\frac{3}{8}$ " high; walls often extremely thin - $1/16$ " in the second vessel from Woodlands; small horizontally perforated lugs - Woodlands and Cassington; pellets or thin rolls of clay straddling the rim in groups of two or three and evidently limited to one or two such groups¹; - all three sites; external decoration in the form of low cordons, semicircular or triangular in section, encircling the walls and converging to join each other at intervals - this feature is absent at Cassington, but here there are only three very small decorated sherds. The cordons sometimes bear transverse incisions or

1. Thus differentiated from the Rinyo II pots, where in most cases the pellets seem to have extended round the whole circumference of the rim.

have a "crimped" appearance resulting from pressure with a point or from arrangement in small undulations.

As suggested by Piggott (1954, 340-1), the plastic ornament on these vessels appears to be a skeuomorph of a knotted network; the points of juncture of the cordons are sometimes emphasized by transverse incisions to increase the resemblance to knots. It seems possible that the intention was to imitate a container, perhaps of bark or wood, carried in a sling made of cord, ~~or~~ thongs, grass, or a similar material. The perforated lugs and/or rolls of clay over the rim would then represent the loops necessary for the attachment of the handle or cord which would be held in the hand.

This arrangement is especially well seen on the small vessel excavated by J.W. Moore from a pit at Wykeham, near Scarborough, E.R. Yorks. (unpublished, Scarborough Museum). This vessel is virtually intact and closely resembles the restored specimen from Woodlands (Stone, 1949, fig.1a), but it has in addition a small perforated lug.

Similar small horizontally perforated lugs occur on the objects resembling vases-supports from Stonehenge I and Dorchester, Dorset (Piggott, 1938, fig.15) and just below¹ the rim of a sherd from Glenluce (Stevenson, 1946).

1. In this connexion it may be observed that one of the sherds from woodhenge (Cunnington, 1929, P⁴.26:4) has a transverse perforation, 3mm. in diameter, which passes beneath the raised circular element and extends beyond it on either side in the wall of the pot. This cannot have been a lug. Two possible explanations present themselves: either the hole was made by a twig inserted in the clay during manufacture of the pot, perhaps to help hold on the disc before firing;

To the Woodlands group may perhaps be added the following sherds by reason of their convergent and sometimes alternately notched cordons: Tolley's Pit, Cassington (Leeds, 1940); Pits P and T, Sutton Courtenay (Leeds, 1934); Broadway (Warren, 1936); at Broadway, however, the effect has been obtained by grooving. This particular decorative arrangement appears to occur only twice outside the southern province; on the vessel from Wykeham referred to above and on a small sherd from Knappers Farm near Glasgow (Mackay, 1948).

c. The Woodhenge style

Piggott (1954, 341) has singled out fingernail impressions and rustication as the distinguishing features of this style. To these characteristics may be added the following: simple rounded or flattened rims, lacking internal bevel and decoration; deep vertical collars; a tendency for the decoration to be arranged in panels which are sometimes defined by vertical grooves or cordons; and circular elements in relief which may take the form of discs with depressed centres or of truncated cones.

Zones of close-set fingernail impressions occur on a number of sherds from Clacton (as Fig. 114:1, which may come from the pot illustrated in Warren, 1936, fig. 4:3), but here they should probably be interpreted as another method of rendering the net-work skeuomorph referred to in the

or the perforation was made after the pot was broken in order that the sherd might be worn as an amulet. The former explanation is doubtless to be preferred.

discussion of the Clacton style. Elsewhere, on pots of Clacton or Woodlands type, fingernails have been used, if at all, only for producing transverse nicks on cordons or rims. (There are, however, a few faint and random fingernail impressions on an otherwise undecorated sherd from Creeting St. Mary; FIG.121:2). But fingernails have been used freely on the pottery from Ipswich (FIG.124 and 125:5), and sparingly on a sherd from Pakenham (FIG.126:3), material which on other grounds may be classified as of Woodhenge type.

Although a few rims from Woodhenge possess internal bevels most are simple and internal decoration is absent altogether. Of all pots ~~of~~ the Woodhenge style from other sites, only those from Stanton Harcourt (FIG.120) and Durrington Walls (Stone, Piggett & Booth, 1954, fig.7:1) have internal decoration. (The deep, almost vertical bevels on some of the pots from Durrington Walls are as yet unknown elsewhere, although something similar is seen in Piggett's new illustration of one of the pots from Woodhenge - 1954, fig.58:1.)

Vertical collars are common at Woodhenge - as nos.51 and 85 (Cunnington, 1929) and this feature recurs on a sherd from Fursy, Latch Farm, Christchurch (FIG.115:1) and on one from Roundwood (FIG.116:1).

Vertical panelling, particularly when defined by cordons, is perhaps the most reliable criterion by which the Woodhenge

style may be distinguished. Such cordons are present on Woodhenge Pl.25; 1, 3 and probably 36 (which almost certainly has been wrongly oriented in the illustration). With Woodhenge Pl.25; 1 may be compared a single sherd from Clacton, figured but not described in the original account (Warren, 1936, Pl. XXXIX:11). The grooves running diagonally up to the cordons on Woodhenge 36 are seen again in the sherds from Chippenham Barrow 2 (FIG.112), Pakenham (FIG.126:1 and 2), Ipswich (FIG.124), Roundwood (FIG.116:5) and Stanton Harcourt (FIG.120). Unpublished sherds belonging to three different vessels from Durrington Walls (Salisbury Museum) closely resemble those from Chippenham and Roundwood. On one of the sherds four cordons are present; two are preserved on each of the others. The grooved designs between the cordons seem to have been similar to those on the restored pot (Stone, Piggett & Booth, 1954, fig.7:1), where, however, the panels are defined by vertical grooves.

The cordons themselves are sometimes simply low ridges of triangular cross-section, but they may also be prominent and of semicircular cross-section; the latter often present a cabled effect resulting from pressure by the fingertips or from transverse notching.

An idea of the arrangements of panelled decoration executed in grooving technique may be obtained from the collared

vessel from Woodhenge (best illustrated in Piggott, 1954, fig,58:2) and the restored vessel from Durrington Walls (Stone, Piggott & Booth, 1954, fig.7:1). Similar designs probably ornamented the pots represented by sherds from Woodhenge (nos.18, 42 and 85) and possibly Ipswich (FIG.125:6). Closely spaced parallel vertical grooves occur on a number of sherds from Woodhenge, at Ipswich (FIGS.124 and 125:3) and at Pakenham (FIG.126:5).

But of the specimens where panels are defined by cordons, only the vessel from Stanton Harcourt is sufficiently complete to show how the ornament might be arranged, (FIG.120). The pot is biconical (like Woodhenge, Pl.25,1); a horizontal cordon encircles it at the greatest diameter. Above this cordon the decoration is confined to horizontal grooves and ladder pattern; below it, ten vertical cordons, each transversely notched, extended towards the (missing) base. Seven of the panels are sufficiently well preserved to show that each bore a different arrangement of grooves or ladder pattern running diagonally between the cordons (see development of the design, FIG.120).

No satisfactory arrangement of the surviving sherds of the large pot from Ipswich (FIG.124) has been achieved, though all seem to belong to the same vessel. The design may have been basically similar to that of the Stanton Harcourt pot, though possibly less symmetrical. It was clearly most elaborately decorated, for in addition to fingernail impressions

on the cordons and in some of the panels there were vertical as well as diagonal grooves and motifs including concentric circles (or spirals?), in one case surrounding an applied knob in the form of a truncated cone.

Skeuomorphism. Attention may be drawn to the striking resemblance in appearance between the vessels decorated with closely spaced diagonal grooves separated by vertical cordons and stake-framed baskets. The cordons appear to represent the upright stakes and the grooves the more flexible material woven through them. The effect is most evident, of course, where the grooves form an all-over pattern, as in the unpublished sherds from Durrington Walls and the restored pot from the same site (Stone, Pigott & Booth, 1954, fig.7:1), Chippenham (FIG.112) and Roundwood (FIG.116:6), though the orientation of the latter sherd is uncertain.

Notice may also be taken of the existence of certain rectangular motifs in the Woodhenge series. A sherd bearing part of such a motif comes from Woodhenge (no.37). There is a more complete specimen from Ipswich (FIG.125:4) with remains of five concentric rectangles, the innermost being filled with shallow dots. A fragment from Clacton (FIG.114:3) seems to represent part of a rectangle defined by low cordons and enclosing other angular features in very low relief as well as incised multiple triangles. The feature has been surrounded by incised lines.

Vertical sigsags, which are entirely absent at Clacton but common at Woodhenge - as nos. 2, 30, 35 - may also have some diagnostic value. They occur on the sherd from Ely (FIG.113) and on the collared vessel from Fursy (FIG.115:1), but also once at Creeting St. Mary (Piggott, 1954, fig.57:5), where the Clacton style predominates.

Stamped impressions on Woodhenge ware. Special attention may be drawn to the presence of stamped impressions on certain pots in the Woodhenge style. The impressions, evidently made with the edge of a cockle-shell, on the sherd from Pakenham (FIG.126:7) are unique; but in two instances notched stamps similar to, but differing in detail from, those commonly used on Beakers have been applied - as Roundwood (FIG.116:6) and on the basal sherd from Ely which is identical in fabric and alleged to have been associated with the sherd figured. A most unusual stamp seems to have been used on a sherd with vertical cordons from Durrington Walls (unpublished, Salisbury Museum). The impressions are shallow and flat-bottomed, with tapering ends, and resemble normal grooves except for the presence in the bottoms of series of minute and irregular depressions which can only have been made by a stamp of some kind. These impressions resemble nothing known to the writer and it is difficult to imagine the nature of the implement concerned.

It may further be mentioned that on two sherds in the Woodhenge style, from Ipswich (FIG.125:6) and Pakenham (FIG. 126:6), the grooves have been executed in what can best be described as a stab-and-drag technique; the "stabs", however, are much shallower than in the typical examples of this technique as seen on Unstan ware and there is no reason to assume any connexion with the latter.

Piggott has discussed the general similarity of the plastic-ornamented wares of Woodhenge type to the Rinyo^{III} style of the North; here vertical cordons also appear, but only as short uprights incorporated in a predominantly horizontal pattern - as Rinyo, Childe, 1939, Pl.XIX:1. A sherd from Skara Brae has small rectangles (Childe, 1931, Pl.XLVIII), and closely spaced parallel vertical grooves appear on a sherd from North Berwick, East Lothian, attributed by Scott to the culture (1951, 74); but the pot from Gullane, East Lothian, with its vertical collar and panelled decoration is explicitly connected with the Woodhenge series (Warren, 1936, Pl.XLI:2).

iii. Artifacts associated with the pottery

Table VIII lists the objects associated with pottery at ten sites. These are all known to be closed or uncontaminated associations, with the exception of Ely where the circumstances of discovery are vague. Ely is however included since the association is inherently probable.

TABLE VII

Artifacts associated with Rinyo-Clacton Ware in the South-eastern Area
(Direct associations only)

	Petit tranche	derivative arrowheads	Leaf-shaped arrowheads	Barbed-and-tanged arrowheads	Tranchet axes	Discoidal polished knives	Plano-convex knives	Fabricators	and-scrappers	Hollow scrapers	Other scrapers	Awls	Serrated flakes or blades	Trimmed flakes or blades	Utilized flakes or blades	Untrimmed flakes or blades	Flakes from polished flint axes	Discs or discoidal cores	Cores	Faceted pebbles of sandstone, quartzite, etc.	Hammerstones of flint or quartzite, etc.	Stone axe-factory products	Bone points
Cambridge - Hills Road																							
Cherry Hinton - South Barrow																							
Creeping St. Mary - Hole 1																							
Hole 2																							
Hole 4																							
Hole 5																							
Hole 6																							
Ely	?																						
Honington	x	x			?	x	x	x		x	x	x	x	x	x								
Lion Point, Clacton	x									x	x	x	x	x									
Newport	x									x	x	x	x	x									
Pishobury	x									x	x	x	x	x									
Snodland Quarry																							
Sutton Courtenay - Pit P	x																						
Pit T																							

Apart from such objects as waste flakes, serrated and trimmed flakes, cores, ordinary scrapers and awls, which are regularly found with other kinds of Neolithic pottery and therefore appear to have no diagnostic value, and aside from occasional "exotic" forms - leaf-shaped or barbed-and-tanged arrowheads, which are normal components of other assemblages, the following associations occur:-

	No. of sites	1 % of total (10 sites)
Petit tranchet derivative arrowheads	- 6	60
Tranchet axe (or small pick) ²	- 1	10
Discoidal polished flint knives	- 3	30
Plano-convex knives with rudimentary trimming	- 1	10
End-of-blade scrapers	- 1	10
Disks or discoidal cores	- 2	20
Fabricators	- 2	20
Hollow scrapers	- 1	10
Hammerstones	3 - 3	30
Facetted pebbles of quartzite, etc.	- 1	10
Axe-factory products	- 2	20
Bone points	- 2	20

Of course it cannot be asserted that any one of these types is invariably associated exclusively with Rinyo-Clacton pottery; but associations with other varieties of Neolithic pottery are far from common and when they do occur the actual number is small and limited to one or two of the types. The feature peculiar to the Rinyo-Clacton culture (in the North as well as in the South) is the large quantity and variety

1. Here the material from Creeting St. Mary and Sutton Courtenay is treated as a unit, though the contents of the individual pits are listed separately in Table VIII.
2. From Honington; not in fact found with the pottery but included for reasons stated in the catalogue.
3. Probably to be interpreted as polishers; their small size and multiple facets exclude the possibility that they are quern riders.

of objects normally found with the pottery.

This point was particularly stressed by Hazzledine Warren (1936, 181) when he contrasted the contents of pits from Area 4 (the "Grooved-ware" area) at Clacton with the contents of those yielding other kinds of pottery; precisely the same phenomenon was observed at Honington, as has been discussed elsewhere in connexion with the Peterborough ware from that site; and Stone and Young (1948) have dealt with the question at some length in relation to the material found in pits in Wiltshire.

The material from Furzy, Latch Farm, Christchurch, has not been included in the tables because definite association of pottery and flints is not recorded; it is worth noting, however, the significant concentration of transverse arrow-heads, picks, plano-convex and polished-edge knives at this site in comparison with the yield from three other "areas of intensive collecting" where Rinyo-Clacton ware was not found (Calkin, 1951, Table I). Similarly Piggott has noted (in Warren et al., 1936, 196) that 40% of the petit tranchet derivatives from the secondary occupation of Windmill Hill were found in cuttings and layers yielding Rinyo-Clacton sherds, but not significant concentrations of Peterborough or Beaker.

iv. Mode of occurrence

As indicated in Table IX, Rinyo-Clacton pottery has been found most frequently in pits in the south-eastern area, 46% of the discoveries having been of this nature. Stone and Young (1948) have argued that pits containing Rinyo-Clacton ware and the other objects frequently associated therewith are of ritual rather than domestic nature. This may indeed be true of the pits at Amesbury, but the evidence¹ at Lion Point and at Honington shows that such an interpretation is not universally applicable. Piggott (1954, 386) has suggested that the isolated pit at Hills Road, Cambridge, may have been of the ritual type, and that the West Runton bowl may also have come from such a pit. But the evidence seems insufficient to warrant separating Hills Road from the rest; and although the condition of the West Runton bowl clearly suggests that it was protected in a "pit" of some kind, for present purposes the circumstances must be classed as uncertain.

At Edingtonthorpe the shallow depression in which one slightly weathered sherd of Rinyo-Clacton ware was associated

1. Mr. Hazzledine Warren has drawn to the writer's attention a photograph of a device used by the natives of Arnhem Land consisting of a pit covered by a platform of specially selected dry timbers, on which rested a heap of broken pieces of termite mound which were to be heated. (Man, LIV, August 1954, Pl. Hb). Mr. Warren thinks that the burning and collapse of such a platform, perhaps used for heating pot-boilers, and the subsequent filling-in of the hole with occupation material lying round about, would account for the contents of the pits on the Lyonesse surface.

TABLE IX

Mode of occurrence of Rinyo-Clacton ware in the
south-eastern area

	<u>No. of sites</u>	<u>Percentage of total</u>
1. In ditch-filling of causewayed camp, stratigraphical position uncertain	1	3
2. In pits, assumed to be domestic	15	46
3. On occupation sites, no structures detected	1	3
4. In primary association with a ritual and/or funerary monument	2	6
5. Accompanying cremation deposits	2	6
6. Apparently significantly connected with barrow or grave	3	9
7. In filling of shaft of flint-mine	1	3
8. Multiple strays	1	3
9. Redeposited in mound of round barrow	3	9
10. Circumstances uncertain	4	12
	<hr/>	<hr/>
Total:	<u>33</u>	<u>100</u>

A complete list of sites divided into the categories
used in this table appears in Appendix VII.

with Peterborough ware may represent a hut belonging to the latter and the sherd may be intrusive. At Honington there is evidence for a small Rinyo-Clacton settlement on a low hillock near a river, with dark patches, oval or circular in plan, and averaging 10' across, perhaps representing the sites of tents or flimsy structures. There were also a number of cooking-holes containing burnt flints and the pottery came from some of these. In the same way, nearly all the Rinyo-Clacton ware from Lion Point was found in cooking-holes.

By contrast, only 15% of ^{the} sites have produced material which may be considered as occupation refuse scattered on the old ground surface; in this figure are included sherds from the mounds of round barrows which presumably were scraped up with the material of which the mound was constructed.

In 15% of the south-eastern sites the pottery was found in sepulchral contexts, either accompanying cremation deposits or in apparently significant relationship with a round barrow. These sites will be discussed in the section concerned with associations and dating.

The sherds from Abingdon, which may be assumed to come from the upper ditch filling, are of no especial significance; but those from Waulud's Bank were in the primary silt of the ditch of a monument which may provisionally be termed ~~trifurcated~~ pending further elucidation of its structure. Its situation at the source of the River Lea is of particular interest.

The pot from Church Hill, Findon, appears to be the first of its kind found in a flint-mine; the context is hardly unexpected and the find is remarkable only in being unique. (Petit tranchet derivative arrowheads have indeed been found at Grimes Graves and at Durrington Walls flint-mines: Armstrong, 1984; Booth & Stone, 1952).

To the west of our area the mode of occurrence is varied mainly by the greater prevalence of henge monuments, but still ¹25% of the finds were made in pits (some of which may be ritual) and there are two associations with cremations - at Stonehenge I (Piggott, 1954, 353) and in a pit inside Circle 2 at Woodhenge (Cunnington, 1929, 45, 156).

v. Economy

As Piggott has stated (1954, 343), little evidence is as yet forthcoming as to the economic basis of the Rinyo-Clacton culture in southern England. Yet, scanty though the documentation may be, it is relatively consistent and compares well with the data from Skara Braw.

Despite the manufacture of abundant quantities of arrowheads, game seems to have provided only a supplement to a diet based on the flesh of domesticated animals. In the south-eastern area food refuse has been recorded only from the pit at Hills Road, Cambridge, where bones were attributed to

1. The percentage would be higher if the contents of the pits inside the ring-ditches at Woodhenge were counted separately from the monument.

"probably small domesticated ox" and "possibly very large sheep" (Frere, 1943). The identifications are clearly tentative, but it is significant that no wild animals were present. Absolute dominance of the bones of domesticated animals is attested at Woodhenge (Jackson in Cunningham, 1929) and at Durrington Walls (Stone, Piggott & Booth, 1954); the relative numerical proportions of the bones from the pits at Woodlands, Amesbury, have not been published, but here ox, sheep, pig and dog were present as well as red and roe deer, fox, frog, fish, and shells of scallop, mussel and oyster (Stone & Young, 1948). A mussel shell was found at Woodhenge and oyster shells were used to grit pottery from Hills Road, Cambridge. It cannot be proved, but may reasonably be suspected, that these mollusca had been gathered for the sake of their edible parts. The apparent cockle-shell impressions on the sherds from Pakenham (FIG. 126-7) may be recalled in this context. The shell in the sherds from Waulus's Bank has been identified as coming from snails, but this need have no significance in connexion with diet.

Evidence for cultivation of crops of any kind seems to be entirely lacking. No impressions of grains or indeed of any vegetable foods have been observed in the pottery, though it is possible that they have been missed. But the absence of querns and grain rubbers really does seem to be significant on a site such as Hovington where other objects lay about in

¹
 profusion. At Skara Brae and Rinyo as well no querns or grain impressions were found and, as far as the evidence goes, life appears to have been supported almost exclusively by a diet of veal, mutton and mussels, with the occasional pig and red deer.²

Thus, on present evidence, we seem to be justified in assuming that in both the northern and the southern provinces the Rinyo-Clacton culture was based upon a pastoralist economy, sharply differentiated from those of other Neolithic cultures by absence of indications that cereal foods formed part of the diet, but with perhaps more evidence for the collection of sea-food.

Although the presence of stone axe-factory products at a number of sites indicates trade connexions, the only direct evidence of participation in extractive industries is afforded by the sherds from the Church Hill flint-mines in Sussex.

vi. Associations and dating

a. Associations with other types of pottery

Within the south-eastern area there appear to be no

1. It should be recorded here that Mr. Hazzledine Warren has informed the writer that the "flint sickle" from Clacton (referred to in Warren, 1936, 181 and 208, and in Piggott, 1954, 343), although found in Area 4, was not in a pit, not associated with pottery, and is now believed by him to be a fragment from a polished axe.
2. Since a large quantity of Western Neolithic pottery was associated with the four Rinyo-Clacton sherds at Townhead, Rothesay, Bute (Marshall, 1930), the saddle-quern, rider and carbonized wheat are more likely to have belonged with the former than with the latter.

closed associations with Western Neolithic pottery, although at Site I, Dorchester, a sherd in the Clacton style was presumably contemporary with stone-gritted ware of Abingdon type II and with the construction of the first phase of the monument, in which both cultural groups may have participated. The possibility that stone-gritted ware comes at the end of the sequence at Abingdon has been discussed elsewhere; if the suggestion proves to be correct, Rinyo-Clacton ware in this area at any rate may be said (relying on the Dorchester evidence) to make its first datable appearance during the final stages of the camp's occupation, since the stratigraphical position of the sherds from the Abingdon ditch is unknown. Piggett has suggested that there was an association with Western Neolithic at Edingtonthorpe (1954, 338), but it appears that the two varieties of pottery were simply found in the same field. At Clacton, Hazzledine Warren noted that the Rinyo-Clacton ware was, with a single exception, confined to a limited area of the site, that only eight sherds of Western Neolithic were found in this area and none of them in a pit (1936, 181). This might be taken to mean that both groups were occupying the site at more or less the same time.

At Orton Longueville and Edingtonthorpe associations with Peterborough ware in the Mortlake style are attested; the two scraps of Rinyo-Clacton from Icklingham may have been associated with Peterborough ware in the Fengate style however.

The stratifications observed at Site I, Dorchester, and at Honington showed that at the former site Rinyo-Claeton preceded Ebbsfleet ware in the ditch filling and at the latter succeeded an indeterminate type of Peterborough, though in neither case need the intervals have been lengthy.

(It may be noted that cord-impressions, indicating borrowing from the Peterborough group, have not been observed on any of the Rinyo-Claeton ware in the south-eastern area. Such evidence for contact is perhaps to be seen at Durrington Walls (Stone, Piggett & Booth, 1954, fig.8: 23, 25-6), at Gullane (Warren, 1936, Pl.XLI:3) and at Glenluce (Stevenson, 1946, Pl.XXIV:5). Alternatively, as suggested by Stevenson, cord ornament, particularly when arranged in continuous lines round the inside of the rim, might derive from corded B-beakers.)

There is a suspicion that Site I, Dorchester, may not have been constructed before the arrival of Beakers in the Thames Valley (Atkinson et al. , 1951, 9, 18) and H.J. Case's recent excavation has shown that ^BBeakers were present during the contemporary period at Abingdon. The other associations of Rinyo-Claeton ware in the South-east are explicitly Beaker or later. Thus it is probable that the bowl from West Runton was associated with A-beakers, while the grooved sherds from Plantation Farm are likely to have been deposited while the site was occupied by people using A-beakers and ~~part of~~ Food

Vessels (Clark, 1933, Pl. XLV:11, 14 and 17). There was an association in the same pit at Furzy, Latch Farm, Christchurch, of Rinyo-Clacton ware in the Woodhenge style and a rim sherd from a Beaker-like vessel with deep fingertip rustication and of quite different fabric (Calkin, 1951, Pl. I:a, bottom right).

In addition, two Rinyo-Clacton sherds afford internal evidence of Beaker contacts: those which bear notched-stamp impressions from Ely and Roundwood. This technique can only be the result of imitation (or cultural fusion), but it is not possible to determine which class of Beakers was involved. The other sherd from Ely (FIG. 113) is markedly beaker-like in its proportions. The use of potsherd grit (as at Roundwood and Peterborough) may have a similar implication. As suggested elsewhere in a discussion of the relationship between some English and Dutch Beakers, it seems possible that the practice of using comminuted potsherds as tempering material may have been introduced from The Netherlands (Appendix I, 5).

Piggott has also suggested that the fin en nail impressions and rustication of Woodhenge ware may be the result of a mixture of "Rinyo I style with local and contemporary rusticated traditions within the Arminghall-Holdenhurst-Somer-sham group" and has produced cogent arguments in support of

this idea (1954, 341). But it should be remembered that fingernail impressions were commonly, and rustication occasionally, used on Peterborough ware and could, theoretically, derive from contact with this group. Influence from the Clacton style may perhaps be discerned on certain rusticated wares - for example, a sherd from a Beaker settlement in Mildenhall Fen (Leaf, 1934, fig.3:5) which is made of the Beaker fabric normal for the site but decorated with broad grooves similar to those illustrated from Creting St. Mary.

If the Rinyo-Clacton pot from the Church Hill flint-mine is that referred to by its excavator as "Neolithic B", it may even be contemporary with Overhanging-rim Urns as well as with Beakers, for all were said to have been sealed in a shaft together under an undisturbed flaking floor (Pull, 1953).

b. Cross-dating by other associated artifacts

The polished discoidal flint knife of Clark's Type III from Hole 1 at Creting St. Mary is matched by a smaller unpolished specimen of the same type which is said to have been associated with three B2 beakers from the locality. The two knives are so similar and so skilfully manufactured that an origin in the same workshop seems not unlikely.

The barbed-and-tanged arrowhead from the pit yielding sherds of a pot in the Clacton style at Snodland indicates contact with people making Beakers of some kind; the prevalence of the B2 type in Kent suggests that this was the

group involved.

The chronological significance of the Group I axe-fragment associated with pottery in a cooking-hole at Clacton has been discussed elsewhere (Appendix I, 13-14); it is of interest that one of the axes from Woodhenge has also proved to belong to Group I (Stone, Piggett & Booth, 1954, 158). The Group VI axe from pit P at Sutton Courtenay is, on the other hand, of a type which occurs occasionally in somewhat "earlier" contexts than some Group I products - e.g., at Ehenside Tarn; but the activities of both factories must have overlapped in time to a considerable extent.

c. Significant associations with round barrows and cremations

At Hurn, Christchurch, a handful of sherds was found in a restricted area under a turf barrow which had probably been erected over an unaccompanied inhumation. Their position near the grave-pit and unweathered condition substantiates the excavator's argument (C.M.Piggett, 1943, 252) that they were a deliberate deposit.

In much the same way the sherds ~~from Pakenham~~ ^{from Pakenham} in the Woodhenge style/were found inside the area enclosed by a ring-ditch and to one side of a primary cremation deposit accompanied by a small undecorated vessel of a type which is common in East Anglia but of which no study appears to have been made as yet. (It will be remembered that a similar vessel accompanied a cremation in the barrow at Worlington and was later

than a crematorium (?) with Western Neolithic pottery of Mildenhall type.)

The grooved sherd from Cherry Hinton South Barrow was again found in one of a series of pits dug into the chalk inside the ditch. Here quarrying had destroyed all central features prior to excavation, but the barrow is believed to have been of bell or disc, and thus explicitly of Wessex Culture, type.

But the sherd in Woodhenge style from Barrow 2 at Chippenham was found in a pit with a cremation; in this case the pit was located just inside the chalk ring belonging to the first phase of the barrow. The primary deposit was a cremation inside an Overhanging-rim Urn (Leaf, 1935, Pl.VI) and the eccentric deposit was thought by the excavator to be the first secondary cremation. Nearby and possibly connected was an empty pot of unclassified type (Pl.VII,a), probably an East Anglian version of a "Food Vessel", since other similar specimens have been found in this region.

A second association with a cremation occurred at Tebb's Pits, Peterborough. The sherds and the bones (of which the only surviving fragment is much distorted but probably comes from a human tibia) were found in two pockets in the bottom of a pit 4'3" deep.

Theoretically it would be possible to argue that in all these cases the association was fortuitous, that the barrows

1

had been built over earlier occupation sites and so forth. But Rinyo-Clacton ware has been found with cremation deposits at Stonehenge I (Piggott, 1954, 353) and at Woodhenge - in a pit inside Circle 2 (Cunnington, 1929, 45, 156). And of course flint, stone and bone types belonging to the culture occur frequently in Neolithic cremation cemeteries (Piggott, 1954, 358 ff.).

Except at Pakenham, where Saxon burials had disturbed the interior of the circle, the excavators of the barrows in question were of the opinion that the Rinyo-Clacton pottery was directly connected with the construction or use thereof. We are not, however, obliged to think that the sherds at Chippenham and Cherry Hinton were secondary in a chronological sense; they may rather be considered as subsidiary to and approximately contemporary with the primary deposits. It is probably significant that in all instances sherds only were used, in two cases just a single fragment.

Professor Piggott has discussed in full the evidence for an overlap between the "Dorchester" and Wessex cultures (1954, 363); now it is possible to see that the Rinyo-Clacton culture survived as a recognizable entity until a time when normal Early Bronze Age funerary customs were being observed

1. As had indeed happened at Chippenham, but here with the possible exception of one sherd which might be Rinyo-Clacton (Leaf, 1935, fig. 7, 4), the pottery belonging to the occupation comes from A-beakers and rusticated beakers. It must be admitted, however, that some of the flint objects indicate the presence of non-Beaker elements.

in East Anglia. In this connexion we may note that the primary urn from Chippenham Barrow 2 is typologically comparable with the urn containing Cremation II in Barrow A at Snailwell, Cambs. (Lethbridge, 1949, Pl.VII). The Snailwell urn held also three plano-convex knives, various objects of bone and antler, and a series of perforated and graduated bone points similar to those found with the male skeleton at Upton Lovel 4 (Piggott, 1954, 360) and to the single specimen from the lowest stratum of the Woodhenge ditch (Cunnington, 1929, 106). In the Upton Lovel grave was also a muller of Group I rock; and Group I axes we have seen to be associated with Rinyo-Clacton pottery at Woodhenge and at Clacton (a fragment).

Taking the evidence as a whole, no significant difference can be seen between the associations of Rinyo-Clacton ware in the Clacton style and that in the Woodhenge style. (Sherds of Woodlands type have not been found with independently datable associations.) Both appear in equally "early" and equally "late" contexts. At Lion Point and at Site I, Dorchester, the Clacton style seems to be more or less contemporary with ^{late} Western Neolithic wares; at the type-site, Woodhenge ware at least overlaps with Western Neolithic (Cunnington, 1929, Pl.25:2 - the base should of course be round; Pl.32:43; Pl.34:58; and others). The basal sherds from Church Hill flint-mine appears to belong to a pot in the Clacton style and may have been contemporary with Overhanging-

rim Urns, while the sherd of Woodhenge ware from Chippenham Barrow 2 was (we are told) deposited slightly later than the primary cremation in an Overhanging-rim Urn. In no case can the pottery be shown to be indisputably earlier than Beakers and the only hope of subdividing the period covered by the life-time of the Rinyo-Clacton culture in the southern province seems to lie in a refinement of Beaker chronology. (As discussed in Appendix I, , the Lyonesse transgression does not provide a useful datum so far as B- and A-beakers are concerned.)

Although the settlement at Rinyo was sandwiched rather neatly between Western Neolithic (Unstan) ware and an AC-beaker, it is not easy to correlate these initial and terminal points with the sequence in the southern province. Similarly, we have been unable to find evidence in the South for chronological differences in the several styles, although such differences were determined both at Rinyo and at Skara Brae. In the South, however, Rinyo-Clacton ware sensu stricto continued in use after the adoption of Early Bronze Age funerary practices. Thus, as a whole, the culture may be later in the South than in the North. (But see the following section for a discussion of the survivals of the tradition in both provinces.)

vii. Survivals of the Rinyo-Clacton ceramic traditions

The possibility of a genetic relationship between the Aldbourne cups of the Wessex Culture and the Clacton style of ornament has frequently been discussed, most recently by Piggott (1954, 346), who would similarly see in the grape-cups a continuation of the tradition of pellet decoration. His argument is reinforced by the sherd from Clacton (FIG. 114:2) which proves this technique to have been used in the South as well as in the North. The decorated internal bevels of the rims of many grape-cups point in this direction as well; the grooved lines on that from Windmill Hill and the incised chevrons on and outside the flat rim of that from Amesbury H.133 (Piggott, 1938, figs.9:1 and 11:4) are normal in such a context. But it is hardly possible to assume a direct line of descent for the Aldbourne cups, at any rate, since these seem to owe certain features to vases-supports of Er-Lannic type (Piggott, 1954a, II, 17).

Piggott has recently pointed to the striking analogy between the Er-Lannic monuments and Neolithic cremation cemeteries of the Dorchester-Stonehenge I type (1954, 362). (Surely, however, the Er-Lannic sites are horseshoe-shaped rather than "approximately circular" - cf. le Rouzic, 1930.) Although le Rouzic himself states only that "cremated bones" were found in 15 of the 59 ritual hearths excavated, each of which was at the foot of a standing stone, examination of a

handful of cremated bones from Er Lannic in the Lukis Collection at the British Museum has revealed one fragment which seems to come from a human femur (1875.4-3.851).

At this point we may appropriately recall the arrangements of the urns in certain "Late Bronze Age" cremation cemeteries, conventionally attributed to the "Deverel-Rimbury" culture. At Deverel itself Miles (1826) has recorded that most of the urns were arranged in a semicircle and set in cists protected by stone slabs. At each end of the semicircle was a larger stone not covering a cist. Again, at Sunbury Common, near Ashford, Middlesex, there were two semicircular groups facing East, though the majority had been placed in the ground in lines running east-west (Roberts, 1871). Again, at Barnes in the Isle of Wight the urns had been set in a ring (Dunning, 1931). If we leave aside for the moment the questions of the origin of the "Deverel-Rimbury" culture and of the date of such cemeteries, it becomes evident that arrangements of the kind described above resemble to a

1. Urns were also found in a semicircle at Maxwelltown, Dumfries (Childe, 1935, 130).
2. Overhanging-rim Urns have at least thrice been found arranged in straight lines - at Lancaster Moor (Harker, 1865), at Easton Down, Wilts (Stone, 1934), and at Carphin House, Fife (R.C.Fife, No. 146).
3. Scottish cemeteries in which the Urns were arranged in circles are listed by Childe (1935, 130), who remarks on the probable relationships with the timber circles of the South. The relationship with stone circles in north-eastern Scotland is obvious: of these Crichton at least is also a henge monument.

striking degree the settings of cremation deposits in Late Neolithic cemeteries. This resemblance cannot be fortuitous; it can only be interpreted as an indication of the effective survival of indigenous late Neolithic funerary traditions. The majority of the grave-goods found in the Neolithic cemeteries are types which, when associated with pottery at all, occur most frequently with Rinyo-Clacton ware and the latter was indeed the only kind of pottery found in primary contexts at Stonehenge I; it is not by accident that the majority of urns from the southern Bronze Age cemeteries described above are of the "barrel" and "bucket" or relief-ornamented types.

According to currently accepted chronologies, there should of course be an impossibly long interval between such Neolithic and "Late Bronze Age" cemeteries. But we have already seen in the previous section that Rinyo-Clacton ware evidently survived as an entity at least until Overhanging-rim Urns and Bronze Age burial customs had become established. Piggott has further dealt in detail with the overlap between the cultural elements represented in the cremation cemeteries at Dorchester and Stonehenge I and the Wessex Culture (1954, 358-63; 379-80). If we include the Aldbourne and grape-cups, as evidence of the persistence of ceramic tradition as well, we can then detect a continuation of certain elements of the Rinyo-Clacton culture, naturally modified to some extent,

throughout the Early Bronze Age in Wessex.

Approaching the question of the hiatus now from the other side, the present writer has tried to show elsewhere that on the evidence of associated grave-goods ~~some~~ types of urns conventionally classed as "Deverel-Rimbury" were already in use either during the final phase of the Wessex culture or immediately thereafter (see Appendix IV, Part II, B and C). Unless there are fundamental errors in the writer's own arguments or in those which have been used by others to establish the chronological position of the Wessex Culture,¹ it is evident that such urns can in no way be related to Continental Urnfield cultures and that we are at liberty to look elsewhere for their origin.

The present writer's suggestion that the relief-decorated urns of southern England may be derived from Rinyo-Claeton ware is set forth in Appendix IV, Part II. D. Here it is necessary only to supplement that discussion by pointing out that it is to Woodhenge ware (as distinguished in Section II.C. of this part of the present article) that urns with plastic ornament in the form of horseshoes and undulating, horizontal and vertical cordons may owe their features.² The notching of such plastic elements in both series by fingernail or

1. Most recently set forth by ApSimon (1954, 51), with a terminal date of 1400-1360 B.C.
2. Note also the cordon inside the rim of an elaborately decorated urn from Latch Farm, Christchurch (C.M. Piggott, 1938, fig. 9:87).

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fingertip pressure seems significant in view of the virtual absence of such techniques in the Highland Zone on both relief-ornamented Rinyo ware and on the Encrusted Urns plausibly derived therefrom. (See Appendix IV, Part II.E for further discussion). On the other hand, both the latter ceramic forms may have the relief elements embellished by transverse or oblique slashes (cf. Skara Brae: Childe, 1931, Pl.XLIX; Rinyo: Childe, 1948, Pl.X:4; and Encrusted Urns figured by Fox, 1927: Pls.XXIV:1 and XXV:2) or by circular depressions made with an implement (Skara Brae: Childe, 1931, Pl.XLIX; urn from Agower, Co. Wicklow: Childe, 1949, Pl.XIII).

Here we may note as well the concordant distributions of Rinyo-Claeton ware in the southern province and barrel and bucket urns (cf. maps in Piggott, 1954, fig.48, supplemented by our text-fig. 6 , and in Childe, 1949, fig.46). The concentrations of such urns in the areas of the great henge monuments which yielded Rinyo-Claeton ware in primary positions Maumbury Rings, Woodhenge, Durrington Walls, Stonehenge I - are surely significant (cf. detailed distribution of urns in the Wessex area mapped by C.M. Piggott, 1938, fig.11).

Indeed, urnfields of "Deverel-Rimbury" type, which commonly include unurned cremations deposited in small pits and which probably came into use in the Middle Bronze Age and continued

1. In spite of the fact that such techniques are extremely common in many more or less contemporary ceramic groups on the Continent.

through the Late Bronze Age, seem best interpreted as a resurgence of native Late Neolithic funerary traditions after the foreign custom of single-grave burial under a round barrow had lost its initial prestige.

Although the whole question of the urns requires much more detailed study than has been possible to devote to it as yet, the evidence adduced here does seem to justify the statement that within the Bronze Age population of the south of England a group may be distinguished which has its origin in the Rinyo-Clacton culture.

viii. The origins of the Rinyo-Clacton culture

Before embarking upon a discussion of the origins of the ceramic styles peculiar to the Rinyo-Clacton culture, it will be well to examine briefly the origins of those components of the culture upon which the survival of the people depended - tools, weapons and economy.

From the first it was recognized that the basic assemblage of artifacts reflects an essentially Mesolithic - Northern Forest culture - tradition, with the inclusion in the North of elements proper to the Circumpolar Stone Age groups (Childe, 1931, 179-80). But, apart from the latter, which are confined to the extreme North, it has not yet been possible to find outside Britain an origin in any single area or culture for the complete array, though some of the types can be matched in a wide variety of Mesolithic and Neolithic contexts on the Continent; to the comparisons discussed by Childe in connexion with artifacts from Skara Brae, the following may be added. Forms derived from the transverse arrowhead, itself taken over by various intrusive primary Neolithic peoples from the aboriginal inhabitants, occur in Iberia (Siret, 1913, fig.154:9, 10); in the Omalian culture of Belgium (de Puydt, 1907, figs.10, 11); and even in Sweden (two unpublished specimens from Solvind in the Göteborg Museum).¹ Scrapers with edges blunted or polished (probably

1. Brought to the writer's attention by Mr. J. J. Butler.

the result of use) have been found with Maglemose associations in Sweden (Althin, 1954, 69 ff.) and in a Danubian settlement in The Netherlands (Modderman, 1955). Discoidal polished-edge knives seem common in the Rzucewo culture of northern Poland (Kostrzewski, 1930; Zurek, 1953). Tranchet¹ axes and fabricators turn up almost everywhere in Northern and North-western Europe.

Thus, on present evidence at any rate, we can hardly envisage our group as coming into Britain already equipped with its characteristic outfit of implements. The artifacts of stone, antler and bone (except for the pins) should therefore represent the heritage from an autochthonous Mesolithic culture or cultures, modified to a certain extent as a result of contact with intrusive groups. From the latter were taken over a small number of new types, such as the bone pins and Western axe forms.

If we have not been led astray by relying too heavily on negative evidence, the specialized economy which we have seen to characterize the Rinyo-Clacton culture is just that which on a priori grounds might be expected to result when a population of hunters and food-gatherers acquired, by contact with "primary Neolithic" people, the means of becoming food-producers. The breeding and care of stock is a relative

1. There is in any case only one possible association - at Honington.

1

easy way to get a living, easier and more reliable than depending on hunting and far less laborious than cultivation of the soil.² Thus only the more attractive methods of food-production would be adopted, while some of the old habits were retained - gathering, shell-fish, for example.

It must be admitted, however, that such a picture does not conform with what is seen to have happened in comparable circumstances on the Continent. There some newly acculturated Mesolithic groups took over the entire Neolithic economy but continued to rely on hunting to a considerable extent (Childe, 1950, 107; note, however, the absence of "plough-shares" in Horgen culture levels on Lake Neuchâtel, ibid. 287).

If, despite the rather shaky evidence on which the preceding hypotheses have been founded, they may be allowed a provisional validity, it follows that the pottery cannot by itself be used to prove a foreign origin for the Rinyo-Clacton culture. The relationship which seems indeed to exist between certain elements of the decorative schemes used on Rinyo-

1. If, however, fodder had to be provided for stalled animals in winter this would have involved much labour, particularly in the Orkneys where leaves and twigs would not have been available. (Cf. Troels-Smith, 1953, for the utilization of elm leaves and twigs in Denmark.)
2. The strongest arguments against this somewhat fanciful suggestion that our group was reluctant to dig - to work - are provided by monuments such as Durrington Walls. But then, as will be discussed in the following pages, this people was clearly highly receptive to and powerfully motivated by systems of magico-religious beliefs.

Clacton ware in general and the foreign parallels to both the Rinyo I and II styles ¹ have been exhaustively discussed by Childe and Scott and recently summarized by Piggott (1954, 344-5). But neither in France nor in Iberia are these ² patterns applied to pots of the appropriate shape.

An alternative theory is therefore put forward here which has at least the merit of offering a rational explanation for the presence of such patterns on the pottery, for the skeuomorphic features common in the southern provinces, for the forms of the pots, and of being consistent with the theory outlined above as to the origin of the other material elements of the culture.

The fact that Rinyo-Clacton pottery is in general technically inferior to Western Neolithic wares is no obstacle to the derivation by cultural borrowing of one from the other. Such a lowering of standards is almost inevitable and is abundantly attested under comparable conditions elsewhere (Piggott, 1954, 345).

Although it is nearly always impossible to detect ring-joints in Western Neolithic wares, we have already seen that at Clacton a number of vessels belonging to this group were

1. To the list may be added the newly distinguished Chamer Gruppe in Bavaria (Hundt, 1951); and resemblances just as striking as those in the pottery of the north Spanish caves are to be found in the Kőrös culture (Kutzián, 1944).
2. The probable connexion between Vases-supports and Aldbourne cups is not relevant to the present discussion.

unmistakably ring-built. On these grounds it may be suggested that the first stage in making a Western Neolithic pot consisted in the construction of a flat-based vessel, with straight walls built up of super-imposed rings. Subsequently the base and walls were moulded and beaten out so that the base became rounded and the walls curved upwards from it. When the process was skilfully carried out, all traces of joints disappeared.¹ But one can imagine that a people who had no long tradition of fine potting would be disinclined to take such pains and would find the kind of vessel produced in the first stage adequate for their needs.

A more plausible suggestion is doubtless that the flat-based Rinyo-Clacton vessels were simply adapted to sit securely on the flat-topped dressers with which the Orcadian houses at least were provided. Wooden furniture of similar kind must have been in use in other areas.

Clearly, however, the patterns on the pottery - the dot-filled triangles and lozenges and other geometric designs - came from another source. But they need not reflect direct contact with the Ibero-Breton cultures employing similar schemes of decoration. The origin may lie rather in the direction at which Pigott has hinted (1954, 329) - the repertory of magic signs and symbols incised or pecked on

1. The writer has watched a native of Uganda produce an open, round-bottomed bowl in rather less than three-quarters of an hour by this method. When the unfired bowl was sliced across only one joint was visible.

the megalithic tombs of the Boyne culture. The extension of this passage-grave art to the Orkneys is attested by the carvings in the tomb on the Holm of Papa Westray and by the spiral-ornamented stone which may come from a chambered tomb on Eday.

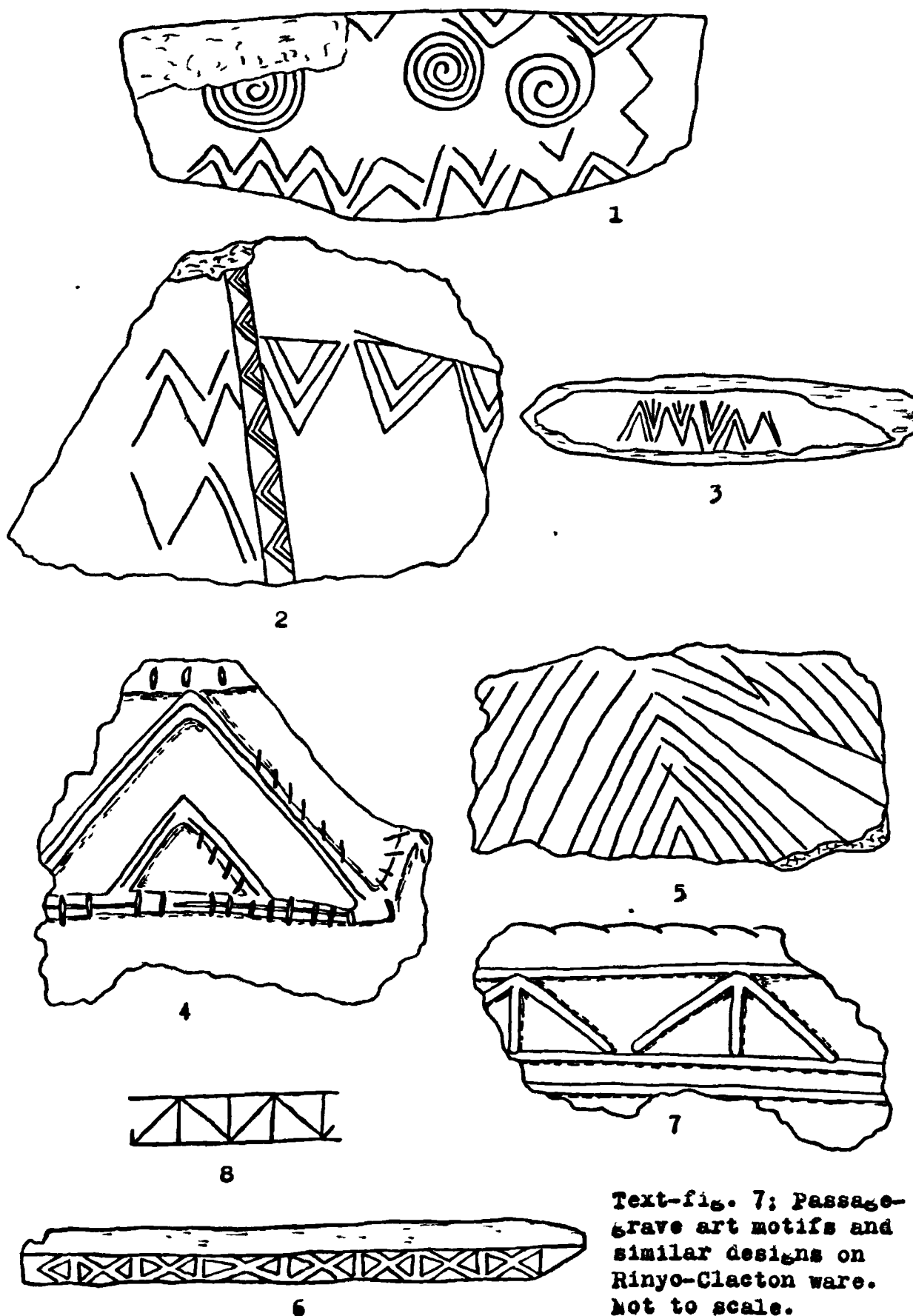
Apart from the virtual identity of the spiral and lozenge motifs on the famous sherd from Skara Brae and on a stone from New Grange itself (Piggott, 1954, 217), there is, as Scott pointed out (1948, 27), a remarkable similarity between the patterns on the dish from Unival and on the cult-objects from Folkton, E.R. Yorks. But other quite precise analogies can be found as well. Two of the motifs which seem to be most significant are illustrated in text-fig. 7 .

Multiple triangles set one within another and sharing a common base are shown in text-fig. 7 , 1-5. No.1 is a stone slab, with pocked ornament in the passage-grave style, which may come from a grave on Glen Clear Island, Co.Cork (O'Kelly, 1949). No.2 is the decorated slab from Lyle's Hill, Co. Antrim (E.E. Evans, 1953). No.3 is an incised stone from the wall of Passage C at Skara Brae (Childe, 1930, fig.17). Nos.4 and 5 are sherds from Skara Brae and Woodhenge respectively.

Although Piggott (1954, 292) has pointed out that lozenges and hatched triangles occur in the north European Maglemose culture and might thus form part of the Mesolithic

Text-fig. 7.

1. Stone slab from Glen Clear Island, Co. Cork (after O'Kelly).
2. Decorated stone slab from Lyle's Hill, Co. Antrim (after Evans).
3. Decorated stone from Passage C at Skara Brae (after Childe).
4. Sherd from Skara Brae (after Childe).
5. Sherd from Woodhenge (after Cunningham).
6. Decorated slab above the entrance to New Grange (after Coffey).
7. Sherd from Rinyo (after Childe).
8. Design on sherd from Skara Brae (after Childe).



Text-fig. 7: Passage-grave art motifs and similar designs on Rinyo-Clacton ware. Not to scale.

heritage postulated for the Rinyo-Clacton culture, it must be insisted upon that the triangles with which we are here concerned are of a special kind, as defined above and illustrated, and that this kind seems rarely to occur in such Mesolithic contexts. (A confused and probably accidental resemblance is to be seen on a bone knife illustrated by Matthiassen, 1943, fig. 42.) But the motif in question does recur on the decorated plaque from Graig Lwyd (Piggott, 1954, fig. 46:7), though also, it must be admitted, on a slab from a tomb at Merseburg (Schwantes, 1951, Abb. 88), where, as at GShlitzsch, the intention may have been to represent a wall-hanging of some kind.¹

Bisected lozenges or triangles, text-fig. 7 , 6-8. This rather awkward definition refers to series of lozenges or triangles set side by side, delimited above and below by horizontal lines and bisected by perpendiculars dropped from the apices. No.6 shows lozenges of this kind on the narrow slab above the entrance to New Grange. If these lozenges were divided by a horizontal line the pattern seen on No.7, a sherd from Rinyo, would result. No.8 represents the

1. It is perhaps an interesting point that multiple triangles similarly arranged seem to occur rather frequently on Scottish Beakers (cf. Crichton Mitchell, 1934); on the other hand they seem to be present on only 3.5% of the 292 Beakers illustrated by Abercromby from the whole of the British Isles (Bronze Age Pottery I). But the motif is seen on 9% of 200 Rinyo-Clacton pots from England and Scotland. There seems at present no reason to suspect any ^{direct} relationship between the geometric designs on Beakers and on Rinyo-Clacton wares.

the pattern on a sherd from Skara Brae, an elaboration of the same motif. This particular motif appears only once in Irish passage-grave art and on pottery seems to be confined to that from the Orcadian sites; it recurs several times on sherds from Rinyo and perhaps more than once at Skara Brae.

It is hardly necessary to discuss in detail the similarity between the lozenge patterns in passage-grave art and on the pottery, but particular attention may be drawn to a motif combining lozenges with straight or zigzag lines running from their points. This arrangement is seen on a slab from Fourknocks, Co. Meath (O'Ríordáin, 1953, fig. 65), on a pot from Skara Brae (Childe, 1931, Pl.XLIII), on a sherd from Rinyo (Childe, 1948, Pl.X:3); a variation occurs on an as yet unpublished decorated stone from Barclodiad y Gawres, a passage-grave in Anglesey.

Since the inhabitants of Skara Brae scratched the same patterns on stones in their dwellings, it is evident that the patterns had a real significance. We may also remember the slate "idol" from Skara Brae (Childe, 1931, Pl.LII), which resembles an "Almerian 'idol" from Lough Crew figured by Breuil (1934, fig.5, fourth line, fifth from left). And, above all, there are the spirals, concentric circles and occasional triangular designs on the carved stone balls. These designs (and perhaps the balls themselves as cult-

objects) can only derive from the passage-grave complex.

Thus it seems reasonably clear that the geometric patterns on Rinyo-Claeton pottery represent the adoption by a native group of certain elements from the great repertory of signs and symbols current in the western world from Spain to the Orkneys. The actual mechanisms involved in the process remain lamentably obscure, for the only other practice which seems to have been taken over at the same time is that of fastening the clothing with pins of bone or ivory or of enclosing cremated bones in bags held together by skewer pins (pointed out by Piggett, 1954, 206, 334).

The theory that only the rudiments of potting and certain decorative patterns were acquired by the Rinyo-Claeton group as a result of contact with other peoples helps to account for the marked skeuomorphism seen in the Claeton, Woodlands and Woodhenge styles of the South. Many of the southern pots are just imitations of the baskets or nets previously (probably still) used for containers, and the slings or other devices in which vessels of wood or bark were carried. In the South ornament of this kind could appear simply as a result of remoteness from the area where the cult or religion expressed in the signs and symbols we have been discussing was most powerful. But even in the South we have the concentric circles (or spirals?) on the pot from Ipswich and

series of triangles and lozenges are absolutely characteristic of the Clacton style.

Quite obviously the suggestions set forth above as to the origins of the Rinyo-Clacton culture are largely hypothetical and leave many questions unresolved. The only points which the writer would stress are the impossibility of deriving this culture in toto from any Continental source and the intimate relationship between the geometric designs on the pottery and those occurring in Irish passage-grave art.

V

A REVISED FRAMEWORK FOR THE CHRONOLOGY OF THE
NEOLITHIC PERIOD IN SOUTH-EASTERN ENGLAND

In Table X is set forth a tentative scheme for ordering the chronological relationships of the Neolithic and Beaker cultures of south-eastern England. The lower limit of the Middle Neolithic is not firmly fixed, since the Middle Neolithic is marked off from the Early phase simply by the appearance of the developed Abingdon, Mildenhall and Whitehawk ceramic styles and by the emergence of Ebbsfleet ware. The Fenland submergence, which, as suggested elsewhere, cannot be correlated with the Lyonesse transgression, serves as a convenient - though necessarily only approximate - boundary between the Middle and the Late Neolithic, since it seems to coincide fairly closely with the last appearance of the Windmill Hill culture in a recognizable form. As an archaeological boundary between these periods we might take the ceremonial sites at Dorchester, where the Windmill Hill ceramic tradition is last seen in association with new kinds of monuments and with the first manifestations of the presence in our area not only of the Rinyo-Clacton culture but perhaps also of the B beaker culture. It may be that the secondary Ebbsfleet and Portlake ware in the ditch-fillings of the Dorchester sites represents the point in time when the cord-ornamenting style was beginning to supplant the earlier decorative traditions of the Windmill Hill culture.

TABLE X
PROVISIONAL ARRANGEMENT OF THE CHRONOLOGICAL
RELATIONSHIPS OF THE NEOLITHIC CERAMIC GROUPS
IN SOUTH-EASTERN ENGLAND

PERIODS	INDIGENOUS GROUPS			INVASIVE GROUPS
<p>WEST EX CULTURE</p> <p><u>Lyonesse</u> <u>transgression</u></p> <p>LATE NEOLITHIC</p> <p>Zone VIIb <u>Fenland</u> <u>submergence</u></p> <p>MIDDLE NEOLITHIC</p> <p>Zone VIIa</p>	<p>Hembury ware</p> <p>Whitehawk ware</p> <p>Mildenhall ware</p> <p>Abingdon ware I</p>	<p>Ware II</p> <p>Ebbsfleet ware</p> <p>Mortlake ware</p>	<p>Fengate ware</p> <p>Proto-Food Vessels</p> <p>Rinyo-Clacton ware</p>	<p>C-A beakers</p> <p>B beakers</p>

The Late Neolithic is, then, the time of the henge monuments (including Stonehenge¹), of the flourish of the Rinyo-Clacton culture in southern England, of the development of proto-Overhanging-rim Urns and of proto-Food Vessels, of the impact of the invasive Beaker cultures and of the beginnings of fusion between these and native Neolithic peoples. So far as south-eastern England is concerned, the evidence suggests that the B beaker culture had priority over the C-A groups (though this was not necessarily the case everywhere). The relationships of some of the archaeological material from the submerged surface of the Essex coast - abundant Rinyo-Clacton ware, "barbed wire" beakers, the handled beaker, the sherd from a pot of Fengate type, and the fragment from a stone axe of Group I - indicate that the Lyonesse transgression cannot have occurred before the Late Neolithic period was well advanced and it may serve, in fact, as a natural boundary to mark the approximate end of the Neolithic, for the first phase of the Wessex culture can hardly have begun much later than this event.

VI

FINAL CONSIDERATION

In this study of the characteristics, relationships and origins of Neolithic cultures, an attempt has been made to interpret the facts observed in the light of the principle that those explanations are to be preferred which account for the greatest number of phenomena in terms of the least number of causes. The assumption has been implicit throughout that ceramic ornament by itself is not a reliable indicator of the origins or relationships of cultures. However startling may be the resemblances between pottery styles in two widely separated areas, no connexion may safely be inferred in the absence of other supporting evidence. The more generalized forms of Windmill Hill ware may be linked securely with their Continental counterparts because they are accompanied by other significant elements of culture also characteristic of the ancestral groups. But the cultural entities represented by Peterborough and Rinyo-Clacton wares seem to have no such Continental counterparts, so that the characteristics of these ceramic styles must be explained in terms of circumstances existing in the British Isles at the time when they appeared.

The recognition of the fact that the Peterborough complex represents a modification of ceramic style and an adaptation to changing circumstances on the part of the Windmill Hill

culture affects significantly our ideas about the composition of Late Neolithic and Bronze Age societies. From the Neolithic through the Bronze Age, it seems, there was no substantial replacement of population in the south of England. Side by side with the emergent Rinyo-Clacton group, the basic Windmill Hill stock survived in strength through the period of successive Beaker invasions and long afterward. We have been able to detect, during the Late Neolithic, signs of contact and of the beginnings of fusion between native and invasive groups. It is not yet possible to assess exactly the nature of the relationships thus attested, but it is probable that for a time, as Childe suggests (1949, 119), the Beaker folk (or some of them) formed an enterprising aristocracy who introduced the use of metal, opened trade routes and contacts, and provided the requisite stimulus to bring into being the Wessex culture. It is hoped that this study has thrown a little new light on the history of the native peoples during this formative period, for these must always have constituted a majority of the population despite the fact that between the Middle Neolithic and the post-Wessex Bronze Age they are represented by comparatively few clearly recognizable relics.

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The following abbreviations have been used, in addition to those customarily accepted:-

<u>Ant.J.</u>	<u>Antiquaries Journal</u>
<u>Arch.</u>	<u>Archaeologia</u>
<u>Arch.J.</u>	<u>Archaeological Journal</u>
<u>JBAA.</u>	<u>Journal of the British Archaeological Association</u>
<u>JRAI.</u>	<u>Journal of the Royal Anthropological Institute</u>
<u>JRSAI.</u>	<u>Journal of the Royal Society of Antiquaries of Ireland</u>
<u>PPS.</u>	<u>Proceedings of the Prehistoric Society</u>
<u>PPSEA.</u>	<u>Proceedings of the Prehistoric Society of East Anglia</u>
<u>PRIA.</u>	<u>Proceedings of the Royal Irish Academy</u>
<u>PSAS.</u>	<u>Proceedings of the Society of Antiquaries of Scotland</u>
<u>UJA.</u>	<u>Ulster Journal of Archaeology</u>
<u>WAM.</u>	<u>Wiltshire Archaeological Magazine</u>

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APPENDIX I

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Late Beaker Pottery from the Lyonesse Surface and the Date of the Transgression

By I F SMITH

MR S HAZZLEDINE WARREN has recently drawn to the writer's attention some unpublished pottery from his excavations at Lion Point, Clacton, and has kindly given permission for its publication here.

It has previously been held that the Lyonesse transgression afforded a fixed horizon, separating the arrival in South-eastern England of the makers of B and A beakers respectively.¹ Although the fragments of the handled A beaker illustrated in Fig 2, 2 lay in an uncertain relationship to the submerged surface, the pottery from Site 114 (Figs 1, 2, and Pl. II) lay upon it. If the significance of these beakers has been correctly interpreted, they imply a relatively later date for the beginning of the transgression than that generally accepted and, in addition, a discrepancy between the geological successions on the Essex coast and in the Fenland.

Owing to the special kind of stamp used to ornament certain of the sherds from Site 114, it is possible to single out a small group from the great mass of beakers, the Anglo-Dutch relations of which are so often discussed, to find specific relationships not only in the Netherlands, but in North-western Germany and in Scandinavia as well, and to place the chronology of pot-beakers and certain rusticated wares on a firmer basis. A further consequence of the evidence to be set forth is the possibility of correlating, on purely archaeological grounds, the Lyonesse transgression with a marine transgression of the banks of the Elbe and its tributaries near Hamburg. On the Elbe the beginning of this submergence is closely dated to Late Neolithic/Bronze Age I and it is suggested that on the coasts of South-eastern England the onset came very near the time of the earliest Wessex graves.

¹ Piggott, S, in Warren *et al*, *P.P.S.*, 11 (1936), 191, 209, following him, Godwin, H, 'Studies of the Post-Glacial History of British Vegetation', 1, 11, 402 (*Phil Trans Roy Soc Lon.*, 1938), *ibid*, III, IV (1940), Fig 27, Childe, V G, *Prehistoric Communities of the British Isles* (1949), 11, 88, Zeuner, F E, *Dating the Past* (1950), 98, Piggott, *Neolithic Cultures of the British Isles* (1954), Fig 64, places the submergence in his Middle Neolithic period.

DESCRIPTION OF THE POTTERY

THE POTTERY FROM SITE 114, FIGS 1 AND 2 AND PL II

Mr Hazzledine Warren has supplied the following account of the circumstances in which he found the pottery

'Site 114 was situated near to mid-tide level, and was thus well within the range of the submergence. It was a typical "cooking-hole", and 3 feet diameter and over 1 foot deep. In addition to the pottery, the contents consisted of a few large pieces of charcoal, teeth and part of the lower jaw of a young ox, part of the tusk of a boar, some two dozen rounded lumps of burnt clay, nine small irregular cores, 37 small to very small chips, and four thumb-nail scrapers. The general assemblage, apart from differences in form and ornament of the beakers, is identical with that of other special beaker sites previously recorded from Stone Point and Dovercourt (*Journ R Anthropol. Inst*, 42 (1912), 119) It is hoped to describe these associations more adequately on another occasion, and to correct one or two errors in the 1912 description

'This small group (114) needs comparison with the larger Dovercourt site yielding 88 small irregular cores, 295 small to very small chips (spalls) struck from them, 71 thumb-nail scrapers (nearly 16 per cent of the total flint-work), no more than one or two poor scrapers of more ordinary size, two hammerstones, and a few other items. It seems clear that the main intention of the flint industry was the making of thumb-nail scrapers from the most suitable of the chips the question is—for what purpose?

'It is true that a few thumb-nail scrapers occur in other associations on Lyonesse, but only as subordinate items. The special assemblage under consideration appears to suggest some specialized trade (such as that of the potter)—some craft in which neither the scraper of ordinary size nor the keen-edged flake-blade were used to any appreciable extent. No associated axe- or arrow-heads have been found at any of these sites; neither have I recognized the distinctive flakes, found on most other sites, which are the product of re-working flint axe-heads.'

The group from Site 114 may therefore be considered, as far as the circumstances allow, a closed find

Beaker 1 (Fig 1, 1) Sherds from the upper part of a rather coarse beaker, external rim diameter about 6 inches, decorated with horizontal lines made by a stamp which, as will be discussed below, probably consisted of a flint blade with a cord or sinew wrapped round it The ware is dark brown throughout, gritted with small potsherds and sand Eleven more wall sherds, one bearing a row of chevrons, represent at least three similar beakers.

LATE BEAKER POTTERY FROM THE LYONESSE SURFACE

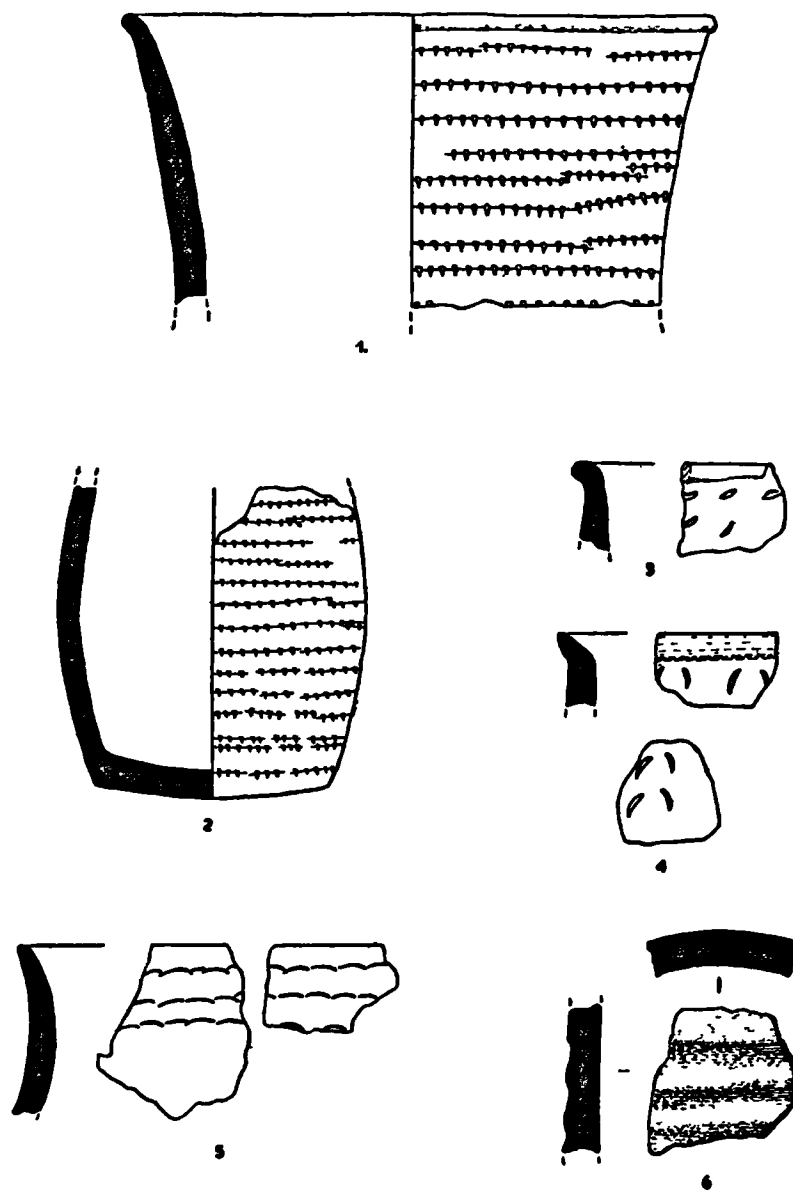


Fig 1. Pottery from Site 114, Lion Point, Clacton (1/2).

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Beaker 2 (Fig 1, 2 and Pl II, top left) Sherds from the base and lower part of a smaller beaker, decorated in the same manner, though by an appropriately finer stamp. The base is markedly convex. The ware is thin and fine, with well-smoothed surfaces. The exterior is reddish, the core black and the interior brown. It is tempered with sand, minute particles of burnt flint and potsherds. Two more sherds represent a similar beaker.

Beaker 3 (Fig 2, 1). Sherds from the upper part of a very coarse beaker, external rim diameter about 7 inches, decorated with irregular vertical rows of paired fingernail impressions. The inner and outer surfaces are dark brown and uneven and form only a thin skin over the black core. Burnt flint, quartz and potsherd fragments are abundant.

Beakers 4 and 5 (Fig 1, 3, 4). Rim and wall sherds from two smaller, finer beakers of the same type as No 3, tempered with burnt flint and potsherds.

Beaker 6 (Fig 1, 5). Two rim and five wall sherds (not illustrated) of a well-made beaker, ornamented with lines of fingernail impressions arranged in horizontal zones. Reddish exterior, greyish interior, no distinct core, gritted with sand and a little burnt flint.

Beaker 7 (Fig 1, 6). Worn sherd, sparsely gritted with minute potsherds and sand, exterior red, interior grey, no well-defined core. Curvature in the horizontal plane, combined with straightness in the vertical plane, and ridged decoration made by pushing up the damp clay with the fingernails suggest that this may come from the cylindrical neck of a *halspotbeker* of the Bronneger type.²

Beaker 8 (Pl II, bottom). Sherds from the upper part of a large beaker, external rim diameter 8-9 inches, decorated with horizontal lines of thumbnail impressions. Though thick, the ware is relatively good and well-fired, red inside and out, with brown patches, and freely tempered with small fragments of (mostly) burnt flint and a few minute potsherds. The perforation below the rim has been made after firing.

HANDLED A BEAKER (Fig 2, 2)

These sherds were found beyond Lion Point, at a level just below high tide mark where the strata are thin and confused. It is therefore uncertain whether or not they antedate the submergence, but, if the late date which will be argued for the pottery from Site 114 proves acceptable, there seems to be no reason why they should not do so.

The sherds are badly weathered and few in number, but enough survives to justify the reconstruction. The contours show that they cannot have belonged to a handled beaker of the cylindrical type. Only traces of the decoration,

² The shape is well illustrated in Warren *et al*, *P.P.S.* 11 (1936), Fig 8.

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which has been made with a notched implement, remain on the rim sherd. Lozenge patterns are, of course, entirely typical on handled beakers, and the concentric lozenges are paralleled on a beaker from Peterborough³ and on the bowl accompanying a handled beaker from a barrow on Ridgeway Hill, Dorset.⁴ The ware is rather coarse, tempered with burnt flint and minute potsherds. The outer surface is reddish-brown (black at the rim), the core is black, and the inner surface brown

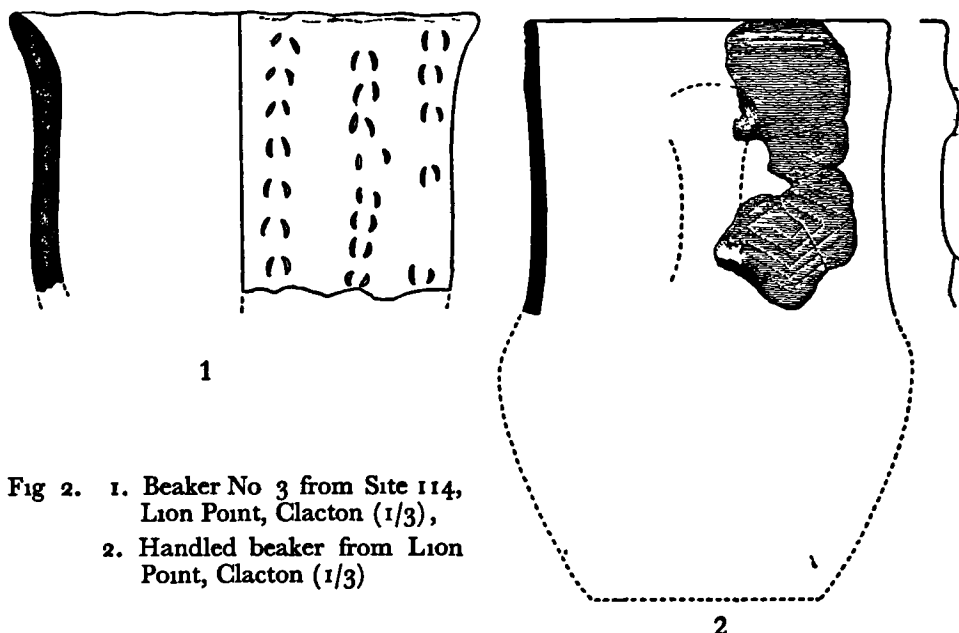


Fig 2. 1. Beaker No 3 from Site 114, Lion Point, Clacton (1/3),
2. Handled beaker from Lion Point, Clacton (1/3)

The use of comminuted potsherds as tempering material in many of these beakers is worthy of note. This device seems rarely, if ever, to have been recorded in Britain and an investigation of the chronological and cultural contexts in which it appears might bring interesting results. Potsherd grit appears to be relatively common in Dutch beakers and Bronze Age wares.

Traces of ring-building are visible on most of the sherds from Site 114.

THE DECORATION ON BEAKERS 1 AND 2 FROM SITE 114.

Numerous irregularities show the lines to have been made by series of stamp impressions. Experiment and detailed examination of a large number of

³ Wyman Abbott, G, *Arch.*, lxi (1910), 10, Fig 5, 2

⁴ Fox, C, *Arch. Camb.*, lxxx (1925), Fig 8

similarly decorated pots, on the Continent as well as in England, have persuaded the writer that, as suggested by Forssander⁵ and Oldeberg,⁶ the stamp consisted of a flint flake (or thin slip of wood or bone), round which a cord or sinew had been loosely wrapped. Pl II, top right, shows a flake encircled by a coarse thread and impressions made therewith on plasticene. The characteristics of the stamp are here exaggerated, but on most pots it is possible to detect the sharp line of the core, not only between the transverse impressions but also projecting at one or both of the ends. The shape, size and spacing of the transverse impressions are subject, of course, to considerable variation. This device should be clearly distinguished from real whipped cord, of which it may be an imitation, as well as from notched stamps. Perhaps the German term *Stachel-drahtlinien*, barbed-wire lines, which is graphic and at the same time unlikely to be confused with any other kind of stamp, may justifiably be borrowed for English usage.⁷

Various methods of imitating true whipped cord are known on the late Passage Grave pottery of Germany and Holland, but, as far as the writer is aware, the particular method under discussion is less common on such pottery than on beakers and other vessels contemporary with or slightly younger than the late Passage Grave period.⁸ On the Continent the use of barbed-wire stamps may be taken as marking the last stage in the devolution of Neolithic ceramic decoration. In Britain, on the other hand, such stamps seem to have made but a transitory appearance, in no way affecting the evolution of Early Bronze Age pottery.

THE RELATIONSHIPS OF THE POTTERY FROM SITE 114.

It has not as yet been possible to make more than a summary investigation into the occurrence of beaker or other types of pottery decorated with barbed-wire lines in Britain and the technique may prove to have a wider distribution than indicated here.

Three examples are illustrated by Abercromby from Lambourn Down, Berks, Chagford Common, Dartmoor, and Stoford, Barwick, Som.⁹ These three beakers comprise one-half of Abercromby's list of the BC variety in the area south of the Thames, and in his opinion the two from Lambourn Down and Stoford were very late specimens.¹⁰ The beaker from Chagford was found in a closed cist, surrounded by a ring of stones, under a barrow, but unaccom-

⁵ Forssander, J.-E., *Die schwedische Bootstarkkultur* (Lund, 1933), 20.

⁶ Oldeberg, A., *Hällikistan från Ingemarstorp* (Stockholm, 1954), 35.

⁷ Although Langenheum, *Die Tonware der Riesensteingräber in Schleswig-Holstein* (Neumünster, 1935), includes other techniques under this name.

⁸ A comprehensive study of this pottery, which occurs in Germany mainly in the west of Schleswig-Holstein, is shortly to be published by Dr K. W. Struve of Schleswig.

⁹ *B.A.P.*, 1, Pl. VII, 41, 40, 42 bis.

¹⁰ *Ibid.*, 1, 23.

LATE BEAKER POTTERY FROM THE LYONESSE SURFACE

panied by other grave goods ¹¹

The type seems to occur most frequently in the extreme south and east. Here it has thrice been found in graves: Ditchling Road, Brighton, Sussex ¹² a beaker with a cordon below the rim and zone of criss-cross impressions between zones of horizontal lines, in what appears to have been a flat grave, oriented NE-SW, ¹³ containing also a crouched skeleton with a heap of shells before the mouth and a barbed-and-tanged arrowhead. Church Hill flint mines, Findon, Sussex ¹⁴ a large beaker, with a cordon below the rim and zones of horizontal lines, accompanied by two flint axes, was sealed under a flaking floor in the upper filling of Shaft 1 and is said ¹⁵ to have been inverted over a deposit of cremated bones. Sherds of a rusticated pot were scattered in the same level. (Although the impressions on these two beakers from Sussex differ somewhat from any others the writer has seen, they seem more likely to have been produced by a barbed-wire stamp than by any other recognized technique.) Felixstowe, Suffolk. ¹⁶ two barbed-wire beaker sherds, a small beaker with fingernail impressions, other sherds (some from the bases of large vessels), a heap of shells, and cremated bones, all said to have been closely associated.

Five more barbed-wire beakers from East Anglia seem to have been found without associations: two from the neighbourhood of Ipswich, ¹⁷ one each from Fingringhoe and Little Holland, Essex, ¹⁸ and one from the Badwell Ash Gravel Pit, Bury St Edmunds ^{18a}. Four of these are of B2 form.

A small B2 beaker with typical barbed-wire decoration was found near the centre of a low barrow at Cley-next-the-Sea, Norfolk ^{18b}. It lay on a 'platform of fire-scorched pebbles' and nearby was a large patch of dark earth and charcoal, but no cremated bones or traces of an inhumation were seen. The beaker contained only sand.

Quite apart from the wider dating evidence for barbed-wire decoration, discussed below, it is clear from the burial associations, the devolved form (often B2), and the presence of neck cordons, that this is a late beaker group. Here it may be noted that Mr Hazzledine Warren's Site 102 (located well within the submerged area) yielded a beaker with a neck cordon and fingernail

¹¹ *V.C.H. Devon*, 1, 360 and Fig. 14, this illustration shows diagonal impressions across the rim as well, a feature which recurs on related vessels on the Continent.

¹² Curwen, E. C., *The Archaeology of Sussex* (2nd ed., 1954), 150 and Pl. XI, 1.

¹³ *Ant. J.*, 11 (1922), 55-6.

¹⁴ Curwen, *loc. cit.*, 115, Figs. 25-6.

¹⁵ *Ibid.*, 149. In a communication to Curwen, Grimes has suggested that this vessel was a late arrival from Holland.

¹⁶ Ipswich Museum, No. 1921-60.

¹⁷ Clark, J. G. D., *P.P.S.E.A.*, vi (1933), Pl. XXXI, 14, 15.

¹⁸ Both in the Castle Museum, Colchester. The Little Holland beaker is the larger of the two illustrated on Pl. IIIA, *What to See in the Castle Museum*, published by the Museum Committee of the Borough of Colchester.

^{18a} Peterborough Museum.

^{18b} Williams, J. F., *Norfolk Archaeology*, xxii (1924), 206-8.

impressions (as yet unpublished), and this, with the beakers from Site 114 and the previously published pot-beakers, may be taken as the latest datable objects deposited before the submergence.

It thus becomes apparent that no long interval of time can have separated the final settlement at Lion Point and the post-submergence Early Bronze Age settlements in the Fenland at Peacock's¹⁹ and Plantation²⁰ Farms, and indeed from the latter comes a sherd with a single line of decoration strikingly similar to that made by a barbed-wire stamp²¹ Though not itself of beaker fabric, it was associated with A beakers, rusticated and cord-impressed wares and sherds with cordons below the rim. As a whole, the pottery from these sites does look later than the latest material from Lion Point, but the difference in date can hardly be great enough to permit the interpolation between the two groups of the whole of Godwin's Zone VIIc, the period of formation of the fen clay,²² unless an improbably brief length of time can be allowed for the latter, perhaps less than one-fifth of Godwin's estimated 500 years.²³ Even Frere's estimate of 100 years, made in connection with the Grooved Ware from Hills Road, Cambridge,²⁴ which on analysis proved likely to have been made of fen clay, seems rather too long.

The two small open bowls from the Thames at Mortlake (or Kew) and at Putney²⁵ are related by their decoration to the barbed-wire beaker group. (In describing the ornament Curle suggested an elaborate method of application, but examination of the bowls in the British and London Museums²⁶ has satisfied the writer that in fact a stamp of the barbed-wire type was used.) To what culture these bowls should be assigned is not clear, it is possible that, as Piggott suggested,²⁷ they belong with Peterborough ware, but, if so, they are atypical.

Although both belong to such a simple type, it is perhaps not inappropriate to compare Beaker 3 from Site 114 with that excavated by Grimes from the secondary burial in the double ring-ditch at Linch Hill Corner, Stanton Harcourt, Oxon.²⁸ The resemblance in shape and decoration might not in itself be worth mentioning if it were not for some significant features of the burial. The body had been placed in a wooden coffin laid in a grave-pit oriented NW-SE, as is the case with late beaker burials in Holland. The bone ring-

¹⁹ Clark, J. G. D., *Ant. J.*, xv (1935), 284 ff.

²⁰ *Idem*, xiii (1933), 266 ff.

²¹ *Ibid.*, Pl. XLV, 13.

²² Godwin, *loc. cit.*, III, Fig. 27.

²³ *Ibid.*, II, 403.

²⁴ Frere, D. H. S., *Ant. J.*, xxiii (1943), 34 ff.

²⁵ Curle, A. O., *Ant. J.*, iv (1924), 149 ff., Pl. XXVIII and Fig. 1.

²⁶ The bowl from Putney, formerly in the Royal Scottish Museum, Edinburgh, has been transferred to the London Museum.

²⁷ *Arch. J.*, lxxxviii (1931), 114, 153, and Fig. 14, 6.

²⁸ *Oxoniensia*, viii-ix (1943-44), 34-45, Figs. 14-18.

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pendant found beside the skeleton has, as Childe pointed out in a communication to Grimes,²⁹ its closest analogies in similar objects found in Swedish Stone Cists. The more elaborate ring-pendant from Sittingbourne, Kent,³⁰ was associated with a skeleton, a flat bracer, and a tanged knife-dagger with a single rivet. A similar dagger in a grave-group from Driffield, E. R. Yorks,³¹ accompanied an AB beaker with cordoned neck and a curved bracer with gold studs.

The sherd which, as suggested above, may come from the neck of a *halsspotbeker*, points directly to the connection with the Netherlands discussed by Piggott in the earlier publication of pottery from Mr Hazzledine Warren's collections,³² and which has, of course, been noticed by many British and Dutch archaeologists.³³ The association of this sherd with the others from Site 114 indicates that we may, in fact, be dealing with the ceramic products of a single cultural group. Beakers 3, 4 and 5 are probably just carelessly executed examples of the type previously published from Dovercourt.³⁴ This in turn is related to the large pot-beaker of Dutch type, similarly decorated and with a cordon below the rim, from Stone Point, Walton.³⁵

Further support for this argument is found in the Netherlands, where barbed-wire decoration occurs in combination with paired fingernail marks,³⁶ with a neck cordon,³⁷ and with impressed circles.³⁸ Impressed circles occur again on a small sherd from Lion Point,³⁹ and somewhat larger ones on a rusticated *halsspotbeker* from Kootwijk.⁴⁰

The curiously shaped vessel excavated by van Giffen from a barrow at Gasteren⁴¹ is the only barbed-wire beaker as yet found in certain and direct association with a burial in Holland. The size of the primary barrow (1.30 m. high, 1.3 m. diameter), and the SE-NW orientation of the grave are characteristic of the late beaker period. Van Giffen remarks on the relationship of this beaker to that from Ohlenburg (see below).

Heuvel 3, Garderen,⁴² covered two contemporary burials in wooden

²⁹ *Ibid.*, 43.

³⁰ In the British Museum, described by Payne, *P.S.A.*, x, 29.

³¹ *Later Prehistoric Antiquities of the British Isles*, published by the Trustees of the British Museum, 1953, Fig. 15.

³² *P.P.S.*, II, 188.

³³ The connection has been discussed by van Giffen, *De Hunebedden in Nederland* (Utrecht, 1927), II, 493, and elsewhere.

³⁴ *P.P.S.*, II, Fig. 3, 2.

³⁵ *Ibid.*, Fig. 3, 1.

³⁶ Glasbergen, W., *Palaeohistoria*, III, Fig. 63, 6.

³⁷ Bursch, F. C., *Die Becherkultur in den Niederlanden* (Marburg, 1933), Taf. V, 5.

³⁸ From Site V, Wychen, near Nijmegen, unpublished and referred to by kind permission of Dr W. Glasbergen.

³⁹ *P.P.S.*, II, Pl. XXXIX, 10.

⁴⁰ Pleyte, W., *Nederlandsche Oudheden* (Leiden, 1877-1902), Gelderland section, Pl. XVIII, 5.

⁴¹ *Nieuwedrentsche Volksalmanak*, 1941, 29-31, Afb. 32.

⁴² Bursch, *loc. cit.*, 31-34, Abb. 31-32.

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coffins Associated with one were amber beads, a 17 cm long dagger of Grand Pressigny flint, and a broken thick-butted axe of Northern type, and, presumably, origin A similar axe came from the other grave Both appear to be of the short, crudely fashioned kind found in Scandinavia in Stone Cist or Boat-axe contexts ⁴³ Lying between the graves was a sherd with barbed-wire ornament *Potbeker* fragments and a hollow-based arrowhead occurred at a higher level.

A well-dated beaker comes from Tumulus II, Ermelose Heide ⁴⁴ The primary interment in this barrow was oriented E-W and accompanied by two beakers with herringbone decoration and a flint knife—a burial typical of the older Single-Grave culture in Holland The barbed-wire beaker sherds were found on the surface of the primary mound near the edge and covered by the material of the first enlargement, which was probably made to accommodate a late beaker grave.

With the exception of certain ambiguous instances (Meervelderweg, ⁴⁵ Wessinghuizen, ⁴⁶ and Twente⁴⁷), barbed-wire beakers and *potbakers* fall within the bell-beaker period in Holland The *potbakers* excavated by van Giffen from the *hunebedden* of Bronneger⁴⁸ and Havelte⁴⁹ are assigned by him, on stratigraphical as well as typological grounds, to the later or latest deposits therein⁵⁰ and to the Late Neolithic or Aenolithic period. In Tumulus III, Vries, ⁵¹ van Giffen found a *potbaker* sherd in the material of a mound of which the size and the orientation of the (empty) primary grave indicate a late date, he attributes the sherd to the first period of the barrow

Finally, a possibly significant find, made between Hillegom and Lisse, should be recalled ⁵² A poor specimen of a Scandinavian flint dagger⁵³ was discovered in dune sands. Further investigation brought to light three sherds of pottery from (allegedly) the same spot, two of which are decorated with barbed-wire lines Although there is no proof that all the objects belong together, it is by no means improbable that they do

A site in Western Germany which bears curious, though possibly fortuitous, resemblances to Lynch Hill Corner may be mentioned here At Selm, Kr

⁴³ Forssander, J-E, *Die ostskandinavische Norden während der ältesten Metallzeit Europas* (Lund, 1936), 135, and *Die schwedische Bootaxtkultur* (Lund, 1933), Fig 53

⁴⁴ Modderman, P J R, *Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek in Nederland*, (1954), 22-24, Fig 6

⁴⁵ Bursch, *loc cit*, 38, Taf IV, 9 (handled beaker)

⁴⁶ van Giffen, A E, *Die Bauart der Einzelgräber*, 1, 64-7, 11, Abb 53

⁴⁷ Hyszeler, C C W J, *Verslagen en Mededeelingen van Overijsselsch Regt en Geschiednis*, 2nd series, xxxvi, 14-29

⁴⁸ *Hunebedden*, III, Pl 154, 87, 89 (*halspotbakers*), 76 (*potbaker* with two cordons below the rim).

⁴⁹ *Ibid*, II, 154

⁵⁰ *Ibid*, 493

⁵¹ *NDV*, 1941, 15-19, Afb 15

⁵² Oppenheim, R, *Oudheidkundig Mededeelingen*, x (1), 8

⁵³ Wrongly compared by Bursch, *loc cit*, 41, to a plano-convex knife from Yorkshire

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Ludinghausen,⁵⁴ a double ring-ditch had been cut by secondary graves, in one of which was a small beaker with paired fingernail decoration. Both the ring-ditches yielded sherds of barbed-wire beakers.

The discovery at Ohlenburg,⁵⁵ on the outskirts of Hamburg, of a devolved Single-Grave beaker, decorated with barbed-wire lines and containing a number of bronze objects, gives the closest dating we may at present expect for this kind of decoration. The bronzes, all of Unětice origin, belong to Bronze Age I. The pot and its contents are now in the Eastern Zone, but the published illustrations indicate their character sufficiently well. The metal objects comprise part of an axe with slight flanges, eight simple *Noppenringe*,⁵⁶ and a ring of bronze ribbon. The decoration on the 12 cm high pot has been carelessly applied, but consists of a zone of approximately horizontal lines, finished off below with a band of zigzags.

The pot (which, it will be remembered, van Giffen compared with the vessel from Gasteren) is in turn likened by Schwantes⁵⁷ to pots from the Swedish Stone Cists on account of the similarity of the ornament, and correlated with the first half of the Stone Cist (Late Neolithic) period, in effect the beginning of the Bronze Age.

Not only does this important find give a relatively reliable date in North-western Europe for beakers with barbed-wire ornament, but it also gives a *terminus post quem* for a marine transgression the evidence for which has recently been published by Schindler.⁵⁸ The Ohlenburg pot was found only a few metres away from one of the habitation sites at Boberg (Site 12) which yielded sherds of belated Single-Grave beakers, barbed-wire beakers, bell-beakers, and nothing later. Site 15 produced a great deal of earlier material, but again barbed-wire sherds and a hollow-based arrowhead may be taken as the latest objects deposited. The intensive habitation of the Boberg area ceased at the onset of the transgression, which gradually flooded the banks of the Elbe and its tributary, the Bille, and settlement was not resumed until the Middle Ages. The relics of prehistoric habitation were sealed below a thin formation of clayey peat, over which a 20-60 cm thick deposit of marine clay had been laid down. The similarity of these geological phenomena to

⁵⁴ Albrecht, C., *Westfalen*, 19, Heft 2 (1934), 136. Barbed-wire and rusticated beakers occur frequently on habitation sites in Westphalia which were subsequently occupied by palisade barrows and even Late Bronze Age ring-ditch cemeteries (Cf *Germania* 24 (1940), 85 ff and 179 ff).

⁵⁵ Schwantes, G., *Die Vorgeschichte Schleswig-Holsteins* (Neumünster, 1939), 292, Abb. 351-2, *Kieler Festschrift* (1936), 79-92, Figs 10, 11. In both publications Schwantes refers to the site as Ohlendorf, it is now known as Ohlenburg. Schindler (see below) lists it as *Fundplatz* 11, Boberg.

⁵⁶ The term *Noppenring* seems universally to be applied to the larger, simpler type found at Ohlenburg and to the small, elaborately wound type, often made of gold wire and probably worn as ear-rings, which is perhaps of slightly later date.

⁵⁷ *Kieler Festschrift*, 85.

⁵⁸ *Hammaburg*, ix (1953), 1-17.

those observed on the Essex coast⁵⁹ is noteworthy and in this case the archaeological evidence, unless it has been misinterpreted, does suggest a remarkably precise correlation

According to Schindler,⁶⁰ the late pottery from Boberg is to be linked with that from the habitation site at Neu-Boberg and the urn-cemetery at Sande published by Schwantes.⁶¹ The material from Neu-Boberg seems to represent occupation by a Late Neolithic group, among the flint objects illustrated by Schwantes are seven hollow-based arrowheads and the remnant of a repeatedly trimmed flint dagger. The devolved Single-Grave beakers at Sande contained cremated bones and had been set into the ground without covering mounds, staining of the bones by vanished copper or bronze objects was visible in several instances. A rolled-up ribbon of bronze with rows of small bosses was found in the cemetery (though not in an urn) and was accepted by Schwantes as contemporary with it.

In Denmark pottery with barbed-wire decoration appears to be absolutely rare. In Norway and Sweden the technique occurs on Boat-axe vessels of Style III and, in Forssander's view,⁶² is derived from Stone Cist pottery, bearing witness to 'the intimate chronological contact' between the two. We may therefore take it that this ornament appears in Sweden at the beginning of Late Neolithic, chiefly on the Horgen-like pots of the Stone Cists.

Of the material, abundantly illustrated by Forssander⁶³ and Oldeberg,⁶⁴ it will suffice to mention that from the classical cist of Skogsbo,⁶⁵ where the finds were stratified. In the lowest deposit were a typical splay-footed pot bearing coarse barbed-wire impressions, Type II daggers, a hollow-based arrowhead, in the second deposit atypical Type II daggers, two bronze ornaments, a sandstone ring-pendant,⁶⁶ in the third one plain pot, another with a few random barbed-wire impressions, Type III daggers and hollow-based arrowheads. The degenerate character of the ornament on one pot and its absence on the other may indicate that this ornamental technique was beginning to disappear in Sweden by the Type III dagger stage.⁶⁷

A few large vessels with cordons below the rim which in form sometimes recall the Dutch *potbekers* appear to belong to the Late Neolithic in Denmark as well as in Sweden. In Seeland such pots have twice occurred in stone cists,

⁵⁹ Cf. *P.P.S.*, II, 179, the sequence is fully set forth by Zeuner, *Dating the Past* (1950), 97-99 and Fig. 35.

⁶⁰ *Loc. cit.*, 16-17.

⁶¹ *Kieler Festschrift*, 79 ff.

⁶² *Boat-axe culture*, 47-50.

⁶³ *Ostskandinavische Norden*, *passim*.

⁶⁴ *Loc. cit.*, *passim*.

⁶⁵ *Ostskandinavische Norden*, 121-2, Taf. XXIII-IV.

⁶⁶ This is the specimen referred to by Childe, *Oxon.*, VIII-IX, 43.

⁶⁷ Some of the grave groups listed by Forssander, *loc. cit.*, 152-53, may provide evidence to the contrary.

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once with Type II and once with Type III daggers and bronze objects⁶⁸ One of the pots from Nosaby, Skåne, has also four lines of barbed-wire impressions below the cordon⁶⁹ Even more like *potbekers* are large rim fragments from Vasterbjers⁷⁰ and Stora Forvar⁷¹ Barbed-wire impressions are here found in several instances on large pots with everted rims and neck cordons At both sites this pottery is considered to represent the latest occupation and the transition from Middle to Late Neolithic. It is perhaps worth noting that Piggott⁷² has cited the Vasterbjers cemetery (with burials of the Middle Neolithic pit-comb ware culture) as a good parallel to Upton Lovell⁴ and other British graves with perforated bone points and animal tooth ornaments.

Barbed-wire decoration is found also on pottery from the East Baltic area in Finland it has been assigned by Ayrapaa to the final or Kiukais phase of the 'dwelling-places',⁷³ a few sherds, one with diagonal impressions across the rim, are illustrated in a report of recent excavations on the shore of Lake Tamula in Estonia⁷⁴

SUMMARY

In view of the existing evidence it is suggested that the Lyonesse-Boberg transgression affords a *terminus ante quem* for the appearance in Britain of barbed-wire and cordoned beakers, pot-beakers, probably A beakers, and bone ring-pendants, barbed-wire beakers and *potbekers*, 1 c, Bell-beaker-Aeneolithic, in Holland, barbed-wire beakers and the beginning of Montelius I⁷⁵ in North-western Germany, barbed-wire ornament, cordoned pots, ring-pendants, Type III daggers, in Sweden

That the beginning of the Wessex Culture must come close to this horizon seems clear, and one further piece of evidence may be brought forward. A chip from the cutting edge of a greenstone axe, found by Mr Hazzledine Warren on the Lyonesse surface in a 'cooking-hole' in Area 4 (the Grooved-ware area), has recently been examined by the Stone Axe Sub-Committee of the South-Western Group of Museums and Art Galleries The specimen, No. 892 in the Sub-Committee's list, has been determined as Group I, a group notable for its

⁶⁸ Magnusson, M., *Medd från Lunds Universitets Historiska Museum*, 1948-9, 155 ff—Kallerup-gaarde 3a and Bjere

⁶⁹ *Ibid*, Abb 2, c.

⁷⁰ Stenberger, M., *Das Grabfeld von Vasterbjers auf Gotland* (Lund, 1943), Taf 42, 1, 2, 3.

⁷¹ Schnuttger, B and Rydh, H., *Grottan Stora Förvar på Stora Karlsö* (Stockholm, 1940), Pl. LXII and others.

⁷² *Neolithic Cultures*, 360-1

⁷³ Ayrapää, A., *Acta Arch*, 1 (1930), 270 and Abb 93

⁷⁴ Yanits, L. I., *Sovetskaya Arkheologiya*, xix (1954), 150 ff and Fig 15.

⁷⁵ Or Reinecke A1 It seems unnecessary to bring all *Noppenringe* and embossed bronze bands down to Reinecke A2/B1 and to the Type IV dagger stage as suggested by Forssander *Ostskandinavische Norden*, 102, 103, 208), Schwantes (*Kieler Festschrift*, 83) and Sprockhoff (*BRGK*, 31, 11, 76, note 134), or, alternatively, to raise them all to 1A (Kersten, *Zur älteren nordischen Bronzezeit*, 45, 99)

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Late Neolithic/Early Bronze Age associations⁷⁶ Of particular interest is specimen No 303, a squared muller which accompanied the male skeleton in Upton Lovell⁴ The grave goods with this burial were mainly Late Neolithic in character, but included typical Wessex battle-axes, with the female skeleton, which cannot have been buried very many years later, was a bronze awl of Thomas's earliest Wessex type⁷⁷

In this connection it is of interest to note that three of the sherds from Plantation Farm⁷⁸ seem to reflect at least the Grooved-ware tradition; the probability that fen clay was used in the manufacture of the undoubted Grooved-ware from Hills Road lends substance to this observation. Thus, for more than one reason, it looks as though the Lyonesse surface became uninhabitable not very long before settlement in the Fenland became possible once again

ACKNOWLEDGEMENTS

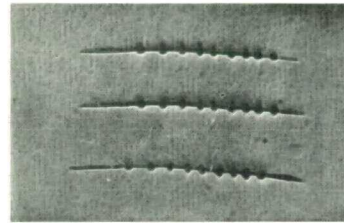
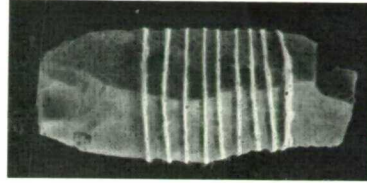
A large proportion of the Continental pottery referred to in this paper was examined during a research journey made possible by a grant from the Research Fund of the University of London, for which the writer is deeply grateful. The writer is also especially indebted to Professor V Gordon Childe for many kinds of help and encouragement and acknowledges with thanks much assistance from the following J J Butler (London); Dr W Glasbergen (Groningen), Miss A Henshall (Edinburgh), Erik Hinsch (Bergen), Fil lic. Lili Kaelas (Stockholm), Dr P. J R. Modderman (Amersfoort), Dr M. Petersson (Lund); Dr R Schindler (Hamburg), Dr K. W Struve (Schleswig).

⁷⁶ Cf *P.P.S.*, xvii (1951), Pt. 2, 104, where specimens examined up to 1951 are listed Dr J F S. Stone has kindly supplied a list of the specimens examined since that date which were found in definite contexts In seven out of eight instances they had been discovered in or under barrows, or in henge monuments

⁷⁷ Thomas, N de l'E W, *Three Wessex-Culture Barrows and their Material*, lecture delivered to the Prehistoric Society at Salisbury, 11 September 1953

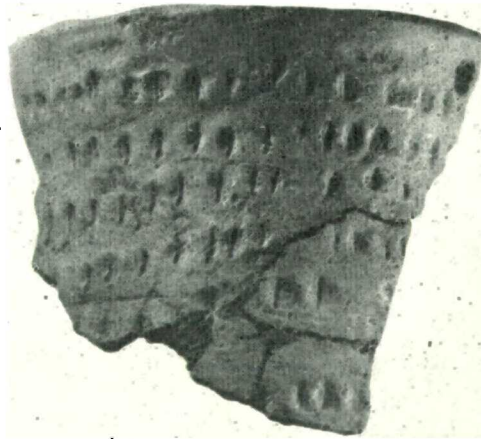
⁷⁸ Clark, *Ant J*, xiii (1933), Pl. XLV, 15, Pl XLVI, 24, 25

PLATE II



Flake wrapped with thread and
its impression on plasticene
(1/1).

Beaker No. 2 from Lion Point, Clacton (1/1).



Beaker No. 8 from Lion Point, Clacton (1/3).

APPENDIX II

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Reprinted from ^{Tenth} *The Annual Report of the Institute of Archaeology*, 1954

Neolithic Pottery from the Submerged Land-Surface of the Essex Coast

PART I THE FIELD EVIDENCES

By S. HAZZLEDINE WARREN

I GENERAL REMARKS

THE prehistoric remains found on the submerged surface of the Essex coast have been described in a number of papers (Warren, Piggott, Clark, Burkitt and Godwin, "Archaeology of the Submerged Land-Surface of the Essex Coast," *PPS*, 11 (1936), 178, where further references may be found), and it is sufficient here to recall that these mainly consist of flint implements, including polished axes, barbed and other types of arrowheads, flint sickles, polished oval knives, etc., together with Windmill Hill, Peterborough and B Beaker pottery. Nothing later than B Beaker has ever been found on the surface.

Most of the best flint implements occur as a general scatter over the submerged surface, and not on the camp sites, cooking-holes, etc., which have yielded the best pottery.

The richly ornamented vessel that is the main subject of the present communication was found with other sherds on the floor of a circular pit-dwelling of 15' or 16' diameter, which was exposed on the lower foreshore nearly two miles to the west of Clacton pier (G R 62/153129(5)).¹ It is recorded as from Lion Point, in accordance with the Ordnance Maps up to about 1930, but now called Jaywick, and the relics are registered as from Site 109.²

The position on the foreshore was below the outcrop of the submerged surface, which was seen at the time in a low cliff about 15 yards away, so one could not directly measure the depth to which the flat floor (which later was found to be the upper of two floors) had been sunk below the surface, but it must have been about 4', if not more.

Tidal sites have their special difficulties for archaeological work, and the state of one's digging on the following day, after two tides have been over it, can be readily imagined, it is often best to dig about a foot deep the first time and then leave it until the sea has swept away all the debris. It

¹ An additional decimal point is added in brackets where this is needed.

² I have recently learned that the name "Lion Point" still remains in familiar use among some of the local inhabitants, though totally unknown to many. It does not appear on the new 2½" O.S. sheets.

NEOLITHIC POTTERY FROM SUBMERGED LAND-SURFACE OF ESSEX COAST

proved here that below the floor as originally seen there was a sterile grey silt (an undisturbed natural flood silt) about 18" thick. A similar grey silt occurs in many places in association with the submerged surface, but here it was confined to the area of the pit-dwelling which had been dug in Pleistocene brown loam. Below the grey silt there was a lower floor with sherds of Windmill Hill pottery.

Thus it is clear that there were two stages of occupation separated by flooding, but one must look to the pottery for evidence of their relative dating. From external evidence it might have been either that the same family returned to reoccupy their old home after the flooding subsided or that the site remained as a visible hut-circle for a longer or shorter time before being reused. One could hardly imagine that the site would be completely filled in and obscured, and then another independent dwelling dug in precisely the same place.

I have found only one other convincing example of a pit-dwelling with a flat floor on the submerged surface, this was seen in a similar situation to Site 109 on the foreshore at nearly 2½ miles west of Clacton pier (G R 146(2)128). This is recorded as Site 102 (see *PPS*, 11, p. 181, also Fig. 3, No. 4. Site 109 is also recorded in the 1936 paper, but the lower floor was not found until some months later). It was oval in form, measuring 20' × 12', and included the remains of a good deal of wood which presumably formed the roof. At this site (102) round-bottomed pottery was mingled on the floor with flat-bottomed domestic beaker. It may be that there was an overlap in the period of use of the two forms, particularly as the round-bottomed form is well adapted to out-of-door use, as it can be placed securely in a slight hollow in the ground, while the flat-bottomed form is better with a table.

However that may be, in my experience of the submerged surface it is much more usual for the closely associated groups of pottery to be either all round-bottomed or all flat-bottomed than for the two forms to be found together.

I have seen one or two other sites on the lower foreshore which were certainly pits that had been dug from the prehistoric surface, but there was not much left of them, and I would not suggest that they had been dwellings, which I think is a fair interpretation of Sites 102 and 109.

The cooking-holes, or earth ovens, are entirely different in character and far more common. Certain of the open sites are clearly an accumulation of waste outside a dwelling, but I have never seen anything that one could describe as a kitchen-midden on the submerged surface.

The following is the order of relative abundance of the various classes of pottery.

- 1 Windmill Hill ware—round-bottomed vessels without ornament are the commonest

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- 2 Domestic Beaker, with "rustication" (finger-nail ornament)
- 3 Grooved (Rinyo-Clacton) ware This is confined to one site at Lion Point
- 4 B Beaker—a good deal with typical ornament has been found at all Essex coast sites
- 5 Peterborough ware—this is very much rarer than B Beaker
- 6 Very rare variations, most of which, like the "A2," may be related to Peterborough ware

There are also a large number of sherds of flat-bottomed ware carrying no ornament

2 SITE 109

On the lower floor were found pottery (see report below) and ten animal bones, most of which had been broken, perhaps to get the marrow There were no flint artifacts

On the upper floor lay pottery (see report on p 30) and eighty-five pieces of flint Most of the latter were waste flakes, but there were two small flakes with serrated edges and in the sandy residue from the washing of the relics were found three minute edge-trimming flakes This shows that flaking was practised on the floor, but it is evident that the occupiers did not allow any great bulk of waste of any kind to accumulate inside their dwelling Nearly 10 per cent of the flakes were burnt, and about a dozen broken-up pot-boilers were found No bone was encountered on this floor

PART II THE POTTERY

By I F. SMITH

I THE POTTERY FROM THE LOWER FLOOR

Examination in the Institute's laboratory of sherds from the lower floor has brought to light rim fragments of at least fourteen undecorated pots, and body sherds of perhaps ten more

The majority of the rims are slightly thickened or rolled, but the more developed rims (Fig 2, 2 and 3, Fig 1, 1) appear to be characteristic of an eastern group of Neolithic A1 pottery Similar rims were found at Hayland House, Mildenhall, Suffolk, in the same sandhill as a decorated A2 bowl,³ and also at Peacock's Farm, Cambs ⁴ They are, of course, typical in Yorkshire It has been possible to make partial reconstructions only of Nos 2 and 3, which represent Piggott's Form G, though with a rounded shoulder The majority

³ Leaf, *Proc Camb Ant Soc*, xxxv, 110, Fig 3, 1 and 2

⁴ Clark, *Ant J*, xv, 301, Fig 12

NEOLITHIC POTTERY FROM SUBMERGED LAND-SURFACE OF ESSEX COAST

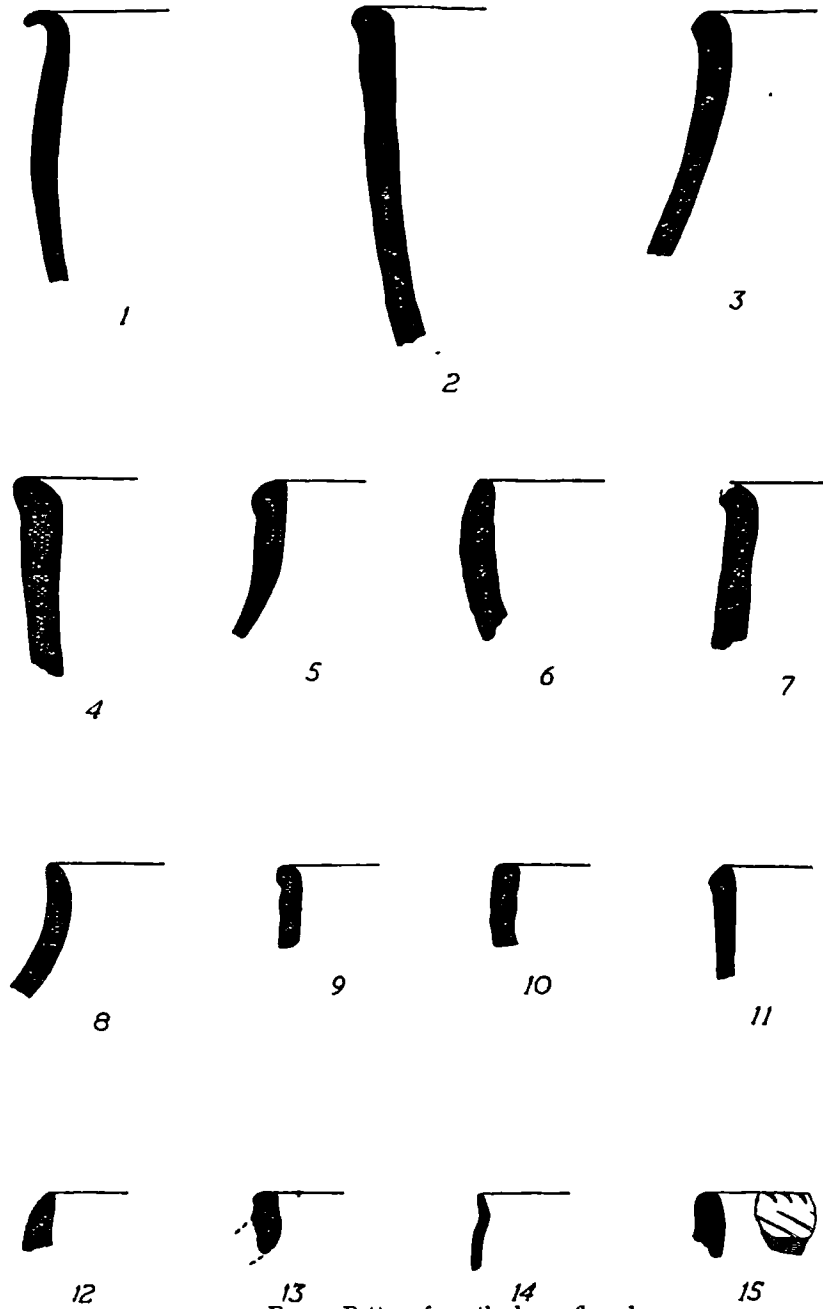
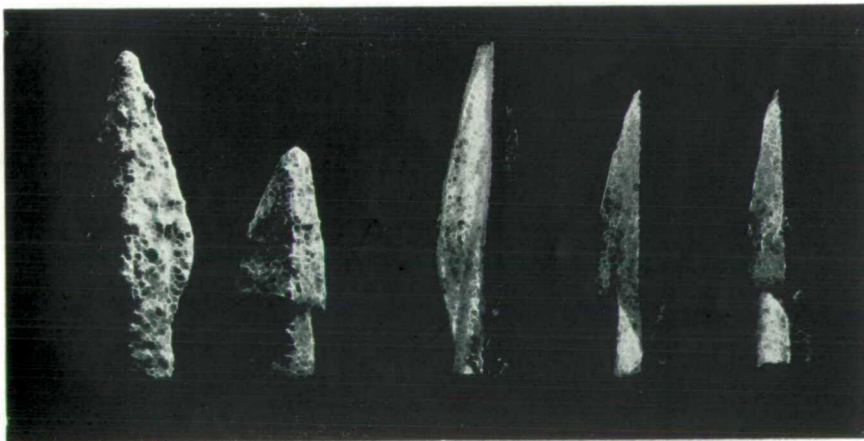


FIG. 1. Pottery from the lower floor 1/2

PLATE III



1. Decorated Neolithic Bowl from the Submerged Land-Surface of the Essex Coast.



2. Bronze Arrow-heads before (*left*) and after (*right*) treatment

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of rim fragments appear to have belonged to straight-sided vessels, but are nearly all so small that certainty is difficult.

A great variety of fabrics is present among the sherds from this floor, but they may be divided roughly into two classes

1 Hard, clayey paste, which tends to laminate vertically, angular grits, with fragments up to $\frac{1}{4}$ " in length, sparse or abundant, fracture usually brown, thick brown slip often present, especially on the interior

2 Softer, fine, homogeneous paste, small grits, well distributed, fracture usually black or very dark brown, thin slip occasionally preserved

Crushed felspar and pink quartz, rarely small rounded quartz pebbles, were used for grit as well as burnt flint. Shell grit is visible in three small sherds of a soft, sandy, buff ware, all presumably belonging to the same vessel, the single rim fragment is illustrated (Fig. 1, 9). A rather similar shell- and chalk-gritted ware (Class C) comes from the Neolithic deposits at Maiden Castle, Dorset,⁵ and shell-grit is reported from Windmill Hill,⁶ Whitehawk⁷ and predominates in the pottery from Abingdon.⁸

2 THE POTTERY FROM THE UPPER FLOOR

As reconstructed the pot from the upper floor (Pl. III, and Fig. 2, 1) is intermediate in shape between Piggott's Forms H and J. Its height is $7\frac{1}{4}$ ", with external diameters of $10\frac{1}{2}$ " at rim and 11" at shoulder. Wall thickness varies from $\frac{3}{16}$ " immediately below the carination to $\frac{1}{4}$ " lower down. The paste is fine in texture and well fired, small fragments of burnt flint are distributed evenly and sparsely throughout. Both inside and out the colour varies from black at the top to a dull red at the bottom. Although the pot is well smoothed on both sides, most of the slip has been lost, and a few particles of grit protrude from the outer surface.

Examination of the shoulder fragments before restoration failed to reveal any indication that the neck and rim had been applied as a separate ring, although this device was commonly used in making pots of this and related forms.⁹

Five zones of decoration are distinguishable: two rows of short oblique slashes on the rim, running in alternate directions, one over the top, the other on the outside, the area from rim to shoulder is filled with close-set oblique strokes, somewhat broader than those on the rim, on some of the shoulder fragments a fourth row of oblique slashes runs in the opposite direction over

⁵ Report by Piggott on Neolithic pottery in Wheeler, *Maiden Castle, Dorset*, 140

⁶ Keiller, *Proc. 1st Internat. Congress of Pre- and Protohistoric Sciences*, London, 1932, 136

⁷ Report by Piggott on pottery in Curwen, *Ant. J.*, xiv, 114

⁸ Leeds, *Ant. J.*, vii, 450

⁹ Piggott, *Arch. J.*, lxxxviii, 74, Stevenson, *Man*, lxi, May 1953, 65

NEOLITHIC POTTERY FROM SUBMERGED LAND-SURFACE OF ESSEX COAST

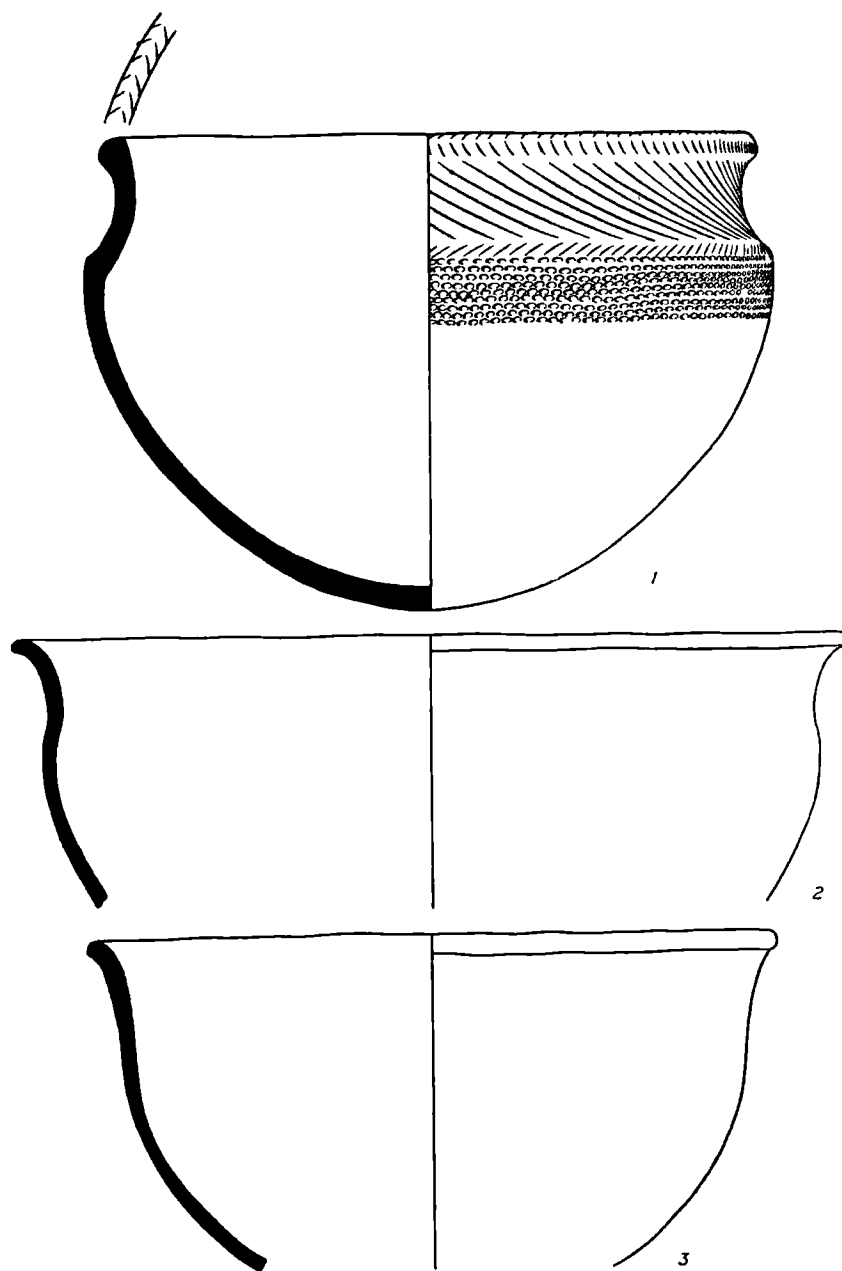


FIG 2 (1) Pot from the upper floor, (2, 3) Pottery from the lower floor $\frac{1}{2}$

the carination itself, finally, eight or nine horizontal rows of triangular to oval impressions occupy a zone 1" to 1½" deep below the shoulder

Slight irregularities seem to indicate that both strokes and dots were made with a single bone point and not with a comb, and the same implement may have been used throughout. The strokes are shallow, with a rounded bottom, in the style of Jacquetta Hawkes' "channelled ware," but the scheme of decoration suggests skeuomorphism rather than symbolism.

There is no sign on the surviving sherds that the pot ever had lugs or handles, though these are common on A2 ware. However, less than half of the shoulder is preserved.

The small rim sherd (Fig. 1, 15) belongs to a different vessel which may have been decorated in a similar fashion. Unfortunately it is not known from which floor it came.

Although vessels of Piggott's Form G from the causewayed camps at Whitehawk and The Trundle in Sussex are decorated in a somewhat similar manner, in details of form and ornament this bowl clearly belongs to an eastern group. The most westerly examples are two smaller bowls (one 5", the other only 2½" high) from Whiteleaf Barrow, Monks' Risborough, Bucks.¹⁰ These bowls, both of Form H, lack ornament on the neck, but the smaller has on the rim two rows of oblique slashes running in opposite directions and three rows of larger slashes below the shoulder, the larger has criss-cross incisions on the rim and six rows of oblique oval impressions below the shoulder. This pot has also a most unusual feature on the body below the rows of dots. This appears to have consisted of an area about 1½" deep and 3" to 4" wide, bounded at the top by a straight line and on each side by a curved line, the bottom being left open. On the surviving sherds the interior is filled with parallel incisions, the outermost of which run diagonally downwards from the top line. It is possible that on the missing sherds a similar series ran in the opposite direction, a few of the central pairs perhaps converging to form chevrons.

From Maiden Bower, Dunstable, Beds., comes an undecorated pot¹¹ which resembles in shape that from Site 109, Lion Point, on another sherd of related form are combined horizontal rows of dots and scorings on neck and rim.¹²

But a group of pots from Suffolk afford the most exact analogies. A bowl from the Kesteven Road site at Ipswich¹³ is very nearly the duplicate in size and proportions of that from Site 109. The neck is decorated with shallow vertical channels and below the shoulder are four rows of round dots, very

¹⁰ A brief note on the barrow appeared in *PPS*, III, 441, but the pottery has not been published.

¹¹ Piggott, *supra*, 91, Fig. 6, 1.

¹² *Ibid.*, 91, Fig. 6, 4.

¹³ The pottery from this site, now in the Ipswich Museum, is unpublished, but a brief report of the excavation appeared in *Proc. Suffolk Inst. Arch.*, XXV, Pt. 2, 212-13.

NEOLITHIC POTTERY FROM SUBMERGED LAND-SURFACE OF ESSEX COAST

carefully spaced Finger-tip flutings run over the rim and to a depth of 2" inside it One sherd of what appears to have been a companion bowl comes from the same site Fragments of vessels bearing similar decoration have been recovered from other sites in Suffolk Dales Road Brickfield, Ipswich (J Reid Moir Col)¹⁴, Martlesham Plantation¹⁵, Hayland House, Mildenhall Fen,¹⁶ and Hurst Fen, near Lakenheath¹⁷

The peculiarities in form and decoration of the above-mentioned pots thus serve to define a south-eastern group within the Windmill Hill complex not hitherto recognized It may further be noted that, with the exception of those from Whiteleaf, Maiden Bower and Kesteven Road, the bowls characterizing the group came from low-lying sites The preference for such localities forms a further trait to distinguish the group

¹⁴ Pottery in the Ipswich Museum, not yet published

¹⁵ Pottery in the Ipswich Museum, not yet published

¹⁶ Leaf, *Proc Camb Ant Soc*, xxxv, Pl I

¹⁷ Lady Briscoe has kindly provided descriptions of two bowls recovered during her excavations at Hurst Fen, to be published in *Proc Camb Ant Soc*

APPENDIX III

Subsidary III

Excavation of a Neolithic Barrow on Whiteleaf Hill, Bucks.

by

SIR LINDSAY SCOTT

*Prepared for publication by Professor V. G. CHILDE with a description
and analysis of the pottery by ISOBEL SMITH*

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Excavation of a Neolithic Barrow on Whiteleaf Hill, Bucks.

Prepared for publication by Professor V. G. CHILDE with a description and analysis
of the pottery by ISOBEL SMITH

INTRODUCTION

SIR LINDSAY SCOTT carried out excavations on the barrow on Whiteleaf Hill, near Princes Risborough, Bucks., with meticulous care from 1934 till the outbreak of war in 1939 interrupted operations. After the war he had no opportunity to resume excavations beyond making a 2 ft. section across the ditch on the west, and he was not able to complete the work he had planned or to prepare the material for publication before his untimely death in 1952. He gave four short and explicitly provisional reports in *P.P.S.* 1935, p. 132; 1936, p. 312; 1937, p. 440, and in the *Records of Bucks.* 1941-6, p. 298, but insisted that 'this description must be taken as entirely provisional.' His papers comprised a master plan contoured at 6 inch intervals, and showing the grid over the excavated area, small detailed plans of individual features—post holes, pits, and the 'peristalith trench'—and a series of sections taken across the whole excavated area at 2 ft. intervals on both X and Y axes, but no complete plan of the excavated area nor any detailed description of the observations made in the course of the excavation. The relics are, however, all numbered with three co-ordinates, so that the position of each can be exactly located on the plans and sections, and these, especially the Neolithic pottery, are of such exceptional importance that it is an obvious duty to attempt a provisional account of the results achieved, without waiting for the completion of the excavation.

The Whiteleaf barrow stands on the edge of the escarpment on the flanks of which the solid chalk is exposed, covered only by thin turf, but round the barrow small patches of the clay with flints that caps the chalk of the Chiltern plateau still survive, as may be seen from the vegetation, and the chalk of the plateau itself is far from uniformly solid, but superficially interrupted by natural hollows and solution pipes. Scott planned in great detail all the depressions and irregularities of the chalk surface exposed in the area he excavated, but it is known that he altered his views in respect of the artificial character of some of these features after taking geological advice. Some of the pits turned out to be definitely natural, but it is not quite certain which, and some suspicion attaches to the 'peristalith trench,' of which a section only 8 ft. long was fully excavated, to a depth of 8 ft., and recorded in his note book. The sections given there are strongly suggestive of a solution pipe, such as are so frequently encountered in the chalk of the Chilterns. In view of the exceptional difficulties presented by the terrain, in the plans composed from his sections and note book sketches those features have been omitted that it is thought that the excavator in his final report might have regarded as natural, though his plans of these are preserved for reference with his other papers in the Institute of Archaeology of the University of London.

Figure 1 is copied from Sir Lindsay's master plan, but the contours he had plotted in (shown solid) have been completed by broken lines over areas where the original turf surface of the barrow had already been disturbed when he levelled the site. The excavated area, enclosed in solid lines, is rather larger than the gridded area shown on the original since the grid had been

Sir Lindsay Scott. Excavation of a Neolithic Barrow on Whiteleaf Hill

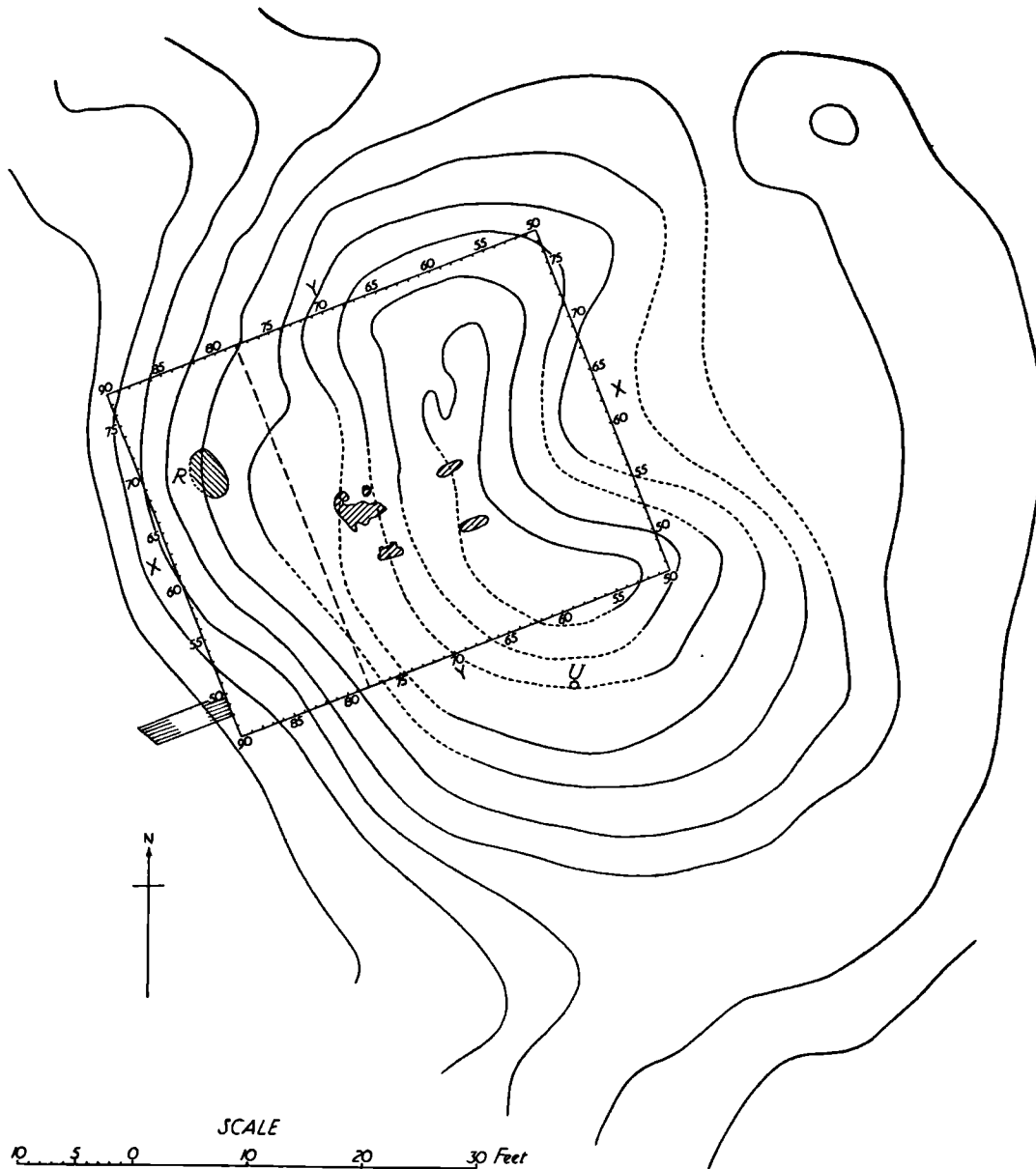


Fig. 1
Contoured Plan of the Barrow.

extended to include areas on the west explored after the original had been drawn out. The exposed section of the ditch, an intrusive urn burial (U) and a Romano-British rubbish pit (R) have been inserted from the note books, as have the post holes presumed to define the chamber.

Figure 2, covering the whole area from which any neolithic material has been recorded, has been reconstructed from the note books and from the completed sections. From the latter have been taken the contours—again at 1 ft. intervals but from a different datum to that used in fig. 1. The 'pits' shown may subsequently have been rejected as natural but charcoal is recorded from 'Pit 4.' Sir Lindsay made the grid plan with the W at the top and so his 'X

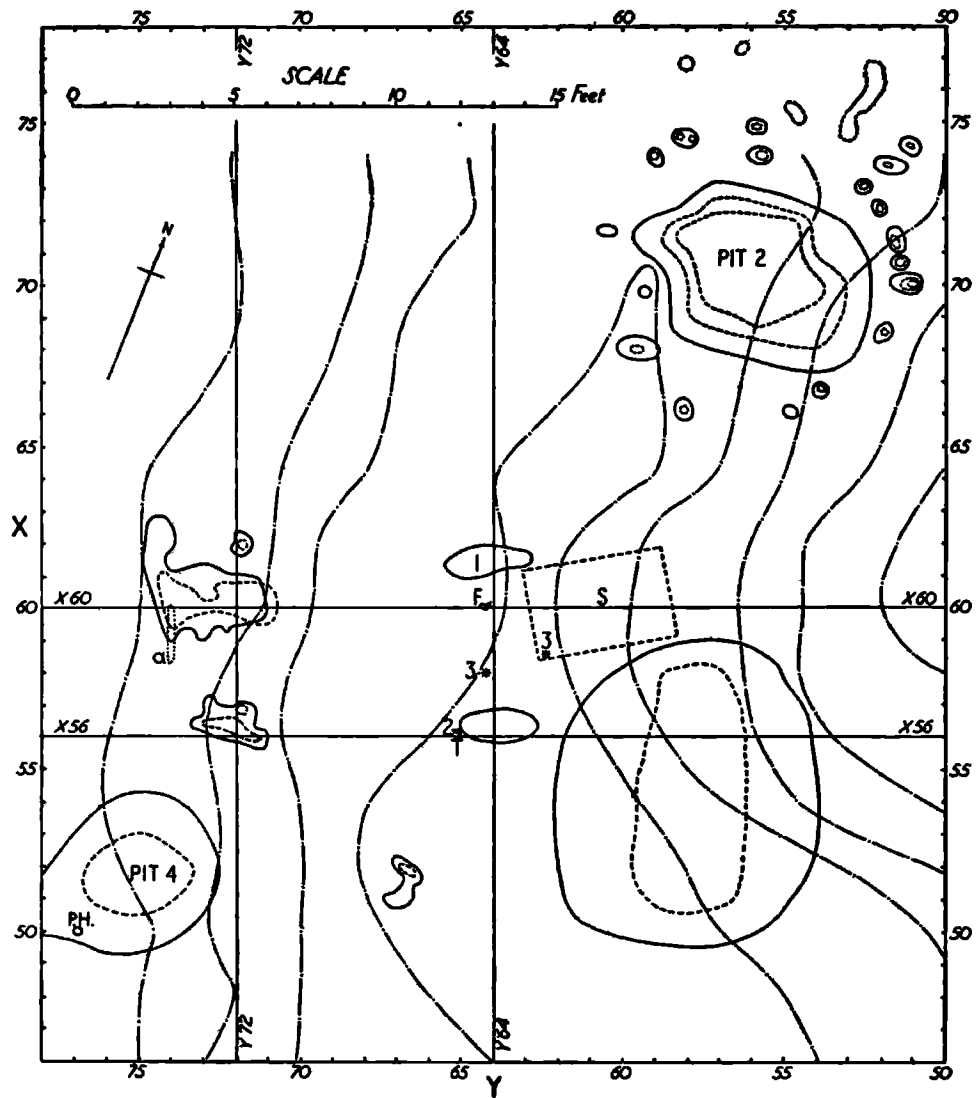


Fig. 2

Detailed plan of area containing chamber and burial

axis' ran north and south, the 'Y axis' east and west. His designations have been retained though the plan has been turned through 90°.

Plate XXIV gives sections across the chamber along lines X.56 and 60, and Y.64 and 72; they have been traced from the excavator's pencil drawings and preserve his signatures and descriptive terms.

THE BARROW

The Whiteleaf Barrow stands just on the edge of the false crest, at the top of the steep slope on the west flank of the hill at 813'O.D. (N.G. 482204). It is a kidney-shaped mound with a forecourt on the east, surrounded with an approximately circular ditch.¹ The ditch is superficially evident on the north, east and south, and was exposed by Scott's section on the west where it is now silted over owing to the steep slope. Here it proved to be only 6 ft. 6 ins. wide from rim to rim and 3 ft. deep from its inner lip. The southern lobe of the mound is distinctly broader and rather higher than the northern one. The two are separated by a narrow neck, the position of which coincides significantly with the

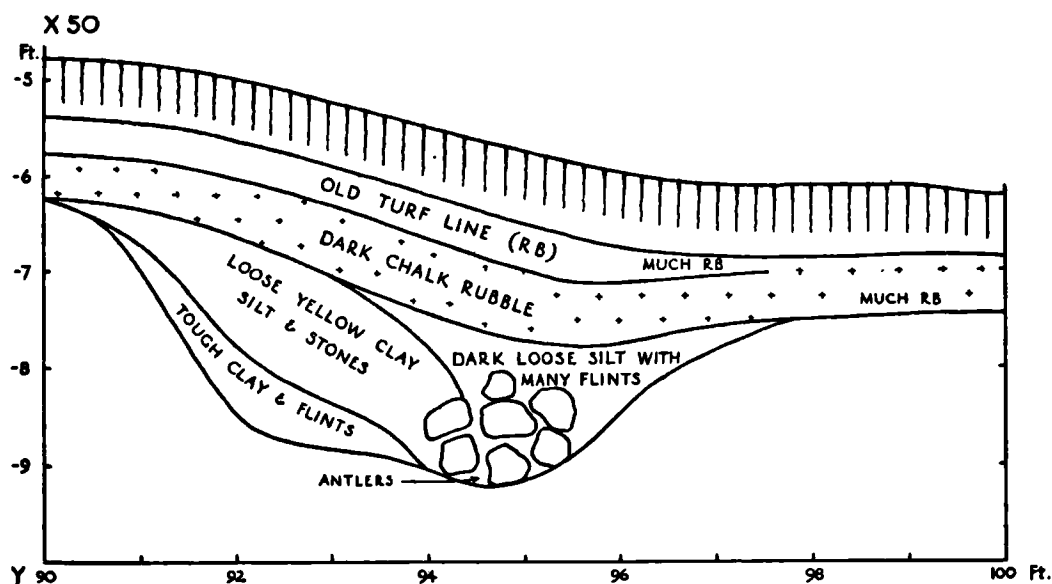


Fig. 3
Section across ditch

outline of the chamber as defined by post holes; the distortion of the '4 ft.' contour on the west is presumably due to the collapse of the chamber. There is no other evidence of secondary disturbance in the excavated area apart from a couple of Romano-British sherds at a high level on the eastern flank of the northern lobe, and the intrusive cremation marked U on fig. 1, but a Romano-British rubbish pit (R on fig. 1) had been intruded into the north-west flank of the barrow just inside the probable line of the ditch, and a scatter of Romano-British sherds was noted in the ditch section further to the south-west, but only on or above the old turf line that covered the primary silt.

The core of the barrow, the 'inner mound' consisted of earth and flints interspersed with patches of clay and occasional tips of chalk, and was covered with a mantle consisting

¹ What looks like a similar kidney-shaped barrow surrounded by a ditch, though badly disturbed, has been recognized by Mrs Alison Young, F.S.A., on Warnes Hill at the extremity of Bledlow Ridge just across the valley from Whiteleaf Hill.

of layers of clean chalk and of earthy chalk rubble. The inner mound, which enclosed the chamber, is reported to have been contained by large tree trunks horizontally laid (the precise evidence for these timbers was not obvious from the sections or written notes). The chamber is defined by four post holes 1 ft. 6 ins. to 3 ft. 3 ins. deep (hatched in fig. 1), and must therefore have measured approximately 8 ft. \times 5½ ft. The nature of the walls and roof is uncertain. A pencilled note on the section along X.60 mentions a 'timber running from X.60 to X.58 ft. 3 ins. along Y.74' (represented by *a* on fig. 3)—*i.e.* just at the back of the chamber—9 ins. above the solid chalk, but it cannot be detected on the section Y.74. The same section X.60 shows a black stain running from Y.67½ to 72 ft. 9 ins., parallel to the presumed north wall of the chamber 2 ft. above the solid. The section Y.64 and photograph (pl. xxvi, 1) disclose a hollow in the inner mound filled with the cleaner material of the mantle that can only be due to the collapse of a roof but its counterpart is not clear at the back of the chamber on Y.72 and Y.70. Under the north-east lobe excavation revealed a large irregular pit approximately 8 ft. \times 5 ft. across and over 2 ft. deep, surrounded by a system of small post or stake holes 1 ft. to 1 ft. 6 ins. deep (Pit 2, pl. xxvi, 5). No relics were recovered. The artificial nature of the remaining pits is more dubious, but charcoal is recorded as having been found in Pit 4.

The chamber had apparently contained a single corpse, but only the left foot and one tooth (F and T on fig. 2) were found within the chamber. The rest of the skeleton was scattered in a restricted space in front of, *i.e.* east of, the chamber marked S on fig. 2. Neither in this area nor on the site of the chamber was any concentration of potsherds observed and no artifacts are recorded from the pits. But scattered throughout the 'inner mound' was an enormous number of sherds of neolithic pottery, and of flint flakes, and a modest number of animal bones. The total weight of sherds recovered is 24 lbs. Most are very small fragments but the edges are generally remarkably fresh and show little sign of the weathering usually seen on sherds that have been left lying about on the ground. Some 51 distinct vessels are recognizable but none was anything like complete, the largest group of connected fragments representing not more than ¼ of the complete vessel. Sherds clearly attributable to the same pot were found 2 ft. or 3 ft. apart. But all belong to one and the same cultural group, as shown in detail by Miss Smith below, with which the flint types are equally appropriate.

Similarly, of the 570 odd flints only 7 have been shaped by retouching (and of these one arrowhead is unfinished). The rest comprise 40 serrated flakes, 240 utilized blades and flakes, 275 unutilized flakes (core dressings). A few of the flakes are burned. Only 2 stumps of cores survived. One antler beam, sawn off at both ends, and one small piercer made on the metapodial of a small sheep, make up the surviving bone industry. The unworked and broken animal bones included in the collection are relatively few—some 45 recognizable pieces.

There are no indications that any of these artifacts or animal bones formed part of the grave goods buried with the deceased. On the other hand, the whole assemblage gives every appearance of being perfectly homogeneous and could be attributed to one and the same neolithic culture and period. Secondary disturbances had certainly occurred within the enclosed area—a cinerary urn and Romano-British sherds had been intruded into the flanks of the barrow (see p. 215 above and p. 229 below), but not a scrap of these later wares could be recognized among the sherds from the inner mound, nor indeed from the area shown in fig. 2 (save for two Iron Age sherds from a high level in the north-west lobe).

The unitary primary assemblage must then be due to either (*a*) 'feasts' held on the site

during the piling of the inner mound, (b) sherds and flints ceremonially scattered on the mound as a ritual incident of the obsequies and subsequent cult, or (c) the inclusion in the composition of the primary mound of refuse from an adjacent encampment and flint-working site. Now 'hearths' are mentioned in the provisional reports and burnt patches are noted on a few sections though only once is the association of sherds with such indicated. But the ashes or burnt material incorporated in the mound could perfectly well be derived from the hearth or hearths of the hypothetical encampment. The ritual strewing of sherds over the grave is, of course, well attested and implements might be broken and offered in the same manner. But the flints are mostly wasters and, despite the absence of cores, are typical workshop debris. Greenwell records what might be a comparable dispersal of flints and sherds in the make up of barrows.¹ Yet, it must be confessed, in no previous excavation has every scrap of flint been collected and registered with such exhaustive thoroughness. If we considered most likely that material from a habitation and workshop had been deliberately incorporated in the primary mound, Reinecke's observations on the Bronze Age barrows of Bavaria, would provide one obvious analogy. In any case the primary material from the inner mound can be treated as a single and unitary assemblage sealed under the outer mantle of clean chalk, and within the limits of archaeological time contemporary with the monument which forms itself a unitary part of the assemblage.

The molluscan remains from the inner mound were submitted to Dr Kennard. They 'do not represent a grassy downland, but the combination of species is not what one would expect in a beech wood.' In all probability, Dr Kennard thinks, it was a damp woodland in which the dominant tree was not the beech, but damper than today. (See Appendix, p. 230).

THE FINDS

(A) REMAINS FROM THE PRIMARY MOUND

All the objects recovered in the course of the excavation were labelled with three co-ordinates. The Z co-ordinate indicates the position above or below the average level of the surface of solid chalk in the square defined by the X and Y co-ordinates. These give four main groups, (o) less than 6 ins. above solid chalk, (1) 6 ins. to 1 ft. 6 ins., (2) 1 ft. 6 ins. to 2 ft. 6 ins., (3) 2 ft. 6 ins. to 3 ft. 6 ins. A very few relics have co-ordinates of (4) or (—1), and only those in the first three groups are at all likely to be derived from the inner mound.

The Flint Industry

The excavator preserved just under 600 flints, of which, apart from a couple of thermal fractures, all might have been deliberately struck. 537 appear to be wasters, core trimmings, etc. There are, in addition, 32 serrated blades, four arrow-heads, three end-scrapers, one small hollow-scraper or notched blade, one borer, one trimming flake retouched along

¹ *British Barrows* (1877), II. cf. Newbigin in *P.P.S. N.S.* III (1937), 189 ff.

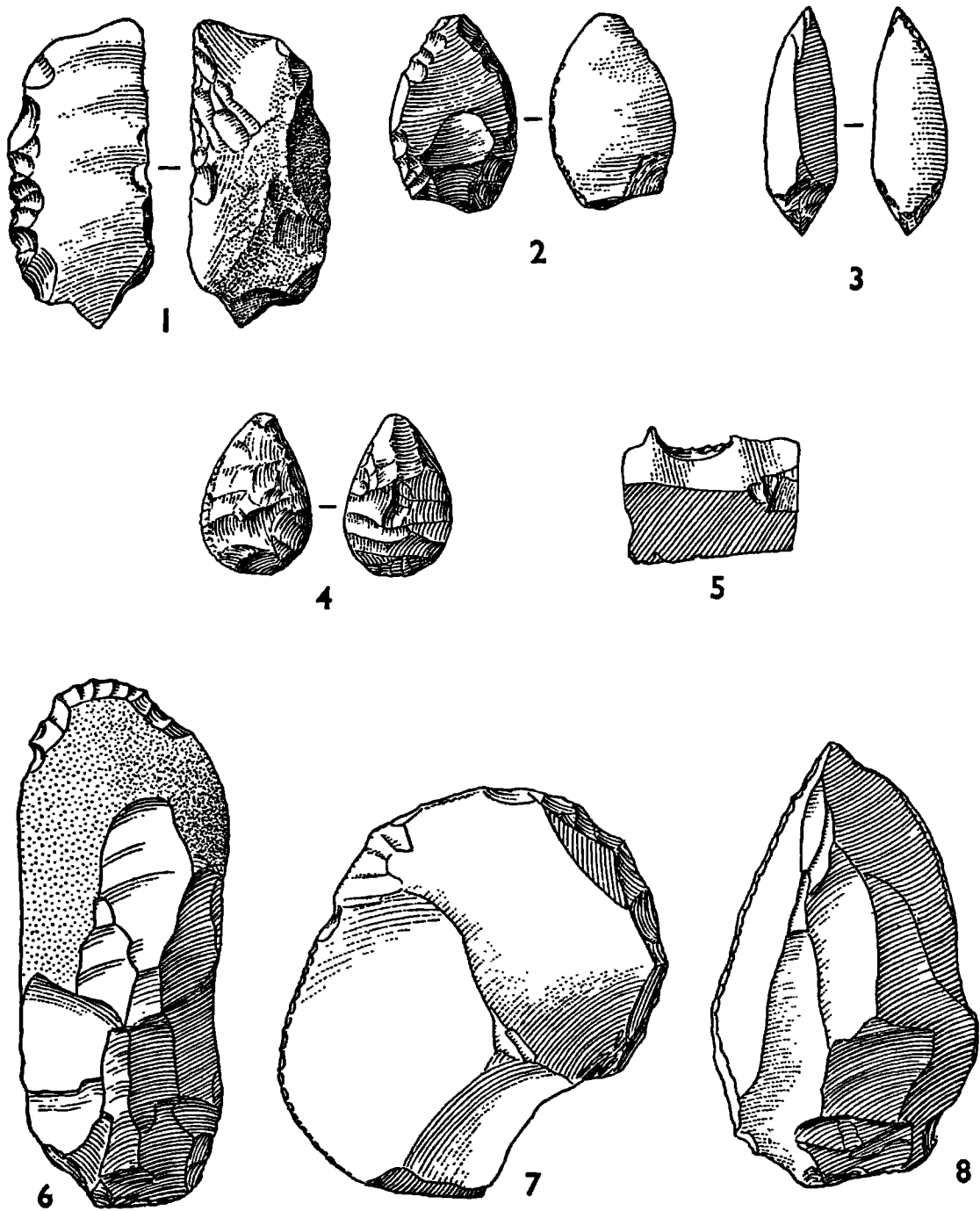


Fig. 4
Flint implements (†).

the edge, and one short flake inversely trimmed along both edges. Only two core stumps were found in the inner mound, one of them a short stump of a prismatic blade core only 1 in. long, the other an amorphous battered remnant. Of the arrow-heads (fig. 4) two are leaf-shaped, one being finished, the other worked on one face only, and two are short blades pointed by secondary working at the tip and bulbar end. Of the 32 serrated blades 16 show the narrow band of lustre due to use for sawing. It should be noticed that of the 530 odd wasters, only 110 have Z co-ordinates of two or more.

Bone and Antler Work

The surviving bone industry comprises one small bone 'pin' 1½ ins. long, formed by splitting a metapodial of a sheep at the proximal end, with half the distal end of the articulation preserved as a head¹; one beam of red deer antler sawn off 3 ins. below the brow tine and 6 ins. above it, total length 10 ins.—the very wide bevel at the ends is distinctive of the use of stone tools, but there is no evidence of secondary working on the fragment, and the brow tine has been simply broken off 1½ ins. above its root. A beaver's tusk has been longitudinally split, but the edges of the break show no trace of working to convert it into an implement. At the bottom of the ditch where it was examined on the west side of the barrow, were found two red deer antlers, one shed, the other with portions of the parietal adhering though nearly ready to be shed; both were very much decayed and could be extracted only in fragments. They presumably had served as deer's horn picks, but the remains are too fragmentary to demonstrate this.

Grain Impressions on Pottery

Mr Hans Helback of the National Museum, Copenhagen, reports as follows:

'Plain sherd (69/65/1) contains an imprint of an emmer grain (*T. dicoccum*), lateral aspect, the outline of the embryo visible. Length approximately 6.7 mm., thickness 2.7 mm.

Rim sherd (69/61/1) shows on the outside an imprint of a spikelet of emmer, dorsal aspect, internode lacking, the pale apices unclear. Total length approximately 10 mm., maximum width 6.4 mm. Width across the glume fork, opposite the articulation scar, approximately 2.4 mm.

The same sherd bears on the inner surface an imprint of the grain of Club or Bread wheat (*T. compactum* or *vulgare*), length 4.6 mm., width 2.4 mm.

Both emmer imprints correspond closely to those from Windmill Hill (Helback, *PPS.* xviii, 1952, p. 194 ff.), the spikelet being comparable to plate xx, fig. b.

The Club wheat grain is very small compared with most other prehistoric impressions of this species.

Animal Bones

About 45 specimens of animal bone large enough for identification were collected from the inner mound. Of these, 12 were examined by Dr Cornwall of the Institute of Archaeology, and the remainder by Dr Wilfrid Jackson, F.S.A. It will be seen that the commonest bones belong to red deer. The species identified are: red deer represented by 38 pieces of bone, pig, 23, ox, 10, sheep, 12, roe deer, nine or 12, beaver, fragments of left lower incisor, unidentified bird two pieces.

¹ The type was distinguished as A1c at Skara Brae (Childe, *Skara Brae* (1931), 115).

The Primary Burial

Apart from the left foot (F), skull fragments (C) (three on fig. 2), and one tooth, all the bones, as stated above, were scattered in an area approximately $4\frac{1}{2}$ ft. \times $2\frac{1}{2}$ ft. to the east of the chamber. All the remains were submitted to Miss M. L. Tildesley of the Royal College of Surgeons, whose report follows :

'The human remains were apparently those of one individual only, a middle-aged man, and consisted of the greater part, though not the whole, of his skeleton. No long bone but the left ulna is sufficiently complete to give us its length, but a rough estimate may be made of the length of the left femur as round about 480 mm., and the most likely stature with this length of thigh-bone would be 5 ft. $7\frac{1}{2}$ ins. We may say that the individual in question was probably about 5 ft. 6 ins. to 5 ft. 9 ins.—not a very short man. And his bones are fairly robust also.

The skull is definitely very long and narrow. Its length as reconstructed from the broken pieces is 213.5 mm., and this, if not exactly right, is correct to within one or two millimetres. The estimate of breadth—141 mm.—is less reliable. Taking these figures as they stand, however, we get a cephalic index of 66.1. A degree of dolichocephaly that would be almost unknown in any population but the Neolithic, in England. The thigh-bones are flattened in the upper part of the shaft, with a platymeria index of

$$100 \times \frac{25 \text{ mm.}}{35 \text{ mm.}} = 70.15 \text{ (L. \& R.).}$$

This again is a feature more characteristic of the earlier than the later populations of Britain.

The man's teeth had been badly worn down, in some cases down to the roots, and though secondary dentine had formed over the chewing surfaces of the teeth that now remain, and kept them free from caries, there are large abscess-cavities at the roots of teeth both in the upper and lower jaw.

The unhealthy condition of the teeth was doubtless not unassociated with the considerable evidences of arthritis in his joints—inflammation, bony excrescences, and eburnation. This is seen in the spinal column, ribs, hands, and especially feet, which were badly affected.

The position of all the fragments was charted, so that their distribution on the site could be subsequently reconstructed. They were in no sort of articular relation to one another, and the numerous breaks in them had not been made when the bone was fresh. Also some parts (*e.g.* the whole of the right shin-bone) were missing, but were not likely to be overlooked in the careful excavation. Either, therefore, the remains of this individual were gathered up long after his death and reinterred in the spot where they were found, or else he had been interred *in situ* and subsequently disturbed ; but in the last case the disturbance must have been extremely thorough. And the amount of breakage in some bones whose parts were no longer close together presupposes a considerable amount of brittleness, more than would normally be found in bones that had been in the earth for so short a time as a few decades.'

Sir Lindsay Scott. Excavation of a Neolithic Barrow on Whiteleaf Hill

The Pottery

The pottery recovered amounts to some 24 pounds in weight and 55-60 individual vessels are recognizable. The state of preservation is uniformly good: surfaces retain their original finish, fracture edges are sharp and fresh.

The general standard of potting is not high; most of the vessels are roughly made and No. 1 alone has carefully smoothed surfaces. No. 26 is the only well fired specimen; the great majority of sherds are soft, particularly those of Ware A.1 (see below). Black and extremely flaky sections are common. The predominating colours are warm greys and shades of brown, often with buff, orange or black patches. A few pieces have been refired and are now orange throughout. Surfaces tend to be matt, though a faint lustre is visible on some sherds of Ware A.1.

A variety of fabrics and tempering materials was used. In order to avoid lengthy repetitions, the wares are classified below, accompanied by the reference numbers of the pots made of each type.

Ware A. Fine clay, containing little or no sand; tempered with: 1. particles of crushed shell: Pots nos. 1, 3, 5-9, 12-15, 34-6, 42-3, 48, 52, 55-7.

2. particles of burnt flint: Pots nos. 2, 10-11, 16-19, 27, 29, 39-40, 53-4, 58-60.

3. particles of chalk and very little burnt flint: Pots nos. 28, 49, 50, 61.

Ware B. Clay with a heavy admixture of sand; tempered with: 1. particles of shell and very little burnt flint: Pots nos. 4, 45-7.

2. particles of burnt flint only: Pots nos. 20-6, 31-3, 37-8, 41, 44, 51.

3. particles of chalk and burnt flint: Pot no. 30.

The fragments of tempering material vary considerably in size; the shell and burnt flint are frequently coarse, fragments of the former being up to $\frac{1}{2}$ inch across.

Mr C. P. Castell of the Natural History Museum has very kindly examined specimens of the shell and reports that he has detected *Exogyra nana*, an Upper Jurassic oyster, and *Inoceramus*, an Upper Chalk bivalve. Mr Castell suggests that fossil species of such disparate origins are most likely to have been found together in Chalky Boulder-Clay.

A few of the vessels show signs of use and there is a smooth black deposit on the inner surface of No. 1. In the case of shell-gritted sherds it is frequently noticeable that, although the shell on the exterior is well preserved, that on the interior has been partly dissolved, presumably as the result of contact with some weakly acid substance contained in the pot. Grain impressions were observed on two sherds. These have been identified by Helback as emmer and club or bread wheat (p. 219).

Detailed Description

No. 1 (fig. 5, 1). Bowl with external rim and shoulder diameters of $10\frac{1}{2}$ ins. and estimated height of $7\frac{1}{2}$ ins.; thickened and everted rim with lattice pattern in channelling technique; undecorated neck with two secondary perforations below rim; slightly rounded but well-defined shoulder bearing one vertically perforated lug (originally probably two), which rises to a point above the shoulder line; walls below shoulder curve in sharply, indicating a shallow body. The decoration from the shoulder downwards appears to have consisted of horizontal panels of six lines of small, sharply pointed stabs applied obliquely, interrupted by (probably two) enclosed panels of channelled chevrons on opposite sides. Below the panel of stabs and with the centre aligned on the lug, a similar enclosed panel of chevrons, probably duplicated on the other side. Unattached sherds from portions of such panels indicate that the centre was in some cases defined by a vertical line and that the bases were sealed off by horizontal lines.

No. 2. (fig. 5, 2). As indicated in the illustration, there is no join between the sherds representing this pot, but they seem likely to belong together. External rim and shoulder diameters of $3\frac{1}{2}$ ins.; estimated height, 3 ins. The rim, which projects on either side of the neck, has been formed by the application of a thin strip of clay to the inturned top of the neck; it bears sharply incised chevrons. On the line of the rounded shoulder sits a small, imperforate and pointed lug (probably originally two). On and below the shoulder are three rows of deep, elongated and oblique stabs, the application of which has indented the thin walls.

No. 3. (fig. 5). Shallow bowl with external rim and shoulder diameters of $9\frac{1}{2}$ ins. and $9\frac{1}{4}$ ins. respectively. Rim projects on either side of neck and is decorated with widely spaced chevrons in channelling technique. Three small rim sherds may belong to this or to similar bowls.

No. 4. (fig. 5). Small rim sherd from bowl of same type, but of different ware.

No. 5. (fig. 5). Decayed sherd with externally enlarged rim bearing incised chevrons.

Nos. 6-7. (fig. 5). Both may belong to the same vessel, despite the difference in profile; No. 7 has been re-burnt. Heavier versions of No. 3, with deeply impressed chevrons. The diameter of No. 6 was *c.* 8 ins.

Nos. 8-9. (fig. 5). Sherds from vessels with diameters of *c.* $8\frac{1}{2}$ ins. and $5\frac{1}{2}$ ins. respectively. Rims inturned and thickened, with oblique incisions.

Nos. 10-11. (fig. 5). Heavier rims with angular projections on either side of neck. The diameter of No. 10 may have been *c.* 15 ins.; the oblique incisions on this rim appear to have been encrusted with a white substance.

No. 12. (fig. 5). Sherd so small that it is uncertain which side is exterior; enlarged rim has had oblique strokes and the remains of two horizontal lines are preserved below.

Nos. 13-16. (fig. 5). Everted rims of varying form, with oblique strokes on bevels or everted surfaces. No. 15 has had at least one internal horizontal line. The diameter of No. 13 was *c.* 15 ins.

Nos. 17-19. (fig. 5). Flat rims; a straight, sharp object has been pressed across the edges, lightly on the outer but heavily on the inner, so that the clay has risen on either side in 'pie-crust' fashion. No. 17 appears to come from a shouldered bowl with a rim diameter of $7\frac{1}{2}$ ins.

Nos. 20-1. (fig. 6). Bowls with sharply everted rims; short straight necks; angular shoulders; diameters $9\frac{1}{2}$ ins. and 10 ins. One or two more of the same kind are represented by small sherds.

No. 22. (fig. 6). Sherd with everted and slightly rolled rim (original diameter *c.* $9\frac{1}{2}$ ins.), deep constriction at neck, gently curving wall below. In the neck, two perforations made from the exterior before firing; holes $\frac{1}{8}$ in. across outside and barely penetrate to inside, where high flat bosses surround the apertures.

No. 23. (fig. 6). Shoulderless bowl with sharply out-turned rim; diameter *c.* 8 ins.

Nos. 24-6. (fig. 6). Simple bowls, diameters $5\frac{1}{2}$ ins. to 6 ins. No. 26 has a secondary perforation in the neck.

No. 27. (fig. 6). Sharply out-turned rim and hollow neck of (possibly) shouldered bowl; rim diameter 8 ins.

No. 28. (fig. 6). Small cup with sharply inturned rim; diameter $4\frac{7}{8}$ ins. and estimated height $3\frac{1}{4}$ ins.

No. 29. (fig. 6). Cup with everted rim and steep inner bevel; diameter $4\frac{1}{4}$ ins.

Nos. 30-33. (fig. 6). Heavy inturned rims. No. 30 has had estimated diameter of 16 ins.

Nos. 34-6. (fig. 6). Externally enlarged rims forming sharp angle with inner edge of neck. No. 34 has been *c.* 11 ins. in diameter.

Nos. 37-40. (figs. 6 and 7). Heavy rims, projecting on either side of neck. No. 37 has been *c.* 15 ins. in diameter.

Nos. 41-4. (fig. 7). Slightly thickened upright rims.

Nos. 45-8. (fig. 7). Everted rims.

Nos. 49-52. (fig. 7). Angular rims with external or internal bevels.

No. 53. (fig. 7). Small sherd from thin-walled vessel with irregular incised decoration.

No. 54. (fig. 7). Sherd from thin wall, with part of secondary perforation.

No. 55. (fig. 7). Sherd with pointed lug on shoulder line. Two-piece construction clearly visible, showing that lug and outer half of wall thickness had been applied to inner shell.

No. 56. (fig. 7). Part of broad, flat lug applied to curve of wall.

No. 57. (fig. 7). Sherd with horizontally projecting oval lug applied to curve of wall.

Nos. 58-61. (fig. 7). Neck and wall sherds from small vessels.

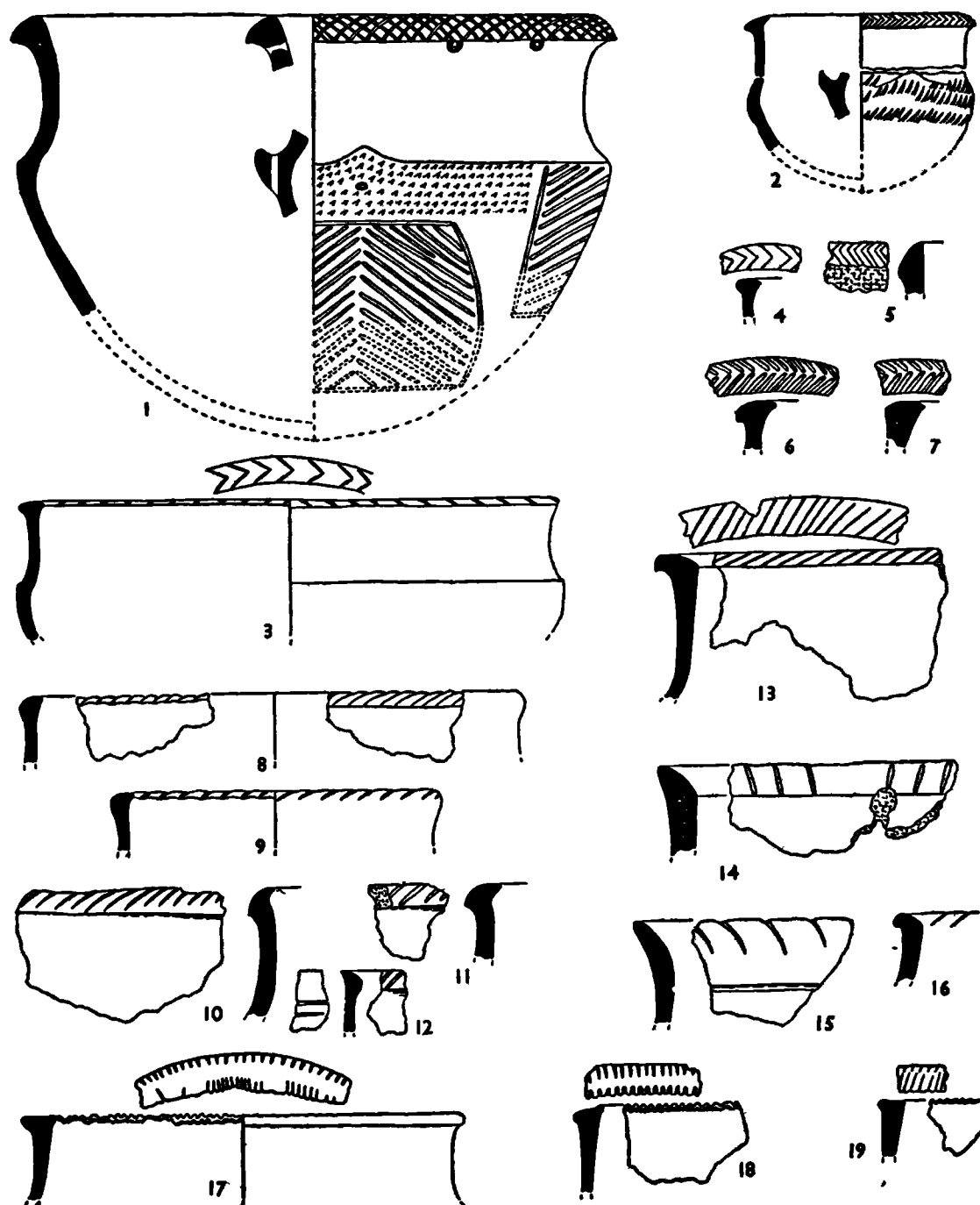


Fig. 5
Neolithic pottery (1)

Discussion

As indicated by Professor Childe, the pottery must be regarded as a unit, manufactured by a single cultural group. Wares A and B and their varieties appear to have been used indifferently for the fabrication of vessels of all types, although decoration appears more often on the finer textured Ware A.

Among Western Neolithic groups the Whiteleaf pottery stands apart by reason of its abnormally soft and flaky fabric and also (though this may be less significant) because of the absence of burnishing and fluting. These finishing techniques might have been expected to occur on a few specimens in such a large and developed group.

Further, the group is unique as an assemblage of forms and decorative arrangements, although many of its constituent types can be matched quite closely in a variety of classified assemblages.

Undifferentiated forms such as Nos. 24-6, 46-8 and 57 might be expected in any Western Neolithic context, but the thin upright rims with internal bevel, Nos. 29, 51-2, recall specifically the pottery from Southbourne, Hants.,¹ and are perhaps related to Hembury ware. It is evident, however, that the major connexions of the Whiteleaf pottery are with the more highly specialized Abingdon-Whitehawk-Mildenhall² series of south-eastern England and, as will be shown, with another ceramic style—conventionally classified as non-Western—the Ebbsfleet variety of Peterborough ware. It will be convenient to consider these relationships in the order set forth above.

i. *Abingdon ware*. The lavish use of shell as tempering material in the Whiteleaf pottery (at least 50% of the total) immediately recalls Abingdon ware. On the other hand, only Nos. 34, 42 and 48 have the characteristic appearance of the latter: a smooth, well-compounded fabric, reddish grey or reddish black, the surfaces speckled with fine particles of shell. But the complete profile of Nos. 20-1, the heavy rims of Nos. 34-6, the flanged rims of Nos. 13, 23, 27, and the T-rims³ may all be paralleled at Abingdon.⁴ The sharp, oblique stabs below the shoulders of Nos. 1 and 2 are made in the Abingdon manner.⁵ But the absence of strap-handles, squashed-down T-rims, and pinched-out shoulders distinguishes the Whiteleaf pottery from Abingdon ware as a whole.

ii. *Whitehawk ware*. The connexions with Whitehawk ware are more generalized, but here again are T-rims of modest proportions, a recurrence of the neat shouldered pots Nos 20-1; and there is a hint that formal patterns composed of chevrons and related to the panels of No. 1 may have been present.⁶ But Whitehawk ware was more lavishly ornamented and the characteristic Whitehawk bowl is not represented at Whiteleaf.

iii. *Mildenhall ware*. Whiteleaf Nos. 1-3 represent a bowl form, distinguished by an enlarged rim, joined to a shoulder of approximately the same diameter by a nearly vertical neck, which otherwise appears to be confined to Essex and East Anglia.⁷ There it is the most distinctive, and normally the only decorated, member of a newly recognized ceramic group with good claims to independent status side by side with Abingdon and Whitehawk wares. But the decorated Mildenhall bowls are also distinguished by a more or less standardized arrangement of the ornament to which Nos. 1-3 do not precisely conform. Internal decoration, either by fluting or channelling, is common and the necks are almost invariably filled with close-set

¹ Calkin, *Proc. Dorset Nat. Hist. & Arch. Soc.*, 69 (1947).

² It is suggested that the name 'Mildenhall ware' may appropriately be applied to the developed form of Western Neolithic pottery found in Essex and East Anglia. The name derives from the important habitation site near Mildenhall in Suffolk which has already yielded much material and is now being extensively excavated by Professor J. G. D. Clark. This group has been called 'East Anglian ware' by Professor Piggott (*Neo. Cult. Br. Is.*, 1954, 72), but the proposed alteration may be justified on the grounds that the group extends outside East Anglia proper and that it is desirable to adhere to a uniform system of type-site nomenclature.

³ It is convenient to use this brief designation for rims which project on both sides of the neck; it should not, however, be taken to imply that such rims invariably lie horizontally.

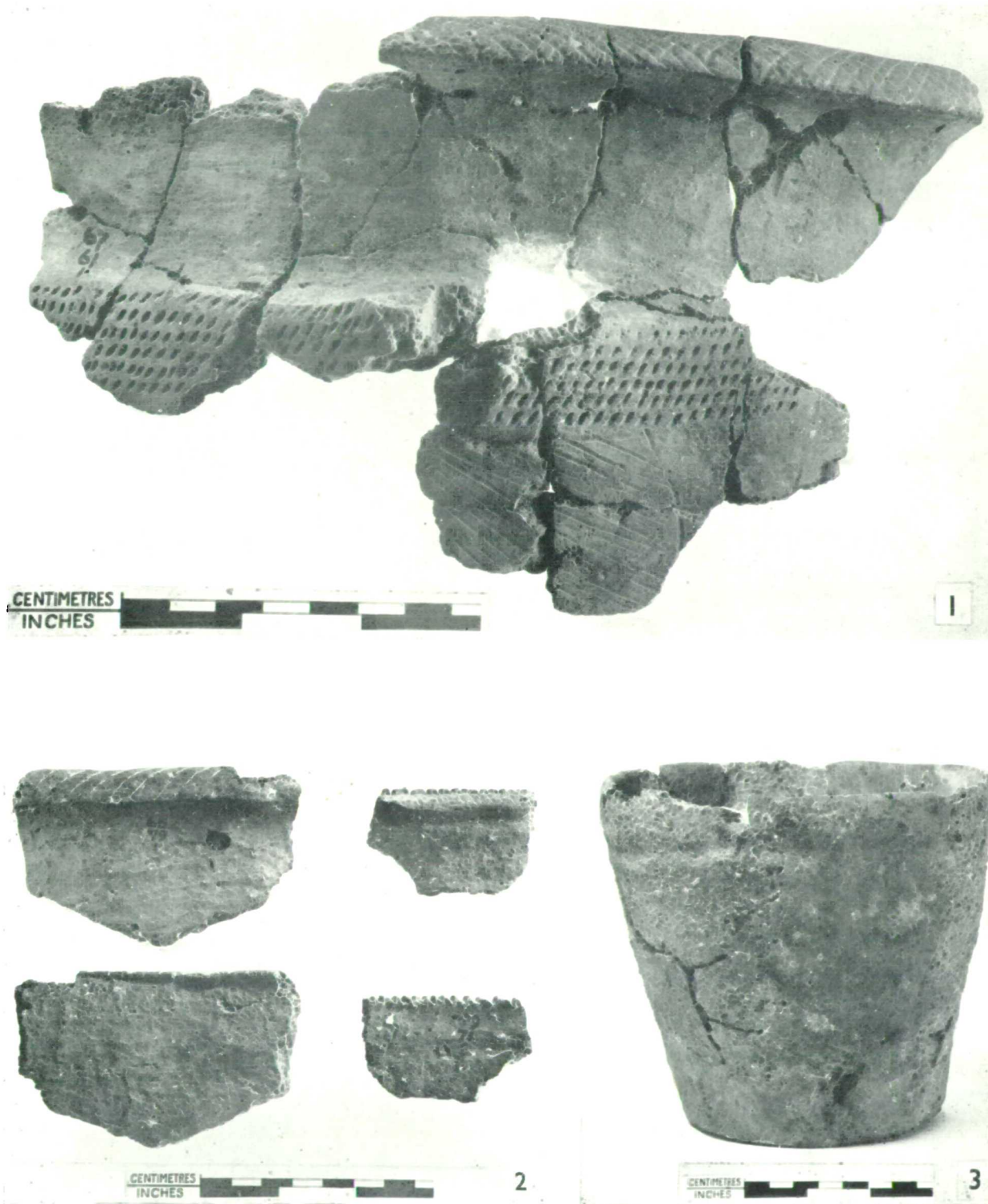
⁴ Leeds, *Ant. J.*, VII (1927), pl. LH, fig. 2, n (profile not shown); figs. 7a, 8b; fig. 6, 4.

⁵ *Ibid.*, pl. LIII, fig. 2, c.

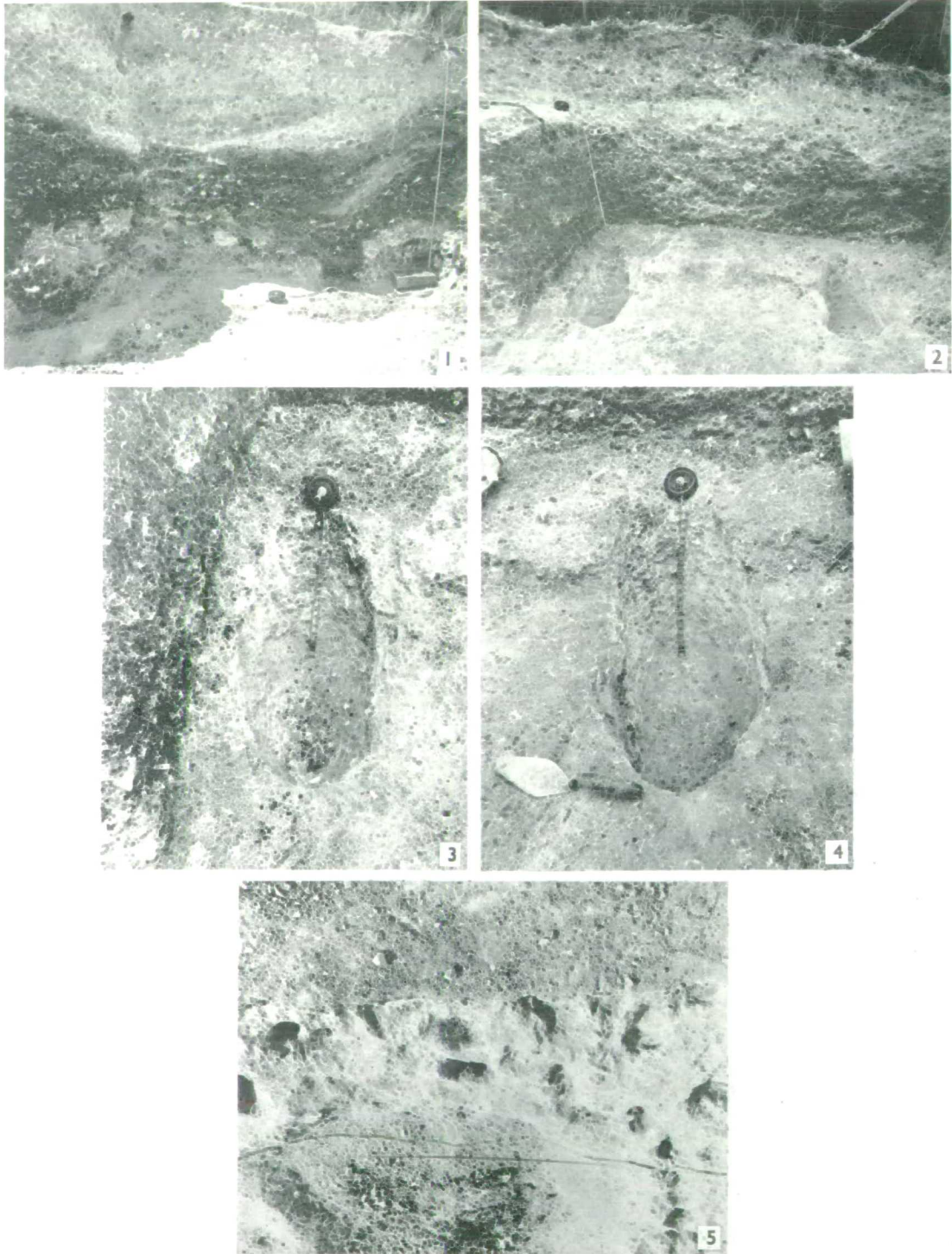
⁶ Ross Williamson, *Suss. Arch. Coll.*, LXXI (1930), pl. XI, 51, 54; Curwen, *Ant. J.*, XIV (1934), fig. 34 and figs. 19-21.

⁷ Of the considerable number of such bowls now known, few are as yet published, but for material from Mildenhall cf. Briscoe, *Proc. Camb. Ant. Soc.*, XLVII (1954), 13-24.

PLATE XXV



Whiteleaf Barrow: (1) Neolithic pot No. 1; (2) Neolithic pots Nos. 10 and 18;
(3) Secondary urn.



Features of the barrow

1. Section across chamber.
2. Post holes at east end of chamber.
- 3 and 4. Details of post holes.
5. Pit 2 and surrounding stake holes.

Sir Lindsay Scott. Excavation of a Neolithic Barrow on Whiteleaf Hill

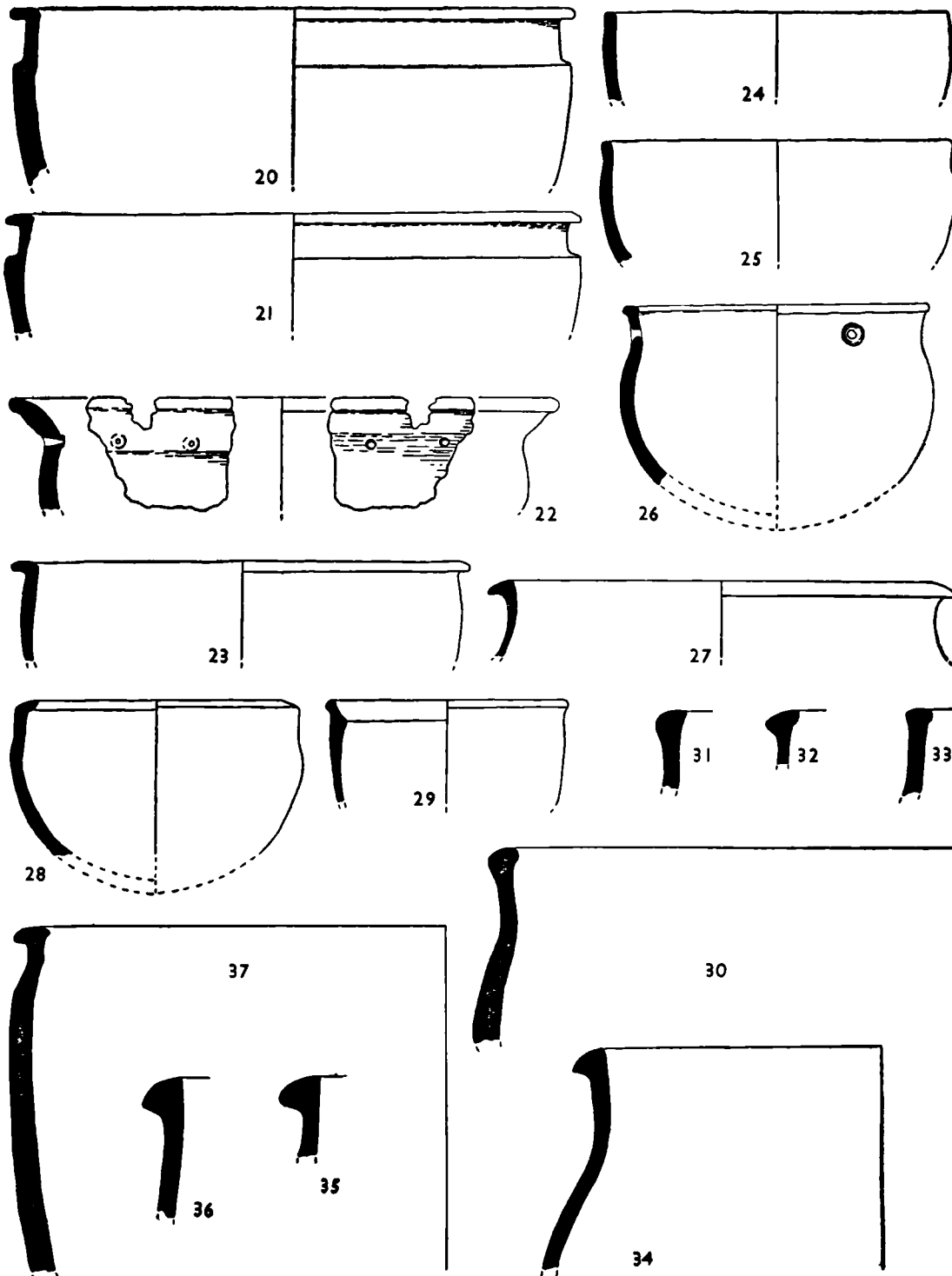


Fig. 6
Neolithic pottery ($\frac{1}{2}$)

vertical or oblique channelling. Yet the zone of punctuations over or, more often, just below the shoulder which is seen on Nos. 1 and 2 is completely typical, except that in Mildenhall ware the punctuations are generally made with blunt points—possibly bird-bones—producing shallow circular or irregular impressions.

Interruption of the zone of punctuations, as in No. 1, recurs on a large sherd from Dales' Road Brickfield, Ipswich,¹ and on a very small vessel from Lion Point, Clacton,² in the latter case accompanied by a chevron pattern. The chevron patterns on the rims of Nos. 2-7, so common in Peterborough ware and so rare in Western Neolithic contexts, recur on bowls of

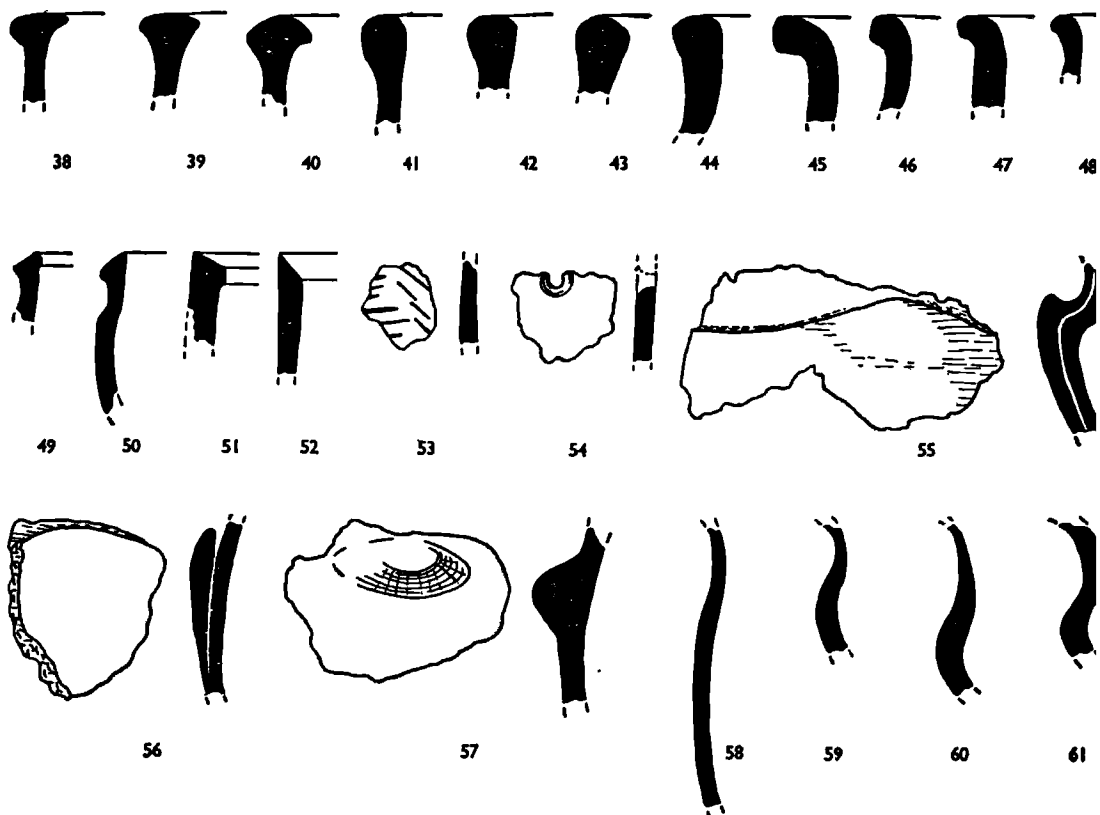


Fig. 7
Neolithic pottery ($\frac{1}{2}$)

Mildenhall type from Lion Point,³ as does the lattice pattern on the rim of No. 1,⁴ again a design of non-Western aspect. A T-rim and pointed lugs rising above the shoulder, as in Nos. 1-2 and 55, are present on the bowl from Hayland House, Mildenhall.⁵ But the undecorated pottery from Whiteleaf is not especially reminiscent of undecorated Mildenhall ware, where rolled and bulbous rims predominate over other forms. Only the slightly enlarged upright type of Nos. 41-3 seems to occur more frequently in the Mildenhall group than elsewhere.

¹ Ipswich Museum.

² Warren *et al.*, *P.P.S.*, II (1936), pl. xxxix, 13.

³ Warren and Smith, *Tenth Annual Report*, Institute of Archaeology (1954), fig. 2, 1 (also figured in Piggott, *loc. cit.*, fig. 11, 5 as from Ipswich); Warren *et al.*, *loc. cit.*, pl. xxxix, 4; and another unpublished specimen.

⁴ Sherds, probably from two pots, illustrated in Warren *et al.*, *loc. cit.*, pl. xxxix, 1. The lattice pattern is not apparent in the photograph.

⁵ Leaf, *Proc. Camb. Ant. Soc.*, xxxv (1935), pl. I; also Piggott, *loc. cit.*, fig. 11.

Thus, despite its evident connexions with all three assemblages, the Whiteleaf pottery cannot properly be classified with any one of them.

iv. *Ebbsfleet ware*. In view of the suggestive shape and chambered structure of the Whiteleaf barrow, relationships are to be expected with the pottery from the Severn-Cotswold tombs. Despite the relatively small quantity of the latter, it can be seen that the more normal Western Neolithic forms of Nos. 14, 16 and 34-6 are matched at, for example, Ty-isaf Long Cairn, Brecknockshire, the parallel to No. 14 being decorated in a similar fashion.¹ Widely spaced strokes across an inner rim bevel are seen again on a rim from the habitation site at Clegyr Boia in Pembrokeshire.²

But it is the pottery from the Nympsfield chambered tomb which affords the most interesting comparison. Here, it will be recalled, it was possible to restore a necked jar from the antechamber and a wide-mouthed bowl from the construction, both with inturned rims.³ It is quite clear that these vessels are intimately connected with the building of the tomb and its primary use. As indicated in Piggott's report, it is difficult to find parallels for these forms, and particularly for the rims, in Western Neolithic contexts.⁴ Yet, at Whiteleaf, inturned rims, sometimes merging into T-rims, amount to nearly 20% of the total—Nos. 6-11 and 30-3. The widely spaced oblique strokes on Nos. 8-11 recall those on the Nympsfield bowl. No. 30 is the only fragment large enough to afford a fairly complete profile and, although there is no great difference between the rim and shoulder diameters, it does to some extent resemble a necked jar. The other specimens probably also approximated to this form. The wide-mouthed bowl from Nympsfield has an unusual convex curve on the outer surface of its everted neck which, in less pronounced degree, is seen again in No. 22.

The inturned rim of the Nympsfield-Whiteleaf type—slightly thickened and rounded or angular at the outer edge, projecting internally to a varying extent—does in fact occur fairly regularly, though in small numbers and undecorated, in several groups of Western Neolithic pottery. To the examples cited in the report on the Nympsfield pottery the following may be added: an unpublished specimen from the primary levels at Windmill Hill,⁵ two from Abingdon,⁶ several from Lion Point associated with Mildenhall ware,⁷ several from The Trundle⁸ and Whitehawk.⁹

But in Ebbsfleet ware this rim form appears in significant numbers and it is in fact one of the diagnostic features of this ceramic group, where it may occur either on necked jars or on wide-mouthed bowls. At Ebbsfleet itself 9 of the 21 rims are of this type and there are at least 5 necked jars¹⁰; 11 of the 24 rims from Combe Hill causewayed camp in Sussex conform to the specification and here there is an excellent specimen of a necked jar with such a rim, the dimensions of which are almost identical with that from Nympsfield.¹¹ At both sites the rims are either plain or decorated with widely spaced oblique incisions. The lighter forms from Whiteleaf (Nos. 8-9) are typologically indistinguishable from these. The only real difference is that the Ebbsfleet and Combe Hill pottery is of superior quality.

Apart from the two examples in Mildenhall ware already referred to, the lattice pattern of No. 1 is otherwise found exclusively in the Peterborough group, especially in its Ebbsfleet variety.

At this point we may profitably return to Whiteleaf No. 22. Although this vessel is represented by a single sherd with two perforations made before firing, it is probable that the hollow of the neck was encircled by a continuous series of such holes. Decoration of this

¹ Grimes, *P.P.S.*, v (1939), fig. 6.

² Williams, *Arch. Camb.*, cii (1953), fig. 12, 31.

³ Clifford, *P.P.S.*, iv (1938), fig. 3.

⁴ In Clifford, *loc. cit.*, 211.

⁵ Avebury Museum, reg. no. 19418.

⁶ Leeds, *Ant. J.*, vii (1927), fig. 6, 8; and, unpublished, Ashmolean Museum, reg. no. 1928.409.

⁷ S. Hazledine Warren Coll.; unpublished.

⁸ Curwen, *Suss. Arch. Coll.*, lxx (1929), figs. 31-2.

⁹ Ross Williamson, *Suss. Arch. Coll.*, lxxi (1930), pl. xi, 36; Curwen, *Ant. J.*, xiv (1934), fig. 8.

¹⁰ Burchell and Piggott, *Ant. J.*, xix (1939), figs. 6-8.

¹¹ Musson, *S.A.C.*, lxxxix (1950), fig. 3; all specimens are not illustrated here, but cf. Nos. 4 and 14 (the rim of the latter is not well depicted).

kind is quite common in Western Neolithic pottery and a few specimens are to be found in nearly every group of any size¹; sometimes instead of a complete perforation there is a pit with a corresponding internal boss. Such ornament occurs in the earliest levels at Windmill Hill², and may thus be considered a primary trait of the ceramic style. In all cases, however, these holes or pits are found on baggy pots below simple upright rims, so that their position in No. 22 is unusual. In the light of the more explicit relationships seen to link some of the Whiteleaf pottery with Ebbsfleet ware, it is tempting to see a direct connexion between the Western Neolithic element represented by the perforations of No. 22 and the pits in the necks of Ebbsfleet and more developed forms of Peterborough ware. A few instances are known in which the latter have been made with small pointed implements rather than with the customary fingertip.³

There remain for discussion several unique features of the Whiteleaf pottery, for which no parallels seem to be available. The white inlay in the incisions across the rim of No. 10 seems to be the earliest appearance of this technique in Britain, which is otherwise known only on some of the more elaborately ornamented beakers. As for the curious broad flat lug of No. 56, it can only have served the purposes of decoration.

Finally, in the whole of Britain and Ireland there seems to be just one example of an enclosed panel in any way comparable to those on No. 1—that on the cord-ornamented 'proto-Food Vessel' from Tamnyrankin, Co. Derry.⁴

The diversity of the Whiteleaf pottery illustrates the complex nature of the relationships which obtained among the Neolithic communities of southern England and the fact that the Chilterns were, as their geographical position suggests, a focal area both for the reception and the transmission of influences. The same mingling of traditions can be seen in the pottery from Maiden Bower, Dunstable,⁵ which is partly of Abingdon and partly of Mildenhall type, and again in the few sherds recovered during recent excavations at Barton Hill Farm near Luton, Beds.⁶, in the centre of the Chilterns. The Barton Hill site is connected with Whiteleaf not only by its structural details (which may have included a wooden chamber or mortuary house) but explicitly by the pottery. Apart from one sherd of normal Western Neolithic fabric, the rest is of the poorly fired, flaky type found at Whiteleaf. There is an inturned rim with incised chevrons which closely resembles No. 6 and another, unfortunately extremely imperfect, but likely to have had a flat expanded top with deep transverse impressions similar to Nos. 17–19, which are otherwise unparalleled. On grounds of fabric and form these would unhesitatingly be classified as Peterborough ware.

But one fact which the Nympsfield-Whiteleaf-Barton Hill evidence makes clear is that the currently accepted ideas as to the independent origins and identities of Western Neolithic and Ebbsfleet wares will require revision.

ISOBEL SMITH

(B) SECONDARY INTRUSIONS

Cremation interment in cinerary urn.

Just under the turf, during the initial stages of the excavation, an inverted urn covering cremated human bones was exposed in the southern lobe of the barrow at U on fig. 1. The urn (pl. xxv, 3) stands 5½ ins. high, diameter 5½ ins. at the rim and approximately 4 ins. at the base. It is of very coarse clay heavily mixed with angular grit but hard fired. The rim

¹ e.g., Whitehawk, *Suss. Arch. Coll.*, LXXVII (1936), fig. 4; Trundle, *ibid.*, LXX (1939), pl. ix, 9, 10; Lion Point, *P.P.S.*, II (1936), fig. 2, 7. The Grovehurst pot (Piggott, *Arch. J.*, LXXXVIII (1931), fig. 21) must also be included here in spite of Piggott's revised views as to its affinities (*Neo. Cult. Br. Is.*, 304).

² Piggott, *Neo. Cult. Br. Is.*, 71.

³ e.g., one of the unpublished sherds from the Thames at Mortlake; London Museum, reg. no. A.13666.

⁴ Herring, *J.R.S.A.I.*, LXXI (1941), fig. 1.

⁵ Piggott, *Arch. J.*, LXXXVIII (1931), fig. 6.

⁶ A preliminary account of the first of a series of excavations has been published in *The Bedfordshire Archaeologist*, vol. 1, no. 1 (March 1955); Mr J. F. Dyer has very kindly allowed more specific reference to be made to the pottery here in advance of his definitive account.

Sir Lindsay Scott. Excavation of a Neolithic Barrow on Whiteleaf Hill

is quite simple but very slightly inturned. 0.9 in. below the rim is a shallow horizontal groove about 0.2 in. wide. There is no trace of splay at the base. The urn might be a final degeneration of the smaller barrel urns associated with the Deverel-Rimbury complex; it is in fact not unlike Abercromby no. 446, though this is only $3\frac{1}{2}$ ins. high and has lugs—compare also Abercromby 469 (Colchester). But equally coarse hand-made ware was current also in Roman times. According to a report by A. J. E. Cave, Royal College of Surgeons, 24.6.38, the urn contained the cremated remains of a child, including small pieces of occipital, frontal, temporal, and parietal bones, a maxillary molar, a fragment of rib, and numerous splintered chips of long bones that could not be identified with certainty. Dr Cave's opinion is 'that this material represents—in part—the remains of a child aged 3-4 years.'

Roman Finds

Just under the turf in the southern lobe, apparently not far from the cinerary urn, were discovered four Roman coins identified as follows :—

(1) *Decentius* 351-353.

obv. Bust, bare headed, draped, cuirassed.

DN DECENTIVS NOB CAES

rev. Two Victories holding wreath containing VOT/V/MULT/X

VICTOR-IAE DONN AVGET CAES

in ex $\frac{1}{\text{AMB}}^{\text{M}}$ Mint of Ambianum Auriens C. 43.

(2) *Constans as Augustus* A.D. 337-350

obv. Bust, pearl diademed, draped, cuirassed.

DN CONSTANS PPAVL

rev. Phoenix on pyre

FELTENS RAPARATIO

C. 22 $\frac{1}{\text{TR}}^{\text{M}}$ Mint of Trier

(3) *Irregular copy of coin of Decentius.*

Types as regular coin but legends on rev. blundered.

(4) *Irregular copy of coin of Magnentius* A.D. 350-353.

rev. type imitates Felicitas Reipublicae type.

c.f. C.5.

In a section of the ditch (50.95) on the west side of the barrow were found, apparently at a high level, fragments of a very coarse hand-made pot with splayed base, in Iron Age A tradition. While it might be pre-Roman, fragments of Romano-British wheel-made ware were found in close proximity. Finally, a Romano-British rubbish pit had been dug into the western flank of the north lobe just within the lip of the original ditch. It yielded a fragmentary tile, olla, the rim of an amphora much worn, a colander, and other small sherds, all of the third or more probably fourth century.

APPENDIX : REPORT ON THE NON-MARINE MOLLUSCA

By A. S. KENNARD, A.L.S., F.G.S.

Samples from two sources were kindly submitted for examination : (1) from beneath the barrow, (2) from the inner barrow beneath the layer of chalk. The former yielded no molluscan remains and is clearly not a true soil but the *undisturbed sub-soil*. The latter yielded thirteen species as well as a number of indeterminate fragments. The presence of these fragments may be due to hedgehogs or may have arisen from the construction of the barrow.

The species are :—

<i>Pomatias elegans</i>	(Müll.)	common
<i>Carychium minimum</i>	"	"
<i>Cochlicopa lubrica</i>	"	rare
<i>Gomio-discus rotundatus</i>	"	common
<i>Arion</i> sp.	"	"
<i>Retinella nitidula</i>	"	rare
" <i>radiatula</i>	(Ald.)	common
" <i>Pura</i>	"	rare
<i>Vitrea crystallina</i>	(Müll.)	"
<i>Trochulus striolatus</i>	(Pfr.)	very rare
" <i>hispidus</i>	(Linn.)	rare
<i>Cepaea nemoralis</i>	"	"
<i>Marpessa laminata</i>	(Mont.)	very rare

Since the material from which this faunule was obtained probably came from the immediate neighbourhood, the shells may be safely considered as being contemporary with, or possibly a little earlier than, the construction of the barrow. The faunule is an interesting one. From the total absence of the *Vallonia*s and of *Pupilla muscorum* (Linn.) it is clear that it does not represent a grassy downland, whilst the combination of species is not what one would expect in a beech-wood. In all probability it was a damp woodland in which the dominant tree was not the beech. The conditions are clearly damp and, judging from the species that now live in the dry oak woods on the chalk hills of Kent and Surrey, much damper than it is today.

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Subsidary IV

APPENDIX IV

RAZORS, URNS, AND THE BRITISH MIDDLE BRONZE AGE

By Jay J. Butler and Isobel F. Smith.

To be published in The Twelfth Annual Report of the
Institute of Archaeology, University of London, 1956.

Each of the writers has made contributions to all sections of this paper. Those for which I.F. Smith is mainly responsible are as follows: Part II: B, C, D and E.

It is regretted that proofs of the illustrations were not received in time for inclusion.

RAZORS, URNS, AND THE BRITISH MIDDLE BRONZE AGE

By JAY J. BUTLER AND ISOBEL F. SMITH

PREFACE

THE conclusion set forth in this paper—that certain cinerary urn graves containing Class I razors conventionally dated to Late Bronze Age II must in fact belong to the Middle Bronze Age—was arrived at independently by its joint authors, one J.J.B. on the basis of the razor evidence, the other (I.F.S.) on the basis of the pottery. Since the two lines of evidence interlock so closely, it has been thought desirable to present the results in a single paper.

Part I describes a series of razors of the Tumulus Bronze Age on the Continent, and their relation to British Class I razors. Part II discusses the dating of the British razors in the light of the Continental and British evidence, and suggests that certain categories of cinerary urns now classified as Late Bronze Age must have been flourishing in the preceding phase. Many aspects of the urn problem admittedly require much fuller discussion than can be attempted here; but it is hoped that one obstacle to the understanding of the development of the British urn cultures has been removed, and a contribution made to the rehabilitation of the now sadly depleted Middle Bronze Age.

A. *Tanged Razors of the Tumulus Bronze Age*

The tanged razors listed in Appendix I and illustrated, Figs. 1-3, come mainly from graves, hoards and settlements of the Tumulus Bronze Age. There are seven razors from South Germany and one from Switzerland, to which are added four from North Germany and one from The Netherlands. The list makes no claim to completeness; it includes, besides published examples, several unpublished specimens noted by one of the writers (J.J.B.) in German museums in the course of a study tour in 1954¹; others may no doubt exist. As a group they have escaped attention in the literature, both in this country and on the Continent, despite their importance for the history of the British razors.²

The Tumulus razors are rather larger than British Bronze Age razors; their tangs are proportionately smaller and in most cases more pointed. The most common form is oval but with a broad shallow notch at the end of the blade. Two South German specimens, Brucker Forst, Fig. 1., 2, and Onstmettingen, Fig. 1, 1, have incised decoration (discussed below, p. 10). The Onstmettingen razor and those from Hilzingen (Fig. 3, 4) and Spiez have shallow fluting on the blade. All have rounded shoulders except one, a razor from Alteiselfing (Fig. 3, 3), which also differs from the others in having a short broad tang containing two rivet-holes. None has a distinct midrib or a hole in the blade.

The Onstmettingen razor is unique in having a separately cast metal handle, with a socket to receive the tang of the razor and a ring at its end. This provides an interesting link between the simple tanged razor and the well-known Central European type with a ring-handle cast all in one piece.³

The few North German razors and the much-discussed Drouwen example from the province of Drenthe in The Netherlands (Fig. 2) differ from the South German type in having a tendency toward long tangs and pointed blades. Two are from the North Friesian island of Amrum (Figs. 3: 6, 7); a third specimen from Schleswig-Holstein is without exact provenance. A razor in the Museumdorf Cloppenburg (Fig. 3:2), probably a local find, has a fluted blade and a broad V-notch; the tang is broken off.

Doubt has been expressed as to whether the Drouwen tanged blade is really a razor. Van Giffen described it originally⁴ as a lancehead or arrowhead (although he compared it as to form with British Class I razors) and Mrs Piggott treats it with great reserve. But the lance- or arrow-head suggestion does not seem very convincing; the blade is described in Glasbergen's recent re-discussion of the find as 'paper-thin',⁵ which would hardly do for a missile weapon, and in any case there are nine perfectly functional flint arrowheads in the same grave. Examination of the original specimen at Groningen convinced the writer that it is really a razor, and Glasbergen (in a letter to the writer) expresses the same opinion. Its form is more like the British than the South German razors. Chemical analysis shows that it agrees in composition with the other metal objects in the grave-group. This suggests, along with the typological distinctions from the South German type, that the Drouwen razor was actually made in Northwest Germany.

Both the South German and the Northwest German tanged razors make their initial appearance at the very beginning of the Tumulus Bronze Age. The decorated Brucker Forst razor was found with a spearhead which is decorated in a similar style, and with a pin of Hungarian form which in Southwest Germany is typical of Holste's Lochham stage, his Earliest Tumulus horizon (Reinecke B.1). The Drouwen razor belongs to a fine grave-group including a Sögel short sword (decorated with the same combination of incised and *pointillé* lines embellished with arcs as the Brucker Forst razor), a nicked flanged axe, a slate whetstone, two gold spiral rings, and the nine hollow-based flint arrowheads already mentioned. The Sögel stage to which the grave belongs (and of which stage it is quite typical) is equated by Sprockhoff with

be approximately contemporaneous with the Bruckner razors and those from the Spiez tang and badly damaged blade from Nebel, Amrum, which Kersten⁷ thought might be a British export, comes from a woman's grave which is dated by a tutulus of Montelius IIA type.

3.

Southwest German razors datable to a more advanced phase of the Tumulus Culture include those from Onstmettingen (grave assigned by Kraft to his phase C⁸); Spiez (Bronze Age occupation layer in settlement site, Reinecke C);⁹ Hilzingen (grave dated to Reinecke C by Kimmig); and Alteiselfing (hoard with riveted sickle and sword related to Riegsee type, dated by Müller-Karpe to Reinecke D). The last-mentioned razor brings us to the period when late Tumulus and Earliest Urnfield Cultures existed side by side in South Germany.

B. Comparison with British Razors

Despite their evident differences, the South German tanged razors clearly have sufficient features in common with many British tanged razors to suggest that they are related. Although the notching of the South German razors calls to mind British Class II razors, the latter have narrow, slit-like notches while the former have very broad and shallow ones. The absence of midribs and holes in the blade and the predominance of rounded shoulders suggest that the Tumulus razors are more immediately related to Mrs Piggott's Class I razors than to her Class II.

Although the British razors are on the whole distinguishable at a glance from the Tumulus series, a few Anglo-Irish razors show distinctively Tumulus features. The most striking of these is P.60 from Carrickfergus, which has both the broad notch and the pointed tang, and would be quite at home in Tumulus territory except for its smaller size. The broad notch also occurs on some British Class II razors, as P.53 (Idmiston, Wilts.), P.64 (River Bann at Toome, Co. Londonderry), and P.77 (Kilgreany, Co. Waterford); tapering or pointed tangs are also found on razors of Class I, as P. 5 (Balnalick, Inverness) and P.37 (Port y Shee, Isle of Man) and Class II, e.g., P.81 (Adabrock, Lewis) and P.64-

A variant form is that presented by the razor from Alteiselfing, with angular shoulders and a short broad tang with two rivet-holes. This type of riveted tang (but with only one rivet) is paralleled fairly closely as to shape by British Class I razors: P.12 (Wigtownshire, P.32 (Amesbury, Wilts., present paper, Fig. 5), and P.35 (Grassington, Yorks.), and rather less closely by P.6 (Shanwell, Kinross), P.16 (Belclare, Co. Galway), P.29 (Priddy, Somerset), P.12 (Wigtownshire), P.19 (Carrowjames, Co. Mayo). The angular shoulders are not characteristic of Class I razors, but occur commonly in Class II razors in Britain and in Urnfield-period razors on the Continent.

Decoration provides another unmistakable link between the Tumulus and Anglo-Irish razors. Shallow fluting like that on P.1 (Tullochvenus, Aberdeen), P.60 (Carrickfergus, Co. Antrim) and P.34 (Winterslow, Wilts.; fluting omitted in Mrs Piggott's drawing), is found on Tumulus razors from Onstmettingen, Hilzingen and Spiez and on the probably North German specimen in the Cloppenburg Museum. Equally striking is the presence on the Brucker Forst and Onstmettingen razors of a decorated panel, oval in the former case and rectangular in the latter, arranged much like the panels on the Hiberno-Scottish group of decorated razors (P.1, 5-9, 11, 17, 24). Although the style of ornamentation is different (hatched triangles, lozenges and bands on the Scottish and Irish razors, lines of small arcs on the Tumulus razors), the similar arrangement on razors of related form can hardly be pure coincidence. *Pointillé* lines occur on both Hiberno-Scottish and Tumulus decorated razors.

Thus, although none of the British razors is so similar to any of the Southwest German ones that specimens actually exported in either direction can be claimed, there is evidently a common tradition behind the two series; and the Northwest German razors are in some respects typologically intermediate.

Other contacts between Britain and the Tumulus are about the

transition from Early to Middle Bronze Age. Numerous B1 and B2 razors are too well known to require discussion here; we need only mention the bronze pins—spherical-headed with diagonal perforation (Camerton) and trefoil-headed (Bryn Crûg, Loose Howe; bone imitations of the type from Brough and one of the Aldbourn graves;¹⁰ grooved ogival daggers;¹¹ small bronze cones and tubular beads (Migdale);¹² amber spacer beads with complex boring (Wessex period in Britain, but B2 and later in Southwest Germany).¹³ The razor connexion is by no means an isolated phenomenon.

4.

PART II

A. *The Dating of British Class I Razors*

In her careful analysis of the chronology of British Class I razors, Mrs Piggott pointed out that a number of them had apparently early associations; the most outstanding examples being the razors from Calais Wold (P.36) and from Sandmill Farm, Stranraer, Wigtownshire (P.13). On the urn in which the Stranraer razor was found, Mrs Piggott commented: 'A date of approximately 1500 would be appropriate for this urn, if it had been found in the South of England . . .'.¹⁴ She argued, nevertheless, that the evidence for early razors was inconclusive, and suggested that in Britain Class I razors fall within the limits 750-400 B.C. The principal factors in this conclusion were: (1) the absence of early Continental prototypes for Class I razors; (2) doubt as to the undeniably early Drouwen specimen being a razor; (3) the association of Class I razors of 'native' type (especially those with incised decoration, which must all be fairly close together in date) with 'late' types of cinerary urns; (4) the probability of Highland Zone retardation.

At the same time, Mrs Piggott allowed for the possibility that new evidence might disprove her hypothesis that no razors were to be dated before the eighth century in Britain. 'This hypothesis', she wrote, 'will no doubt be more critically examined when knowledge is accumulated. It may even be found that the custom of shaving went back to the Early Bronze Age in the north, and in that case such a razor as the Stranraer example might prove to be considerably earlier than it seems wise to place it at present.'¹⁵

The Tumulus razors cited above seem to tilt the balance of probability towards Mrs Piggott's alternative suggestion. We have seen that decorated tanged razors were known in South Germany from Tumulus B1 onward; and that razors with oval blades were being made in North Germany, and used in Schleswig-Holstein and Drenthe, in a contemporary phase. These regions were demonstrably in contact with Britain and Northwest France at the time. It would indeed be surprising if comparable razors did not appear in Britain until six or seven centuries later.¹⁶ As for the Drouwen blade, there now seems little reason to doubt either its character as a razor or its close relation to British Class I razors. It would be possible to believe on typological grounds that the Drouwen razor is an imitation of a British rather than of a Tumulus razor; which would imply a Sögel-Tumulus B1 *terminus ante quem* for the origin of the razor in Britain. Alternatively, one could suppose that the Tumulus razors came first, that the Drouwen and North German razors are local modifications of the Tumulus type, and that British razors are derived from these.¹⁷

The Continental evidence thus encourages a fresh examination of the British dating material, to see whether a tenable case can be made out for Mrs Piggott's alternative theory of a native and early origin for Class I razors in Britain.

B. *The Dating Evidence Reviewed*

There are a number of associations of Class I razors in graves, in addition to the Stranraer example mentioned above, which appear to be as early as, if not earlier than, Drouwen and Brucker Forst. These are included in Groups 1 and 2 below.¹⁸

Group 1: Razors accompanying inhumations

1. *Rudston, E. D. Yorks* (Fig. 41.1). With skeleton of large man and

axe-hammer or beaker type, one or three more or less contemporary graves, all containing objects normally associated with Beakers in Yorkshire.

2. *Barrow No. 2, Blanch Group, E. R. Yorks.* (Fig. 4: 2. With primary contracted inhumation in small mound.

Both these razors are thin, double-edged, parallel-sided blades with a single rivet. That from Rudstone has no separate tang: the lower end is simply rounded off. It has a clearly defined straight hafting-mark, with vertical-grained traces of the handle adhering to the corrosion. Blanch has a slight narrowing of the haft end, producing a short broad tang. Although these blades might be regarded as small tanged knives rather than true razors, they are obviously the prototypes for the broad-tanged riveted razors like Priddy (P.29) and the Hiberno-Scottish razors like Belclare (P.16), Carrowjames (P.19), and Knockast (P.23).

This type of razor, with short broad tang and single rivet-hole, might be distinguished typologically as *Class IA*; since it has no known close counterparts on the Continent, it may be claimed as of native origin.

Class IB is characterized by the long narrow tang (only exceptionally with a rivet-hole, as P.17). The type may conceivably be derived from the small narrow-tanged blades occasionally found with Beaker burials: *Kirkcaldy, Fifeshire*, and *Well Glass Spring Cairn, Lurgan, Co. Londonderry* (see Appendix III). The Kirkcaldy Beaker was thought by Childe to be 'typologically late and degenerate'; the fragmentary blade from Well Glass Spring Cairn was associated with a hybrid Beaker-Food Vessel in a double-portal chamber which also contained 'several true Beakers'. A Wessex date would not be improbable for either burial. The blades are perhaps too small to allow them to be classed as razors (although Radley, P.26, accepted by Mrs Piggott as a razor, can scarcely have been much longer than the Kirkcaldy blade), but their narrow tapering tangs, rectangular in section, suggest that they are prototypes of the true razors of Class IB.

Group 2: Razors with Wessex Culture associations

3. *Stancomb Downs, Lambourn, Berks.* (Greenwell's CCLXXXIX): Class IB; with primary cremation, antler hammer, battle-axe, incense cup. SP.2.

P.30. *Priddy Somerset*: Razor lost; originally described as 'part of a bronze spear- or arrowhead', suggesting that it had a narrow tang; it had been in a wooden sheath. The razor was with the primary cremation, associated with a heart-shaped amber bead, amber buttons, probably a faience bead (S.75), a bronze ring; nearby, and either contemporary or later, was a grape-cup. SP.27. (Note that this razor should not be confused with P.29, which came from another of the Priddy barrows.)

Possibly to be included in this group is the oval blade with imperforate tang from *Bryn Crüg, Carn.*, found with a cremation and urns (not preserved) in association with a small flanged axe with two side-loops and a broad stop-ridge, and with a bronze pin with three holes pierced in its flat bilobate head.¹⁹ The edges of the blade appear somewhat thick in the published illustration, so that we hesitate to classify it as a razor; but in form it is clearly related to the razors of Class IB.

The Bryn Crüg pin is apparently a Southwest German type;²⁰ an example from Muschenheim, Kr. Giessen,²¹ was found in a grave with an ogival dagger which is decorated with exactly the same combination of incised lines, small arcs and *pointillé* as is found on the Sögel dirks and the Brucker Forst razor. The dagger form needs no comment; the decoration, which occurs on daggers, dirks and swords over a wide area from Hungary to Denmark, is to Holste an important criterion in distinguishing the earliest horizon within the Tumulus Culture.²²

The two side-loops on the Bryn Crüg flanged axe have been a puzzling feature. Wheeler²³ suggested a connexion with Iberian double-looped *nastaves*.

decorated flat axes, one found in Northern Ireland,²⁴ and another in Denmark in association with a normal Irish axe of Megaw and Hardy's Type I.²⁵ Thus all three Bryn Crûg objects are consistent with a late Wessex or early Middle Bronze Age date. (It might be added that the motif of small arcs is extremely rare on bronzes in the British Isles, and its presence on the double-looped axe from Ireland and on a flanged axe from the same country²⁶ is no doubt to be attributed to Continental influences at this period.)

We come next to the question of the dating of Class I razors associated with cinerary urns. The difficulties involved in dating urns need no emphasis here; the paucity of closely datable associated objects, and the precariousness of dating by urn typology, make the subject highly controversial. From the point of view of method it would seem desirable to assume initially that neither the urns nor the razors can date each other, and to begin by singling out razor-urn associations which have a claim to be considered as Middle Bronze Age on grounds of *other* associations. In Group 3, then, can be placed urns and razors associated with objects of types (or, in one case, as a primary deposit in a barrow of a type) known to occur in Wessex Culture contexts and which do not demonstrably survive into the Late Bronze Age.²⁷

Group 3: Razors with Middle Bronze Age associations

- P.26. *Radley, Berks.*: Class IB; with primary female cremation in disc barrow, associated with biconical pot with four vertically pierced lugs on the shoulder.
- P.34. *Winterslow, Wilts.*: Class IB; with secondary cremation in urn related to Cornish type; associated with bronze awl, 27 amber beads and buttons, some V-bored; human hair; linen wrapping; contemporary with biconical urn with two applied horseshoes and finger-printed shoulder.
- P.36. *Calais Wold, E.R. Yorks.* (Mortimer's C.70): Class IB; with secondary cremation in upright urn (base only preserved) and cord-ornamented incense cup.
- 4. *Broughton-in-Craven, Yorks.*: Class IB, with rivet-hole; with cremation in inverted urn (not preserved); also in urn were: stone battle-axe, apparently related to Hove type; perforated hone, 3ins. x c.1ins. x $\frac{1}{2}$ in., conforming closely to hones found in Wessex culture graves; bone pins with perforated heads.

How much post-Wessex survival value is to be allowed the disc-barrow, the cord-ornamented incense cup, the battle-axe and hone of types found in Wessex graves, is admittedly difficult to determine, but it is perhaps reasonable to regard these graves as Middle Bronze Age on the grounds stated. Inclusion of the Winterslow group may occasion some surprise; but it is difficult to suppose that V-bored amber buttons survived into the Late Bronze Age in Wiltshire. Confirmatory evidence for the relatively early dating of the Winterslow urns is provided by other associations (see Group 5).

Overhanging-rim Urns are normally assigned to the Middle Bronze Age, even in the Highland Zone. North of the Wash, Class I razors have occasionally been found in such urns.²⁸ Razor-urn associations of this kind we have placed in Group 4; to the list we append supporting evidence of date from other objects found in urns of similar type.

Group 4: Razors associated with Overhanging-rim Urns

The urns in question appear to be closely related to the Pennine series distinguished by Varley.²⁹ They are tripartite, with deep rims and rather elongated necks. Decoration—cord-impressed, incised, or fingernail—appears on the inner bevels of the rims; patterns on the outer surfaces of the rims are often elaborate and extend over the necks in the form of lattice, panels or hatched triangles. In fact these urns are differentiated from the Pennine type only by the absence of the line of pits round the shoulder, and perhaps by slight variations in the concavity of the neck.

- 5. *Ulverton, Lancs.*: Class IB; there are two urns from the site, one of which is known to have contained an accessory vessel with enameled

6. *Broughton, Lincs.*: Class IB; primary in Barrow No. 3; with fragment of flint in upright urn covered by smaller inverted urn.

P.13. *Sandmill Farm, Stranraer, Wigtown.*: Razor incomplete; in urn with battle-axe, decorated bone bead, three whetstones.

Since the urns associated with these three razors are so closely related to the Pennine series, and since the interesting custom of using a small inverted urn as a cover was practised by the makers of Pennine urns also, we may perhaps be allowed to use the objects found in Pennine urns, so conveniently summarized by Varley,³⁰ as dating evidence. Apart from incense cups, bronze awls and other objects, there are: a leaf-shaped arrowhead of flint (V.20); an archer's bracer (V.10); two knife-daggers with imperforate tangs (V.7, 4.5ins. long; V.20, 5 $\frac{3}{4}$ ins. long); small broad-tanged knives with single-rivet holes (V.4, V.13);³¹ in urns V.19 were a (?) tanged knife, 3ins. long, with two rivet holes, jet, amber, and engraved bone beads and four segmented faience beads of normal type.³²

The archer's bracer tends to confirm the suspicion that the tanged knife-daggers from V.7 and V.20 are derived from West European daggers; taken in conjunction with the segmented faience beads from V.19, these associated objects indicate that Pennine urns made their first appearance at a relatively early date.

In connexion with the Stranraer razor and urn and the question of Highland Zone 'retardation', we may recall the related urns from the flat cremation cemetery at Brackmont Mill, Leuchars, Fife.³³ Here several of the urns conform well to the Pennine type, apart from greater concavity of the neck. Two contained decorated incense cups. No. IX contained an ivory belt-hook and a bone toggle; of these the former is specifically, the latter less certainly, related to objects found in Wessex Culture graves. The combination of battle-axe, whetstones and bead found with the Stranraer razor and urn is in a general way suggestive of Wessex Culture connexions.

The supporting evidence only shows, of course, that some urns of this kind are likely to be relatively early, not that all are. Nevertheless, this allows for the probability that some of the razors in such urns may be early too.

It is curious that in the South razors have not as yet been found in association with Overhanging-rim urns, but with vessels of a different type (Group 5). As will be shown, however, this has no chronological significance.

*Group 5: Razors associated with urns in Southern England*³⁴

In addition to P.26 (Radley, Berks.) and P.34 (Winterslow, Wilts.), which have been listed in Group 3, two further instances must be considered:

- P.28. *Nether Swell, Glos.*: Class IB; with secondary cremation in cordoned urn with two bands of applied horseshoes, a small oval lug, and twisted cord impressions.

- P.32. *Amesbury, Wilts., Barrow G.71*: Razor hybrid Class IA IB; with secondary cremation in biconical urn with two horseshoes applied to the neck. See Appendix II and Figs. 5 and 6.

The fact that all five urns associated with these four razors are of types believed to belong to the Late Bronze Age, and that the shape of the urn from Amesbury recalls the situlate pots of Iron Age A, seems to have been a major factor in Mrs Piggott's dating of the razors.³⁵ It will therefore be of interest to examine the other associations of urns of this kind.

- i. *Bircham, Norfolk*:³⁶ Secondary (?) in bell-barrow: biconical urn with (apparently) two horseshoes in the neck and everted rim; almost identical with the urn from Amesbury G.71; inverted over cremation, bronze awl, six or seven biconical and globular gold-cased beads. Listed by Professor Stuart Piggott as a grave of the Wessex Culture outside the Wessex area;³⁷ the beads resemble most closely those from Normanton H.156 (SP.72).

- ii. *Roke Down and Bere Regis Down, Dorset*:³⁸ Biconical urns with everted rims and applied horseshoes; Roke Down has a line of pellets below the rim and another below the shoulder perforated lugs on a plain

shoulder cordon, and a raised cross above the base, Bere Regis Down has a finger printed shoulder cordon. Each urn contained a bead of sheet-bronze rolled to form a slender tube. The best (if not the only British parallels for these beads are those associated with a B2 Beaker from the Buggar's Haven, Sussex,³⁹ and those in the Migdale hoard⁴⁰ together with, *inter alia*, flat bronze axes and V-bored jet buttons).

- iii. *Ringwold, Kent*:⁴¹ Biconical urn, with neat cord-impressed design above shoulder and four horseshoes below. This contained a well-made biconical incense cup, another small vessel, three segmented and one globular bead of faience. S.9.
- iv. *Uncertain association: Idmiston Down, G.1 or 3*: Fragment of urn with 'horseshoes and other applied bands' and segmented faience bead. S.23.
- v. *Near Dorchester, Dorset*: Biconical urn with plain shoulder cordon and two small perforated knobs set upon its side by side; in addition to other beads, it contained one quoit and one star bead of faience. S.50. The contemporaneity of quoit and normal segmented faience beads has recently been recognized;⁴² the Dorchester association shows that some star beads must also belong to the same period.
- vi. *Chard, Somerset*:⁴³ Biconical urn with lugs on shoulder; contained more than thirty amber beads, mostly discoidal, but some with hexagonal and biconvex cross-sections; a bead of 'greenish-blue glass'; a fragment of bronze. The amber beads would be matched more easily in Early than in Late Bronze Age contexts. The urn resembles that accompanying razor P.26 from Radley, Berks.: both are 6½ ins. high and 4½ ins. in diameter at the rim; the Chard urn has a slightly greater base diameter.

The Early Bronze Age character of the beads in the Bircham and Roke Down-Bere Regis Down hardly requires emphasis. There is no evidence whatever that the particular technique of gold-casing used on the Bircham beads was practised after the end of the Wessex culture. Of the tubular bronze beads it can at least be said that the relevant British parallels occur in early contexts and the same may be said of the amber beads from Chard. As for the date of faience beads in the South of England, we have a firmly fixed upper limit in Wessex culture graves, but in connexion with these beads in particular we must pause to consider the question of survival.

Since the publication of Beck and Stone's invaluable study of faience beads, it has been obvious that even the normal segmented variety occurs in association with a wide range of ceramic forms. Although these authors were clearly of the opinion that the beads belonged to one period and that therefore the associated grave-goods must be roughly contemporary,⁴⁴ they nevertheless were troubled by the apparently great chronological discrepancy in the urn types. Their approach to the question and that of the authors of later contributions to the discussion⁴⁵ has been dominated by considerations of urn typology based more or less closely on Abercromby's scheme, whereby Overhanging-rim Urns were supposed to have undergone a uniform process of devolution.

But, in the absence of abundant confirmation from stratified sites, ceramic typology is by itself an unreliable chronometer. Although Abercromby's scheme may in some instances be supported by evidence from barrows, there is usually no indication of the relative length of time which elapsed between the deposition of the primary and secondary urns. It seems safer therefore to date such urns as we can by the associated grave-goods.

In many cases the only approximately datable objects are faience beads. Since 'normal' segmented faience beads are likely to have been imported at one time, or to have arrived in a closely spaced series of shipments from one source, and since some quoit and star beads are seen to have been in use at the same time as the former,⁴⁶ the only question we are in a position to consider, pending the results of further detailed work on the origin of the beads themselves, is the length of time which elapsed between the acquisition of the beads and their deposit in graves. Unlike Savory⁴⁷ we do not believe that such

urns are likely to have had a high survival value. Not only do fashions in personal ornaments change, but beads are easily lost; and obviously every bead deposited in a grave reduced the number in circulation. We have clearly no means of estimating the total number of beads imported, but it is unlikely to have been large. Since so many Wessex Culture women took their beads with them to their graves (faience beads occur in twenty-five of the ninety-nine graves in the Wessex area listed by Piggott⁴⁸), the dwindling of the supply must have been rapid. The regularity with which beads appear in these graves shows that this was an established custom, enforced by piety or social pressure. As the number of beads available was limited, the custom cannot have been observed for very long.

On these grounds we think it to be improbable that faience beads continued to be deposited in graves over a period covered by more than two or three generations; a century from the date of importation is the maximum that can reasonably be allowed. Similar considerations apply to locally manufactured ornaments of specialized types. If these arguments are valid, it follows that all graves (at any rate in the South of England)⁴⁹ containing faience beads are objects of Early Bronze Age type should belong, at latest, to the immediately post-Wessex period.

We may now return to the urns found in such graves. The supposed difficulty of fitting, for example, all the types of Overhanging-rim Urns into this brief span of time disappears if we simply forget Abercromby's devolutionary scheme and admit that all the major urn types (except, on present evidence, the globular) appeared at an early date. This applies not only to tripartite and bipartite Overhanging-rim Urns, but to the Cordoned and Encrusted Urns of the Highland Zone and to urns with relief decoration in the South. During the Middle Bronze Age varieties of urns may thus be regarded as cultural rather than chronological manifestations. The whole history of Bronze Age pottery and cultures seems to be on the one hand more complicated, and on the other simpler, than has hitherto been recognized.

It should be made clear that once again we do not intend to imply that *no* typological changes took place, but rather that, pending much more detailed examination of the whole problem, it is most unwise to date by typological criteria *only*. It must also be emphasized that here we are concerned merely with the date of the *initial* appearance of certain types of urns and not with the length of time during which they continued to be manufactured.

It should be recalled that in his original analysis of Bronze Age pottery, Abercromby placed urns with horseshoes (his Type III, Group 2) and urns with horizontal, vertical and undulating cordons (his Type III, Group 3) in a separate category from 'Deverel-Rimbury' urns (his Type IV). Of late, however, there has been a tendency to merge all these types into the 'Deverel-Rimbury' class. As we believe Groups 2 and 3 of Type III to be intimately related and not readily distinguishable, unless elaborately decorated, from Group IV (always excepting the globular urns, Abercromby's Deverel Group I, which represent an entirely different tradition), it will be convenient to consider them as a whole.

The origin of the 'Deverel-Rimbury' pottery has been the subject of much discussion, but Glasbergen's recent comprehensive review relieves us of the need to recapitulate it here.⁵⁰ We need only recall that British archaeologists have been accustomed to look to the Continent for its origin, although admitting that some traits must be native. Glasbergen, however, in his important study of Dutch cinerary urns, has been able to show that 'Deverel' urns cannot have come to Britain from The Netherlands, formerly the most favoured centre of dispersal, but rather that on the Continent they represent an emigration from Britain and that this movement took place long before the arrival in The Netherlands of Continental Urnfield Cultures.

C. Continental Evidence for the Date of British Biconical Urns

Glasbergen has been able to single out two types of 'Continental Deverel Urns' which he has shown can only have originated in Britain: (1) Hilversum

Urns, characterized by biconical form with cord- or finger-nail impressed patterns between rim and shoulder-cordon; (2) Drakenstein Urns, undecorated except for horizontal cordons. In both types the edges of the rims, the shoulder and other cordons may be notched or finger-printed. The fabric of these urns is, allowing for differences in the raw materials used, identical with that of British Middle Bronze Age urns. They have rough surfaces and are heavily gritted and poorly fired; shrinkage cracks are often present; the profiles tend to be irregular. Glasbergen believes the Hilversum Urns to be derived from British Overhanging-rim Urns by replacement of the lower edge of the rim with a cordon, and Drakenstein Urns to represent a further devolution, which took place on the Continent. Some members of the Drakenstein group, however, are just British biconical urns without cord-ornament, e.g., Glasbergen's Figs. 58, 5; 59, 14.

Hilversum Urns have a limited distribution in Belgium and The Netherlands; Drakenstein Urns are clustered round the same foci, but are more numerous. If really later than the Hilversum type, they indicate an expansion of the original colony from Britain. Highly significant are the facts that Hilversum and Drakenstein Urns are characteristically found in disc barrows and that ritual pits occur under these barrows, again signs of the translation of British Bronze Age funerary customs to the Low Countries. The few grave-goods found in Hilversum and Drakenstein Urns are equally exotic;⁵¹ these include bone pins, probably the most common objects found in British cinerary urns, and a decorated bone bead and bone toggle, neither of which is a rarity in Britain. Grooved arrowshaft smoothers, such as occurred in one Dutch grave of this group, had a long history on the Continent; nevertheless it seems relevant to note that similar objects have been found in Wessex Culture or approximately contemporary graves in Britain—e.g., Wilsford H.18 (SP.89),⁵² and Breach Farm, Llanbeddian, Glam.⁵³

In our view, Hilversum Urns do not derive directly from British Overhanging-rim Urns; they belong basically to the biconical, relief-decorated group and the impressed patterns are simply imitations approximating to those used on the Overhanging-rim group. The notching of rims and cordons does not come from the latter source, but is proper to the series with relief ornament. The Ringwold urn, with a cord-impressed design on the neck and four applied horseshoes below the shoulder, shows this hybridization very clearly. This urn is the only British hybrid of the kind which contained datable grave-goods—normal segmented faience beads.

We have not made a systematic search for British parallels to Hilversum Urns and simply list below those which have come to our notice.

Tyning's Farm South Barrow, T.11⁵⁴ (Fig. 7, 1): Notched rim and shoulder-cordon; four lugs on shoulder; twisted cord impressions in groups of three between rim and shoulder; identical with the primary urn from Tumulus IB, Toterfout-Halve Mijl (Fig. 7, 2) (Glasbergen's Fig. 59, 1), except for greater height, lugs and more angular profile; it is possible that the original vessel may not have been quite so straight-walled as the reconstruction. The Tyning's Farm urn contained numbers of fossil crinoids; as pointed out by Beck and Stone,⁵⁵ these can be regarded as cheap substitutes for segmented faience beads (and have been found several times with such). We might therefore assume that this urn dates from a time when such beads were fashionable, though Taylor⁵⁶ indicates that the presence of the crinoids may be accidental.

Barrow No. 24, Thickthorn Down, Dorset (Durden Coll., British Museum, reg. no. 1892.9-1.241): Notched rim and shoulder cordon; rim of Glasbergen's type A (see his Fig. 56); lugs on shoulder, cord-impressed horseshoes in series on the neck. Probably to be connected with the latter is the cord-impressed design on an urn from Mont de l'Enclus, East Flanders (Glasbergen's Fig. 60, 8; de Laet and Roosens, *Arch. Belgica*, 14 (1952), Pl. IV, 2.). On the neck of this pot (which has a rim of type A and a notched shoulder-cordon) are four groups of three looped cord impressions, two of the groups being enclosed by a single line of cord.

A further most parallelism in detail of site and perhaps of barrow

structure is to be noted in connexion with the Tynning's Farm and Mont de l'Enclus urns. In each case the urn was inverted on a stone slab, either hollowed (Mont de l'Enclus) or naturally perforated (Tynning's Farm), and was protected by a ring of large stones. In each case the urn was related to a secondary enlargement of an original ditched barrow; the secondary barrows had no ditches, but probably were supported by stone revetments.

Oldbury Hill, Wilts. (Thurnam, *Arch.*, xliii (1871), Pl. XXX, 3): Primary in cist in barrow; decoration inside rim as well as in alternately hatched triangles above shoulder; notched shoulder cordon.

Bush Barrow, Salisbury Plain, Wilts. (Cunnington, *Cat. of Antiquities in Devizes Museum*, ii (1934), Pl. X, 3): Fragment; notched rim and shoulder-cordon, with cord-impressed hatched triangles between; oval lug below shoulder.

Mildenhall Fen, Suffolk (Clark, *Ant. J.*, xvi (1936), Fig. 6, 2): Rim approximating to type A; notches on outer edge of rim and on shoulder-cordon; perforated lugs on shoulder; fingernail impressions in oblique lines in neck. From the same settlement comes an interesting mixture of ceramic styles which on the whole are likely to be substantially contemporary and to reflect just the process of hybridization we have postulated. In addition to fragments of Overhanging-rim Urns (some of which may slightly antedate the rest), there are various biconical forms; one sherd with part of a vertical cordon, and another with part of an applied horseshoe.

A few other hybrids are figured by Abercromby—e.g., Figs. 425, 428, 431 and 491.

Present evidence suggests that relief decoration, apart from horizontal cordons, did not survive the sea-crossing in strength. But in 1953 an urn⁵⁷ was found at Budel/Weert, on the border between Belgium and The Netherlands, which is of biconical form and has four horseshoes applied to the shoulder. On the flat, externally projecting rim, in the neck and round the shoulder between the horseshoes, are cord-impressed patterns. Except for differences of detail, this urn is identical with one from Barrow B.47, Bulford, Wilts. (Salisbury Museum, reg. no. 139/48). (The form of these urns is well represented in Abercromby's Fig. 439, undecorated save for projections on the shoulder.) From the same barrow at Bulford comes another urn (reg. no. 132/48) with two horseshoes and two imperforate lugs; the rim is of Glasbergen's type A.

Glasbergen illustrates one pot (Fig. 58, 6) with four lugs; and another (Fig. 58, 2) with four short vertical cordons or lugs joining two notched horizontal cordons. This arrangement is paralleled on an urn from the Isle of Wight (Abercromby, Fig. 373 *bis*) and on one found in 1951 at Dugard Avenue, Colchester (Colchester Museum).

It thus becomes apparent that, from the evidence of their pottery, the settlers in Belgium and The Netherlands represented a special group which is distinguishable also in the South of England and that some degree of cultural fusion had already taken place before the migration. It is further of interest to note that the sherds of Hilversum Urns from the lowest layer of the site in the 'Wezelsche Bergen' at Wijchen were found in connexion with traces of square houses.⁵⁸ This throws a little new light, perhaps, on the dwellings occupied by the Bronze Age inhabitants of Britain.

It remains only to summarize briefly the Dutch evidence for the dating of this migration. In The Netherlands close dating of cinerary urns offers the same difficulties as in Britain; but though a combination of methods—careful stratigraphical excavation of barrows, extensive study of their soils and pollen content, and other techniques—useful results have been obtained. The most important evidence is that derived from Barrow I^B in the Toterfout-Halve Mijl cemetery. Here the cord-ornamented biconical urn of Hilversum type (Fig. 7, 2), which resembles so closely that from Tynning's Farm (Fig. 7, 1), contained the primary cremation in a disc barrow; Drakenstein Urns were secondary. Although there were no grave-goods with the primary urn, Waterbolk was able to show on palynological grounds that the erection of the barrow was probably contemporary with the primary interment in the 'Zwartenberg',

a disc barrow at Hoogeton, which contained a bronze palstave chisel (Glasbergen, ii, Fig. 72). In Glasbergen's view, this evidence 'makes a dating of these monuments to an early phase of the Middle Bronze Age (Montelius II III) seem probable'.⁵⁹ If he is correct in believing that the Toterfout-Halve Mijl Barrow IB was built by 'a clan . . . certainly of British origin', then the biconical urns of Tynning's Farm type must have appeared by that time in Britain. From the British side, this dating is supported by the segmented faience beads in the Ringwold urn; into the same context fits precisely the Odoorn necklace, with its amber and segmented tin and faience beads (Beck and Stone, 221).

Note may also be taken of the radiocarbon date obtained from charcoal found in the same primary urn from Barrow IB, Toterfout-Halve/Mijl. The determination, by de Vries and Barendsen at the Physics Laboratory of the University of Groningen, was 3450 ± 100 .⁶⁰ If the method is reliable, there is accordingly a 2:3 probability that the deposition of the urn occurred within the limits 1600-1400 B.C.; if we use instead the 2σ range, doubling the stated limits, the probability of the urn having been deposited within the period 1700-1300 B.C. is 21:22. (This allows only for the counting error, and not for possible errors in the method.)⁶¹ The radiocarbon determination is therefore consistent with the urn having been deposited within Montelius II (*cf.* Broholm's estimate of 1450-1400 to 1200-1100 B.C. for his Period II⁶²), but not Period III. This at any rate agrees with the testimony of the 'Zwartenberg' palstave chisel, since there is really no reason for assigning it to Montelius III. The degree of reliance which can be placed upon radiocarbon determinations will undoubtedly become clearer as further results are published; for the moment this determination may be taken as affording confirmation for a Middle Bronze Age date for the Hilversum Urns in The Netherlands, and therefore also for their prototypes in the British Isles.

D. *The Origin of Southern Relief-decorated Urns*

We have seen that 'Continental Deverel' urns must represent a British Middle Bronze Age colony abroad and that it has so far been difficult to explain their ultimate origin. A small amount of new evidence is now available which throws the matter into a different perspective.

It is generally agreed that Overhanging-rim Urns derive mainly from Peterborough ware with some traces of Beaker traditions.⁶³ Childe has further shown that Encrusted Urns derive basically from Rinyo-Clacton ancestors.⁶⁴ We suggest that (except for the globular urns, which probably do represent the influx of a foreign group) all the features of 'Deverel-Rimbury' pottery derive from the southern facies of Rinyo-Clacton ware; that in fact the group we have preferred to call 'relief-decorated urns' is simply the southern counterpart of the Encrusted Urns of the Highland Zone.

It has been seen that chronologically there is no serious obstacle to this view. Despite their extraordinary 'metallic' appearance, biconical urns with horseshoes cannot be skeuomorphs of bronze situlae (unless it could be shown that the latter were known towards the end of the Wessex Culture or immediately thereafter). Inseparable from this group is the urn of similar shape from the Southern Barrow at Oliver's Camp, Wilts. (Cunnington, *Cat. of Antiquities in Devizes Museum*, ii (1934), Pl. XIV). The latter is also, like the urn from Nether Swell, essentially a cordoned urn; it is encircled by four cordons with finger-prints, but it had two ribbon-handles similar to those on Cornish urns. It contained a small flat knife with two rivet-holes, probably not closely datable, but resembling the diminutive knives found in Wessex Culture graves (*cf.* SP.60 and 69).

To the same group may be added the urn from Barton Common, Hants. (Abercromby's Fig. 382), which contained three solid bronze beads. Though no relevant parallels have been found for these beads, we incline to the view that the custom of placing such ornaments with cremations was not inordinately long-lived. The urn is of the well-known variety with finger-printed cordons placed horizontally on the upper part, in a wavy band round the neck, and vertically from shoulder to base. The latter sometimes have a raised cross inside the hose,

down and previously mentioned. The undulating cordons in the necks of some specimens of the Barton Common type are just contiguous horseshoes or variations on this motif.

A connexion of some kind seems to have obtained between Cornish urns and those with relief decoration. We have seen that raised patterns in the bases are common to both and that ribbon-handles might be borrowed—Oliver's Camp and perhaps Winterslow, where the urn which contained the razor and beads belongs essentially to the biconical group and is not a normal Cornish urn.⁶⁵ Further, there is the direct association at Winterslow of ribbon-handled and horseshoe-ornamented urns. Yet the horseshoes (which were probably ornamental rather than functional) and the cordons must represent a tradition independent of that manifested in the Cornish series. On the other hand, the rim-to-shoulder profile of Amesbury G.71, for example, is very like that of the four-handled jars from Brittany,⁶⁶ to which the Cornish urns are thought to be related; but the relief decoration cannot come from this source either.

Childe⁶⁷ has already suggested that the raised reinforcements in the bases of southern urns are like those in the bases of Orcadian Rinyo-Clacton ware. Although there is as yet no sign that this strengthening technique was used in the southern facies of the latter, evidence is accumulating that external plastic decoration of a kind particularly relevant to this discussion (horizontal and vertical cordons) was applied fairly commonly. In addition to the well-known pottery from Woodhenge, where a number of sherds have vertical cordons (e.g., Cunnington, *Woodhenge*, (1929), Pl. 25, Fig. 1; also Pl. 30, 36, with ^{two} vertical cordons, wrongly orientated in the illustration), there is the recently published group of sherds from Durrington Walls (Stone and Piggott, *Book*, *Ant. J.*, xxxiv (1954)). Of great significance in this connexion is the design of the reconstructed pot (*ibid.*, Fig. 7, 1), where the walls are divided into panels by vertical grooves. A small sherd (*ibid.*, Fig. 7, 12) probably came from a pot of similar design, but was divided into zones and panels by cordons. Unpublished pottery from the same site (in Salisbury Museum) includes sherds from three pots, each of which had the walls divided into panels by low ridges. Further, there is a pot, represented only by three joined sherds, with a rim form like that of the reconstructed vessel referred to above, but having on the exterior below the rim an arrangement of cordons in arcades or a wavy band.⁶⁸

One of the features which distinguishes the southern facies of Rinyo-Clacton ware from the northern is, as pointed out by Piggott,⁶⁹ the liberal use of finger-tip techniques; similarly, one of the features which distinguishes urns with relief ornament in the South from Encrusted Urns is the application of finger-prints to the cordons. Known from the South of England, but unfortunately still unpublished, are two large Rinyo-Clacton vessels which bore, along with elaborate grooved and rusticated patterns, horizontal and vertical cordons with transverse notches made by the fingernail.

The more complete is a pot from Stanton Harcourt, Oxon.,⁷⁰ which was found in a gravel pit. It is biconical, with a plain shoulder cordon from which descend ten vertical notched cordons towards the missing base. The other pot, from Dales Road Brickfield, Ipswich, Suffolk,⁷¹ is much more fragmentary, but seems to have been of cylindrical or flower-pot shape. A notched horizontal cordon encircled it at an uncertain depth probably 2-3 ins. below the rim; from this extended towards the base a series of notched cordons. Plastic ornament is also present in the form of a truncated cone, 3 4 ins. in diameter. This provides a link not only with Woodhenge ware, but also with the circular blobs on sherds from Skara Brae, on Encrusted Urns, and on some 'Deverel-Rimbury' urns: e.g., Roke Down see p. 100 and at Latch Farm, Christchurch, Hants. C. M. Piggott, *PPS.*, iv 1938, 117, nos. 43 and 45. It may be recorded here as well that a small sherd of Rinyo-Clacton ware from Lion Point, Clacton,⁷² has a line of pellets just like those on the pottery from the Orcadian and other northern sites e.g., Rinyo: Childe, *PSAS.*, lxxiii 1938-9, Pl. XX, 5.

Slight though this evidence is, it does show that nearly all the characteristic features of southern relief-decorated urns had already appeared in Late Neolithic pottery. Although the horseshoes are not directly accounted for

they fit comfortably into this background as being of a Late Neolithic type, in fact, on an Encrusted Urn from Comber, Co. Down Fox, *Ant. J.*, vii (1927, Pl. XXIV, 3, and more complicated arcades are common on such pots. The horseshoes may be viewed as a single (and significant?) motif selected from a wider repertoire; a similar selectivity and restraint is manifested in the abandonment of grooving and punctuation (as in the Rinyo-Clacton prototypes) and failure to adopt stamping and slashing (as in many Encrusted Urns).

Fox indeed suggested long ago that there must be some connexion between southern relief-decorated urns and the encrusted type, explaining both as differential manifestations of an invasion.⁷³ In the sequel it proved difficult to find an entirely plausible Continental ancestry for the horseshoes, vertical cordons and wavy bands,⁷⁴ and it was admitted that such must be of native origin.

Now that it is seen not only that cremation cemeteries were already used in Britain by two or more Late Neolithic groups,⁷⁵ that there can be no question of a 'Deverel' invasion from the Low Countries, and that some types of so-called 'Deverel' urns had appeared in England at latest by the early Middle Bronze Age, it is evident that the whole concept of the 'Deverel Rimbury Culture' will have to be re-examined. This formidable task cannot be attempted here, but as a preliminary to it we should like to suggest that, in the light of the evidence surveyed above, the economical hypothesis of an indigenous (Rinyo-Clacton) origin for all save the globular urns should be seriously considered. Even though more or less precise Continental analogues can be found for the plastic ornament,⁷⁶ these need indicate nothing more than parallel developments. Since this kind of decoration was already in use in Britain before the Middle Bronze Age it seems unnecessary to invoke an invasion to account for its appearance in the latter period. Furthermore, in contrast with the British Middle Bronze Age emigration to the Continent, which is documented not only by exact similarities of pot form and decoration (including cord-impressed patterns which have no known precursors in the area of settlement), but in addition by associated grave-goods, barrows and even details of funerary rite of specifically British types, the hypothetical 'invasive Deverel-Rimbury Culture' would now appear to be represented solely by pottery. But a ceramic industry does not by itself constitute a culture.

E. Cordoned and Encrusted Urns in the Highland Zone

In the Highland Zone the dating of Cordoned and Encrusted Urns has been based in the past on the same three assumptions which we have shown do not hold good in the south of England: that urn- and cremation-cemeteries are exclusively Late Bronze Age phenomena; that Cordoned Urns can be explained in terms of Abercromby's typological scheme; that Class I razors must belong to the Late Bronze Age. Interpretation of the evidence has further been influenced by the explicit assumption that, after the Neolithic period at any rate, the North was a retarded area.

But if Encrusted Urns are to reflect the strong survival and even expansion of a Late Neolithic culture,⁷⁷ they must first appear at a relatively early date. That in fact they do so is shown by the association of an Encrusted Urn with a normal segmented faience bead at Brynford, Holywell, Flint. (S.8 and Davies, *Prehistoric and Roman Remains of Flintshire* (1949), 47-8).

A similar explanation can apply to Cordoned Urns;⁷⁸ in this case the use of twisted cord patterns may indicate adoption of the decorative techniques proper to Overhanging-rim Urns by hybridization of a kind which has already been seen to have taken place in the South. The faience quoit bead (S.61) and bone crutch-headed pin associated with the plain Cordoned Urn from Balneil have clearly Early-Middle Bronze Age connexions, while the lugged chisel need not be later than Middle Bronze Age.⁷⁹ The Early Bronze Age character of the decoration on razor P.17 (Pollacorragune, Co. Galway), found in a Cordoned Urn, and the evidence adduced in Part I of this paper for the date of such decorated razors, point in the same direction. These arguments apply equally to the Knockast West Meath razors (P.22-24) and associated

vessels. Although it was admitted that this cemetery-camp contained objects which were 'typologically early', a Late Bronze Age date was assigned to it on the grounds that cremation-cemeteries must belong to this period.⁸⁰ Since this argument is no longer valid, it seems preferable to try to use the grave-gods as dating evidence. The slug knife and especially the five bone cylinders and the decorated razors should not be discounted. The Cordoned Urn with the plain razor (P.23, Class IA) differs only in detail of ornament from the Pollacorrage urn.

CONCLUSIONS

i. British Class I razors may be divided into two sub-classes. *Class IA* has a short broad tang and a rivet-hole. The prototypes of this group accompany Early Bronze Age inhumations in Yorkshire and the type may therefore be of native origin. *Class IB* has a long narrow tang and is usually unriveted. This group, which may be derived from small tanged blades occasionally found with late Beakers, is related to the tanged (and sometimes similarly decorated) razors of the Tumulus Culture on the Continent and was demonstrably in use in the South of England by at least the end of the Wessex culture.

In both Lowland and Highland Zones the main period of use of both groups was the Middle Bronze Age. But that Class I razors continued in use into the late Bronze Age is seen from the presence of Class I/II hybrids in hoards (P.31, Taunton; P.79 and 80, Glentworth) and from the Ballymena mould, which bears forms for both classes (P.15 and 59).

ii. Biconical urns with horseshoes and other applied decoration, generally attributed to the 'Late Bronze Age Deverel-Rimbury Culture', appeared at the latest immediately after the end of the Wessex Culture in the South of England. A case can be made for the development of these urns from indigenous Late Neolithic Rinyo-Clacton ware. In the Highland Zone Cordoned and Encrusted Urns also appeared by the Middle Bronze Age and were derived in the same way from native Neolithic ceramic forms.

The dating of the southern biconical urns (some of which show the results of hybridization with the Overhanging-rim family) is confirmed by the evidence from The Netherlands, where it can be shown that a British colony using such cinerary urns had emigrated already during the Middle Bronze Age. (For one of these urns there is a radiocarbon date of 3950 ± 100 B.P.)

iii. The cultural pattern of the Middle Bronze Age in the whole of the British Isles was, so far as ceramic forms afford a basis for cultural distinctions, much more complex than has been realized. Pottery types which formerly were believed to succeed one another are now seen to have been more or less contemporary and to represent the parallel survivals of several Late Neolithic traditions.⁸¹ The only necessarily intrusive element of the 'Deverel-Rimbury complex' is the globular urn, the origin of which still remains uncertain and which has a limited distribution in the South; it appears that the makers of these vessels were quickly absorbed into native groups. The ceramic border between Middle and Late Bronze Ages now requires redefinition, for it is evident that 'Deverel-Rimbury' types and Cordoned (and perhaps Encrusted) Urns must spread over both periods; a refined analysis of typology and fabrics may afford clues.

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List of Tumulus and North German Tanged Razors

South Germany and Switzerland

1. *Brucker Forst, Ldkr. Neuburg a. d. Donau*. Fig. 1, 2) Razor decorated (oval panel). Hoard possibly grave: decorated spearhead, pin. *Germania*, 1952, 275, Fig. 1, 4-6. Mus. Singen.
2. *Onstmettingen, Württemberg, Grave 9*. Fig. 1, 1) Razor decorated (rectangular panel), fluting on face, detachable bronze ring-handle. Grave: 2 daggers, saw blade, punch, pin. Kraft, *Die Kultur der Bronzezeit in Süddeutschland* (1926), 31; Abb. 3, 1-5.
3. *Hilzingen, Kr. Konstanz*. Fig. 3, 4) Razor with fluting on face. Grave: spatulate flanged axe, bracelets. *Badische Fundberichte*, 1941-2, 270, Taf. 67A.
4. 'Burg', nr. *Spiez, Canton Bern*. Razor with fluting on face. Settlement site: Bronze Age occupation layer. *JSGU.*, 30 (1938), 55; Abb. 12, 6.
5. *Unterbrunnham, Ldkr. Trautwein, Grabhügel 2*. (Fig. 3, 1) Grave: rivets, small bronze spirals, etc. Mus. Munich. Unpublished.
6. *Alteiselfing, Ldkr. Wessertal*. (Fig. 3, 3) Hoard: sword, sickle. Mus. Munich.
7. *Mucklenburg, Kr. Stralsund*. Grave: two urns, spiral ring, dagger, pin. Unpublished.
8. *Arndorf, Ldkr. Feggendorf*. (Fig. 3, 5) Razor distorted by fire; grave. Mus. Munich.

North Germany and Netherlands

9. *Nebel, Amrum, Tumulus 'Ing Jongsun Berg'*. (Fig. 3, 7) Razor with tang broken off. Grave: cremation in small stone cist. O. Olshausen, *Amrum* (1920), 162; Abb. 89.
10. *Nebel, Amrum*. (Fig. 3, 6) Razor with long tang; blade damaged. Grave: tumulus. Kersten, *Zur älteren nordischen Bronzezeit* (1936), Taf. V, 7. Mus. Schleswig.
11. *Provenance unknown, probably Lower Saxony*. (Fig. 3, 2) 'Gef. in einem Urnenhügel.' Mus. Cloppenburg (Museumsdorf), König Coll. Unpublished.
12. *Schleswig-Holstein*. Exact provenance unknown. Kersten, *Ibid.*, 83.
13. *Drouwen, Gem. Borger, Drenthe*. (Fig. 2) Razor with long tang. Grave: Sögel dirk, nicked flanged axe, gold spirals, hollow-based flint arrowheads, perforated whetstone; mortuary house. Van Giffen, *Die Bauart der Einzelgräber*, I (1930), 84-93; Taf. 83; Glasbergen, *Palaeohistoria*, iii (1954), 145; Fig. 68.

APPENDIX II

The Razor and Urn from Barrow G.17, Amesbury, Wilt.

The razor and urn are in the Salisbury Museum, Accession No. 53/1931, Catalogue Nos. 208 and 207; in the Museum's register it is recorded that the urn was found in May 1931 'inverted 6 feet N.E. of the centre of the barrow, the base of the urn being only 6 inches below the top of the barrow'. The razor was with the cremated bones covered by the urn.

The razor is No. 32 in Mrs Piggott's Schedule (*PPS.*, xii (1946), 137 and Fig. 5). It is shown in greater detail in our Fig. 5. The blade is very sharp and seems to have been hollow-ground; there are many fine striae indicating the use of a hone. The edges near the tang show the asymmetry which is characteristic of Class I razors; the medial thickening also terminates in a sharper point on one surface than on the other. The decoration, which has probably been applied after casting, consists of series of irregular shallow oval depressions arranged to form two pairs of lines which converge towards the end of the blade. These depressions are quite smooth, and seem to have been made by a punch with rounded edges; a few fine scratches over the surfaces of the blade suggest that grinding or polishing may have removed any roughness resulting from displacement of metal. Apparently the intention was to imitate a 'plantain' razor with cast ribs. The rivet-hole in the tang has bevelled edges on one

surface and was evidently drilled.

Except where covered by patches of corrosion, the bronze has a highly polished and slightly iridescent patina. On both surfaces the corrosion seems to have preserved traces of a leather sheath. A semicircular mark left by the handle is visible at the base of the blade (indicated by a dotted line).

The urn (Fig. 6) is $15\frac{1}{2}$ ins. high; the mouth is oval, $9\frac{1}{4}$ ins. in diameter across the horseshoes and $10\frac{1}{2}$ ins. in the other diameter. The diameter of the base is $6\frac{1}{2}$ ins., and it is $1\frac{3}{4}$ ins. thick. Two horseshoes have been applied in the hollow of the neck, their ends extending over the line of the shoulder. The vessel is complete except for a small portion of the base, which has been restored. It is fairly well fired and a light pinkish buff in colour. There are a number of shrinkage cracks. The clay is abundantly gritted with coarse fragments of burnt flint which project from the surfaces, especially towards the base.

APPENDIX III

List of razors additional to those included in PPS., xii (1946)

1. *Rudstone, E. R. Yorks.*: (Fig. 4, 1) Greenwell's LXVIII. 'Parallel-sided blade, $2\frac{5}{8}$ ins. long, with rounded ends; rivet-hole in undifferentiated tang; straight hafting-mark. Associated with axe-hammer of Beaker type and skeleton of large man. This grave was cut into another with inhumation, three-riveted dagger, jet 'pulley-ring' and V-bored button; a third contemporary inhumation was also accompanied by conical jet buttons. All three graves were sealed by a mound of tramped earth capped with chalk. Greenwell, *British Barrows*, 265; axe-hammer, Fig. 126. British Museum, reg. no. 1879.12-9.1061.
2. *Barrow No. 2, Blanch Group, E. R. Yorks.* (Fig. 4, 2) Oval blade with 'two keen cutting edges', broad tang with rivet-hole; end of blade apparently used as chisel. Primary in small barrow with 'doubled-up' skeleton. Mortimer, *Forty Years . . .*, 322-3; 438; razor, Fig. 956.
3. *Stancomb Downs, Lambourn, Berks.*: Greenwell's CCLXXXIX. Bronze blade, overall length $3\frac{1}{8}$ ins.; imperforate tang 1 in. long; blade $\frac{3}{4}$ in. wide. Rested against primary cremation with battle-axe, antler hammer, incense cup. Greenwell, *Arch.*, lii (1890), 60-1; battle-axe and antler hammer, Figs. 26, 27; incense cup, Abercromby, *BAP.*, ii, 229. Grave-group in British Museum (reg. nos. 1879.12-9.1795-1803), but recent search failed to discover razor; there is, however, a sketch in the catalogue (No. 1799) which shows that it is similar in form to P.25 (Inkpen, Berks.), though the tang may be somewhat wider in proportion to the blade.
4. *Broughton-in-Craven, Yorks.* Razor of Class IB with rivet-hole; less than 3 ins. long (tip missing) and less than 1 in. wide; the blade seems to have had a broad flat medial thickening or fluting; from the tang it curves outward on either side and narrows again towards the tip. 'It is sharp enough to shave a Sabine priest.' Found in 1675 with cremation in inverted urn (not preserved, together with stone battle-axe ('the *Securis Lapidea* or rather *Marmorea . . .* of speckled marble polished, 6 ins. in length, $3\frac{1}{2}$ ins. broad. . . . The eye for the *Manubrium* to pass through is $1\frac{1}{4}$ ins. in diameter'), a perforated hone 'The *Cos Olearia* is of a blewish Grey Hone, only half an inch in Thickness, though three long, and near one Broad, all its Parts Equal', and bone pins with perforated heads. From the rather crude illustration, the battle-axe seems to resemble the Hove specimen. *Musaeum Thoresbyanum* in Whitaker's ed. of *Ducatus Leodiensis* (1816), 114-5; razor and battle-axe are Nos. 28-30 in 'Table of Antiquities', p. 116.

5. *Ulverston, Lancs.* Razor 81mm. long tip missing, Class IB. Tang is rectangular in section, 1½mm. thick at end, 3mm. thick near blade; its line continues as broad oval thickening in blade, 3mm. thick in centre, 1mm. near tip. The edges of the blade are sharp. The razor may have been bent and snapped across deliberately or by the heat of the pyre. It was found in one of two pots of type related to Pennine urns, one of which contained also a small vessel with encircling cordon. ?Unpublished. British Museum, Greenwell Coll; razor is No. 1879.12-9.1789.
6. *Broughton, Lincs.* Class IB; end of blade missing; overall length approx. 51mm. From Barrow No. 3; primary cremation in urn related to Pennine type and covered by smaller inverted urn. Fragment of flint included with cremation. Trollope, *Arch. J.*, viii (1851), 341-351, urn figured opposite p.344, razor on p.346. Larger urn, Abercromby, *BAP.*, ii, 77. British Museum; recent search failed to discover razor, reg. No. 1866.12-3.24; sketch in register.

Razors not mentioned in text

7. *Keswick, Northumberland.* Class IB; end of blade missing, but still 79 mm. long. When acquired by the British Museum the razor was in a Food-Vessel, but the association is uncertain. Reg. No. 1870.10-13.4.
8. *Possibly from Priddy, Somerset.* Class IB, with narrow midrib. An old, unregistered acquisition in the British Museum. Present reg. No. 1937.12-15.2.
9. *Ty'n-y-Pwll, Llanddyfnan, Anglesey.* Class IA, part of blade missing. In Cordoned Urn, secondary in barrow. Baynes, *Arch. Camb.*, 64 (1909), 312 ff., Figs. 3, c, and 6. Identified as razor by Grimes, *Prehistory of Wales* (1951), 216.
10. *Dalmore, Alness, Ross-shire.* Class IB (tang unusually long). Apparently flat oval blade (at least half missing), with characteristic asymmetry above tang. With cremation in cist in flat cemetery. *PSAS.*, xiii (1878-9), 256, Fig. 5.
11. *Shuttlefield, Lockerbie, Dumfries-shire.* Class IA; in outline the blade resembles that from Broughton-in-Craven, Yorks. With a cremation in an inverted cordoned urn. Anderson, *Scotland in Pagan Times: The Bronze and Stone Ages*, 21-22, Figs. 15 and 16.
12. *Kirkcaldy, Fifeshire.* Nearly complete bronze blade, tip missing; length 1½ins. Tapering tang (*cf.* Largantea). Hazel-wood haft (not preserved). In cist with inhumation, Beaker, awl, flint flake, 12 conical 'jet' V-bored buttons, fusiform 'jet' bead. Possible razor prototype. Childs, *PSAS.*, lxxviii (1943-4), ~~III, pp.vii, 1. iii, pl. xiii, 1.~~
13. *Campbeltown, Argyll.* Stone mould for razor (Class IB) or razor-like knife; on another face, mould for spearhead with loops on socket. Piggott, *PSAS.*, lxxxi (1946-7), 171; pl. XX: 1.
14. *Laughton's Knowe, Holm parish, Orkney Mainland.* Razor 4ins. long, Class I II hybrid. Slight midrib on one side only. With hazel-wood sheath. Cremation in stone cist (speculatively described as secondary by Mrs Piggott in mound. *RCAM.* Inventory, No. 368; Piggott, *PSAS.*, lxxxi (1946-7), 173; pl. XX:2.
15. *Well Glass Spring Cairn, Largantea, Co. Londonderry.* Fragmentary bronze blade with short pointed tang (similar to P.60, also from Northern Ireland; overall length now 1in. Found in secondary deposit which yielded two fragments of a bone dagger-plate, Beakers, Food-vessels, and plain, coarse pots. It has been suggested that this blade might be related to Palmella points, but these are always made of copper. Possible prototype for Class IB razors. Herring, *UJA.*, i (1938), pl.XX.

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2 Cf. C. M. Piggott, 'The Late Bronze Age Razors of the British Isles', *PPS.*, xii (1946), 121-141, with a corpus of drawings and full discussion of the British Bronze Age razors. The present paper is merely a supplement to Mrs Piggott's admirable study; frequent reference to it is made in the following pages. Razors listed in Mrs Piggott's schedule are here referred to by a P followed by Mrs Piggott's number. See also Mrs Piggott in *PSAS.*, lxxxi (1946-7), 171-3.

3 As Childe, *The Danubian Prehistory* 1929, Pl. V: A1, A2.

4 *Die Bauart der Einzelstücke* Nr. I. Mannus-Bibliothek, 44 (1930), 84-93.

5 *Præhistoria*, iii 1945, 145 and fig. 68.

6 *BRGK.*, xxxi, Part 2 1941, 32-42.

7 *Zur älteren nordischen Bronzezeit* 1936, 83; Taf. V, 6, 7.

8 Note that Kraft's C1 is placed by Holste (*Bronzezeit in Süddeutschland* 1953, 114) in his Delephed Tumulus phase B2 in the Reinecke terminology, although its types may run on into Late Tumulus.

9 Thus dated by Kimming, although Tschumi (*Urgeschichte des Kantons Bern*, 1953, 21, 347-8, 352-210) places the settlement in the Urnfield period. The form of the razor is very similar to that from H1 in n.

10 See p. 000 below.

11 *V de Apsimon, Tenth Annual Report*, Institute of Archaeology (1954), 45.

12 See page 00 below.

13 *V de Merhart, Germania*, 24 (1940), 99.

14 *Loc. cit.*, 124.

15 *I d.*, 126.

16 Tumulus B1, a short phase, ends at about 1500-1450 on views currently prevailing. The chronology of Childe and Hawkes *PPS.*, xiv 1948, 197 would not reduce this date by more than a century at most: they allow B to begin c. 1500-1450. Brucker Forst and Drouwen are, then, earlier than 1250 at the most conservative estimate. Broholm I (Montebus IIa) should begin before the end of B1; but IIA in Schleswig-Holstein with the Amrum razor partly overlaps Broholm II in Denmark. Cf. Merhart, *Germania*, 24 1940, 99; ApSimon, *loc. cit.*, 48ff.; Holste, *Bronzezeit in Süd- und Westdeutschland* (1953), 115-6; Childe, *Archaeologia Levantina*, IV, 1953, 167ff.

17 Another route by which Tumulus razors may have reached Britain is of course France, where Tumulus-derived razors seem to be plentiful. An example from the Seine at Paris (Ashmolean Museum, Evans Coll., 1927 2037) has a blade with characteristically Tumulus features, including the very broad shallow notch; the tang, however, is pointed-oval in section, and this seems to be a peculiarly French development. The French Tumulus Bronze Age hoard from Porcieu-Amblagnieu, Isère (Déchelette, *Manuel* in fig. 49, 13) contains a comparable specimen. The gradual deepening of the notch can be traced on French Urnfield razors like those from Pougues-les-Eaux, Nièvre (*Matériaux*, 2me ser., x 1879, 385 ff.: one razor with long narrow tang, another with open-work ring-handle and an incised ladder pattern on the blade. Cf. Savory, *PPS.*, xiv 1948, 171.

18 Razors additional to those included by Mrs Piggott in her Schedule will be listed serially; details and documentation are given in Appendix III. Razors which appear in Mrs Piggott's Schedule will be indicated by her numbers, prefixed by P. Other abbreviations are as follows:

SP: followed by a number, indicates a grave-group listed by Professor Stuart Piggott in his Register of Grave-groups of the Wessex Culture in the Wessex Area, *PPS.*, iv (1938), 102-106.

S.: followed by a number, indicates a grave-group including faience beads listed by Beck and Stone, *Arch.*, lxxxv (1935), 234-25.

19 *A. h.*, xxv 1868, 246; Wheeler, *Prehistoric and Roman Wales* (1925), 146; Fig. 48.

20 Parallels are cited by Holste, *Die Bronzezeit im nordmainischen Hessen* 1939, 50, n.3.

21 *I d.*, Taf. 20, 4.

22 *Ibid.*, 30.

23 *Loc. cit.*

24 Evans, *Ancient Bronze Implements* (1881), Fig. 107.

25 Butler, *Kuml*, 1956, 00.

26 Evans, *loc. cit.*, Fig. 35.

27 Conforming to the rule enunciated by Childe in another context *PPS.*, xiv (1948, 182: '... in an typological vision types of two consecutive phases must sometimes occur together; the rule is not that types of one phase must not mix with those of the next-but-one.'

28 As have small pointed blades with a single rivet-hole in a broad tang which appear to be related to the razors of our Class IA.

29 *Ant. J.*, xviii 1938, 161-6.

30 *Loc. cit.*, 169-171.

31 A similar knife was found beside Overhanging-rim Urns of uncertain type at Oldbury, Atherston, Warwickshire Bloxam, *Fauna Septentrionalia* 1855), 22-3).

32 Fox and Stone, *Ant. J.*, xxxi 1951, 31.

33 Childe and Waterston, *PSAS.*, lxxi 1941-2, 84-93....

34 P.27, from South Lodge Camp, Dorset, has angular shoulders, which are (on present knowledge) unknown until Reinecke D in Central Europe. Alteiseling and are a feature of Class II razors in Britain.

5 *Loc. cit.*, 125.

Lukis, *A Brief Account of the Barrows near Bramham Magna*... Guernsey, 1843).

- 7 PPS., iv 1938, 92.
 38 Urns, Abercromby, BAP., ii, 374-5 and p.39; beads, Beck and Stone, Arch., lxxxv 1935, 213.
 39 Curwen, *Archaeology of Sussex*, 1954, Pl. XI, 3 and 4.
 40 Anderson, PSAS., xxxv 1900-01, 266-275, Fig. 1.
 41 Jessup, *Archaeology of Kent*, 1930, 121 and Figs. 17: 1; 14: 3, 4.
 42 Fox and Stone, loc. cit., 29.
 43 Proc. Som. Arch. and N. H. Soc., lxxiii 1917, 116; urn, Abercromby, BAP., ii, 433; beads, *ibid.*, O.14.
 44 Beck and Stone, loc. cit., 220.
 45 E.g. Fox, *Arch.*, lxxxix 1943, 106ff., 126; Savory, *Arch. Camb.*, c (1949), 79ff.
 46 Confirmed by the finding of a star bead in an Early Bronze Age Reinecke A2 settlement at Arbon-Bleiche in Switzerland. The site is described in a preliminary report in JSGU., xxxvi (1945), 19ff.
 47 Loc. cit., 81.
 48 PPS., iv 1938, 80.
 49 And all graves, without geographical limitations, which contain normal segmented or quoit faience beads.
 50 Glasbergen, *Palaeohistoria*, iii 1954, 109-119.
 51 Glasbergen, *Palaeohistoria*, ii 1954, 103.
 52 Cunningham, *Cat. of Antiquities in Devon Museum*, i 1896, Fig. 172A.
 53 Grimes, *PS.*, 1938, p.113, Fig. 4.
 54 Read, *PBUSS.* 2, No. 2 1924, Pl. XI, 4; Taylor, *ibid.*, 6, No. 2 (1954-50), Pl. XVII, B.
 55 Loc. cit., 214.
 56 Loc. cit., 150.
 57 Referred to in advance of publication by kind permission of the excavator, Dr M. E. Marien-Glasbergen.
 58 Glasbergen, loc. cit., iii, 123.
 59 *Ibid.*, 167-8.
 60 *Ibid.*, ii, 129, sample 74a.
 61 We are grateful to Professor F. E. Zeuner for advice as to the interpretation of the radiocarbon results. Cf. Zeuner, *Science Progress*, No. 154 1951, 234-5.
 62 *Danske Oldsager, III: Aeldre Bronzealder* (Copenhagen, 1952), 42. Note that Broholm's Period II comprises Montelius IIb and IIc, but not IIa.
 63 Piggott, PPS., iv (1938), 91; Childe, *Prehistoric Communities of the British Isles* (1949), 146. It should be noted that bipartite proto-urns were already being produced by some Peterborough groups, e.g., at Peterborough itself (Leeds, *Ant. J.*, ii 1922, Figs. 7c, 10 and others; and at Astrop, Northants. Leeds, *Report Oxford Arch. Soc.*, 1912, Figs. I and II).
 64 Loc. cit., 150.
 65 Patchett, *Arch. J.*, cvii (1942), 59.
 66 E.g., du Chatellier, *La Poterie* . . . (1897, Pl.13, 1 or Pl.15, 2.
 67 Loc. cit., 188-9.
 68 It is possible, of course, that this is merely the surviving upper half of a lozenge pattern such as is seen complete on sherds from Rinyo and Skara Brae.
 69 Neolithic Cultures of the British Isles 1954, 340.
 70 In the Ashmolean Museum; to be published in *Oxoniensia* by Mr Nicholas Thomas and referred to with his kind permission.
 71 Ipswich Museum, reg. No.1940-47.1.
 72 S. Hazzledine Warren Coll.
 73 Loc. cit., 126-7.
 74 Preston and Hawkes, *Ant. J.*, xiii (1933), 438.
 75 Piggott, *Neolithic Cultures of the British Isles* 1954, 347 and 352-4.
 76 E.g., in France at Fort Harrouard Philippe, *L'Anthrop.*, 47 1937, 278 and Fig. 67, 5) and Camp de Chassey Perrault, *Materaux*, 1870, Pl. VI; in the Channel Islands Hawkes, *The Archaeology of Jersey* 193, 116-7. Impressed motifs, very like the horseshoes, appear above the shoulders of round-bottomed Neolithic pots at The Pinnacle in Jersey (Godfray and Burdo, *Bull. de la Soc. Jersiaise*, 1949, Fig. 10).
 77 There is really no other acceptable hypothesis; the notched stamp impressions on some indicate merely the absorption, either directly or via Food-Vessels, of a Beaker technique.
 78 Concerning the same effect made by Professor Piggott in a recent review of Glasbergen's study, *Ant. J.*, xx 1955, 27.
 79 C. Westbury-on-Trym, Glos., with decorated flanged axes Megaw and Hardy, PPS. iv 1938, 284, Fig. 11, Vorhout, South Holland, Netherlands: hoard with shield-decorated palstaves, flanged axes *Proc. Soc. Ant. J.*, Taf. 26.
 80 Henckens and Movius, *PRIA.*, xli 1932-4, Sect. C, 233.
 81 Food-Vessels must also have been current during part of this period.

Subsiding E

APPENDIX V

Mode of occurrence of Indrill Hill pottery in the South-eastern area

List of sites from which the figures in Table III have been compiled.

1. Primary in causewayed camps:

Beds.:	laiden Bower
Berks.:	Abingdon
Sussex:	The Trundle
	Whitehawk

2. In pits, assumed to be domestic:

Berks.:	Blewbury - under Barrow C
Bucks.:	Iver
Cambs.:	Chippenham - under Barrow 5
Essex:	Clacton - site 105
	Clacton - site 106
	Pledgdon
	Walton
Hants.:	Southbourne
Kent:	Ingham

3. On hut floors:

Essex:	Clacton - site 109
Kent:	Grovehurst
Suffolk:	Ipswich - Kesteven Road
	Ipswich - Kesteven Road
Sussex:	New Barn Down
	Playden

4. On occupation sites, no structures detected:

Cambs.:	Leck's Farm
Essex:	Clacton - site 107
	Overcourt - site 104
Hants.:	Michelmersh
Suffolk:	Wylard House, Mildenhall
	Hurst Fen, Mildenhall
	Wartlesham Plantation

APPENDIX V

5. Accompanying inhumations or cremations:

Berks.: Pangbourne
Bucks.: Whiteleaf
Suffolk: Worlington

6. In primary association with a ritual and/or funerary monument:

Beds.: Barton Hill Farm - Site I
Oxon.: Dorchester - Site I
Dorchester - Site IX
North Stoke - Long Mortuary Enclosure

7. In primary silt of ditch of long barrow:

Hants.: Holdenhurst
Surrey: Badshot

8. In shaft-filling of flint-mine:

Norfolk: Grime's Graves
Sussex: Cissbury

9. In bed of river:

Northants.: Milton Ferry

10. Multiple strays:

Bucks.: Marlow
Essex: Clacton
Norfolk: Edingtonthorpe
Suffolk: Creeting St. Mary
Ipswich - Dales Road
Sussex: Selsey

11. Single strays:

Hants.: Corhampton
Haddon Hill
Norfolk: Gayton
Shropham
Snettisham
Suffolk: Eriswell
Mildenhall - Bombay Cottage

12. Redeposited in mound of round barrow:

Beds.: Dunstable - Barrow 2, The Five Knolls
Isle of Wight: Niton

APPENDIX VI

Mode of occurrence of Peterborough pottery: detailed list of sites forming the basis from which Table VI has been compiled.

1. Primary in causewayed camps:

Sussex: Combe Hill
Whitehawk

2. In ditch-filling of camp, stratigraphical position uncertain:

Berks.: Abingdon

3. In pits, assumed to be domestic:

Beds.:	Eaton Socon
Berks.:	Newbury - Enborne Gate
Bucks.:	Iver
Hunts.:	Orton Longueville
Middlesex:	Heath Row
Northants.:	Astrop
Oxon.:	Asthall
	Cassington - Tolley's Gravel Pit
	Eynsham - Foxley Farm
Surrey:	Farnham - Bourne Hill Spring
	Wisley
Sussex:	Selmeston
	Selsey

4. On hut floors:

Norfolk: Edingthorpe
Northants.: Peterborough

5. On occupation sites, no structures detected:

Bucks.: High Wycombe
Kent: Canterbury
Tunbridge Wells - High Rocks Caves
Suffolk: Creeting St. Mary
Honington
Icklingham
Surrey: Thorpe

APPENDIX VI

6. In primary association with a ritual/funerary monument:

Oxon.: Cassington - Smith's Pit II
 Dorchester - Site XI

7. In secondary association with a ritual/funerary monument:

Beds.: Streatley - Barton Hill Farm, Site III
Oxon.: Dorchester - Sites I, II, III, VI, VIII

8. In primary silt of ditch of long barrow:

Hants.: Hinton Ampner

9. In secondary silt of ditch of long barrow:

Hants.: Holdenhurst
Surrey: Badshot

10. In shaft-filling of flint-mine:

Norfolk: Grime's Graves

11. In bed of river:

Beds.: Kempston
Bucks.: Hedsor
Kent: Ebbsfleet
London: Hammersmith
 Putney
 Wandsworth
Oxon.: Mongewell
Surrey: Mortlake
 Weybridge

12. Multiple strays:

Essex: Clacton - Lion Point
Isle of Wight: Ryde
Kent Folkestone - Caesar's Camp
Suffolk: Lakenheath

APPENDIX VI

13. Single strays:

Cambs.:	Chippenham - Barrow 5
Essex:	Danbury
	Walthamstow
Hants.:	Prior's Dean
Kent:	Tankerton Bay
Norfolk:	Ickburgh
Oxon.:	Cassington - Tuckwell's Gravel Pit
Suffolk:	Barnham
	Ipswich - Bramford Road
Surrey:	Brockham
	Croydon
Sussex:	Friston
	Newhaven

14. Redeposited in mound of round barrow:

Beds.:	Dunstable - Barrow 2, The Five Knolls
Berks.:	Blewbury
Hants.:	Bishop's Waltham
Isle of Wight:	Niton

15. Circumstances uncertain:

Kent:	Canterbury
Oxon.:	Cassington - Partridge's Gravel Pit
	Cassington - Tolley's Gravel Pit
	Cassington - Tolley's Gravel Pit
	Stanton Harcourt

Appendix VII

Mode of occurrence of Rinyo-Clacton ware in the

South-Eastern Area

List of sites from which the figures in Table IX
have been compiled.

1. In ditch-filling of causewayed camp, stratigraphical position uncertain:

Berks.: Abingdon

2. In pits, assumed to be domestic:

Berks.: Sutton Courtenay
Cambs.: Cambridge - Hills Road
Essex: Clacton - Lion Point
Newport
Hants.: Christchurch - Furzy, Latch Farm
Herts.: Pishobury
Hunts.: Orton Longueville
Kent: East Malling - Snodland Quarry
Northants.: Peterborough - Fengate Site
Oxon.: Cassington - Tolley's Pit
Cassington - Pit I
Stanton Harcourt - Partridge's Pit
Suffolk: Creeting St. Mary
Honington
Ipswich - Dales Road Brickfield

3. On occupation sites, no structures detected:

Cambs.: Shippea Hill - Plantation Farm

4. In primary association with a ritual and/or funerary monument:

Beds.: Leagrave - Waulud's Bank
Oxon.: Dorchester - Site I

5. Accompanying cremation deposits:

Cambs.: Chippenham - Barrow 2
Northants.: Peterborough - Tebb's Pits

Appendix VII

6. Apparently significantly connected with barrow or grave:

Cambs.:	Cherry Hinton - South Barrow
Hants.:	Christchurch - Hurn, Barrow I
Suffolk:	Pakenham - Grimstone End

7. In filling of shaft of flint-mine:

Sussex:	Findon - Church Hill Flint Mine
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8. Multiple strays:

Norfolk:	Edingtonthorpe
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9. Redeposited in mound of round barrow:

Beds.:	Dunstable - Barrow 2, The Five Knolls
Berks.:	Blewbury - Churn Plain
Hants.:	Roundwood - The Round Barrow

10. Circumstances uncertain:

Cambs.:	Ely
Norfolk:	West Runton
Suffolk:	Great Bealings
	Icklingham

APPENDIX VIII

Comparative table showing the modes of occurrence of Windmill Hill, Peterborough and Rinyo-Claeton wares

	<u>Windmill Hill</u>	<u>Peter- borough</u>	<u>Rinyo- Claeton</u>
	<u>% of 53 sites</u>	<u>% of 72 sites</u>	<u>% of 33 sites</u>
1. Primary in causewayed camp	8	3	-
2. In ditch-filling of camp, stratigraphical position uncertain	-	1	3
3. In pits, assumed to be domestic	17	18	46
4. On hut floors	11	3	-
5. On occupation sites, no structures detected	13	9	6
6. In explicitly funerary contexts (with inhumations or cremations)	5	-	6
7. In primary association with a ritual/funerary monument	8	3	6
8. In secondary association with a ritual/funerary monument	-	8	-
9. Apparently significantly connected with barrow or grave	-	-	9
10. In primary silt of ditch of long barrow	4	1	-
11. In secondary silt of ditch of long barrow	-	3	-
12. In shaft-filling of flint-mine	4	1	3
13. In bed of river	2	13	-
14. Multiple strays	11	6	-
15. Single strays	13	18	-
16. Redeposited in mound of round barrow	4	6	9
17. Circumstances uncertain	-	7	12
	<u>100</u>	<u>100</u>	<u>100</u>