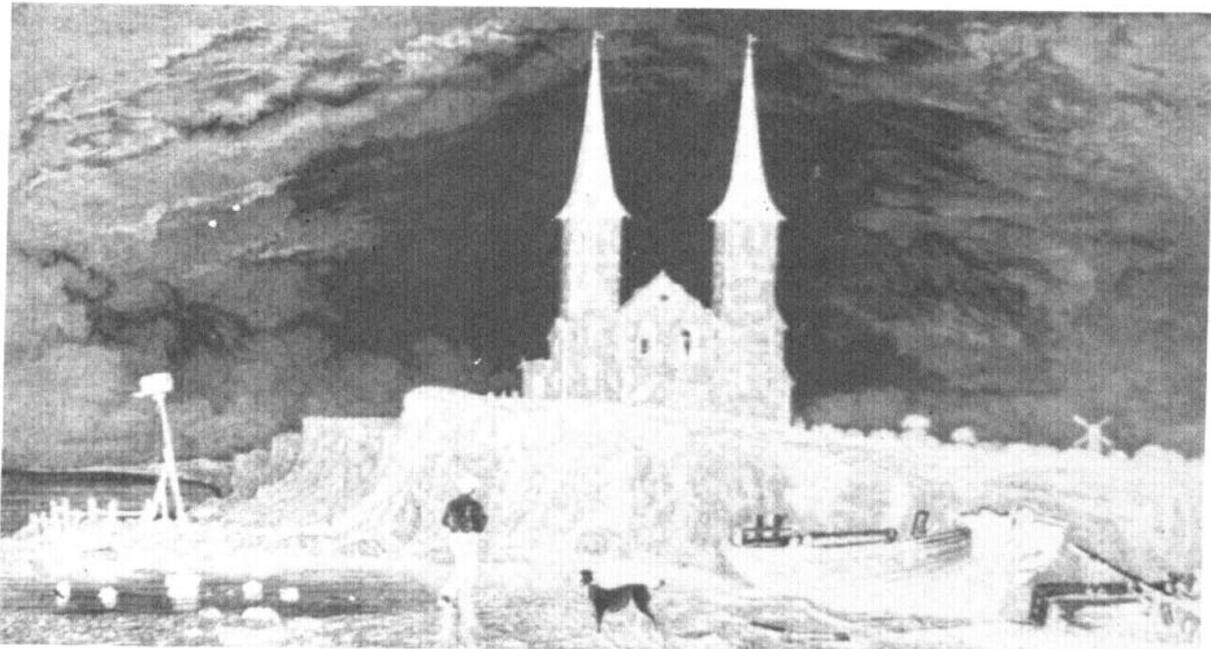


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**ARCHAEOLOGY
IN
KENT
TO AD 1500**

Edited by
Peter E Leach



1982

Archaeology in Kent to AD 1500

**In memory of
Stuart Eborall Rigold**

**Edited by
Peter E Leach**

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Preface

The papers published in this volume were, with the exception of Richard Pollard's, read at a weekend symposium held at Kingsgate College, Broadstairs, from 9 to 11 November 1979. With similar events already held in Sussex and Essex it was clearly desirable to do this for Kent and complete a trilogy for south-east England. The purpose of the symposium was to outline what has been achieved in Kentish archaeology and to demonstrate what still needs to be done. The presentation of the papers during the weekend showed gaps in our knowledge for virtually every period and subject. The discussions showed that perhaps the greatest need is for a strategy through which priorities can be established, and to which units, professional and amateur, could conform.

It is sad to record that Stuart Rigold ('Riggy') died shortly after this symposium and at the beginning of his retirement. His help and interest, especially in Kent, will long be remembered with affection. It is to him this volume is dedicated.

Peter E Leach,

Foreword

It is over half a century since the last full conspectus of the archaeology of Kent, by Ronald Jessup, was published. The volumes of *Archaeologia Cantiana* published since that time testify to the amount and diversity of archaeological work carried out in the county during the intervening period. A fresh evaluation of this evidence was thus well overdue by 1979, when the initiative was taken by Anne Clarke and Peter Leach, then undergraduates at the University of London Institute of Archaeology, to bring together a group of specialists at Broadstairs thus following the precedents established by Peter Drewett in Sussex and John Hedges in Essex.

The results of that conference, presented in this volume, will have confirmed the misgivings of many archaeologists working in the south-east about the current state of our knowledge of one of the most archaeologically rich and sensitive counties in England. Speaker after speaker deplored the lack of investigation and synthesis in their respective periods: 'the archaeology of Neolithic Kent has been neglected' (Clarke); 'the Bronze Age has perhaps suffered worst' (Champion); 'Iron Age studies in Kent. . . have, until comparatively recently, remained in something of a doldrum' (Cunliffe); 'Anglo-Saxon Kent is genuinely underexcavated' (Hawkes); 'Kent is weak in non-destructive survey' (Rigold). Only perhaps in Palaeolithic and Roman studies is Kent well represented.

This sorry state of affairs--contrasted by several speakers with that in neighbouring counties such as Sussex and Essex where broader research strategies are being followed--may be attributed to some extent to the rescue ethic that has dominated archaeology in Kent until comparatively recently. Sites were excavated solely because they were threatened; only rarely did research requirements play any role in decisions as to which sites should be excavated. This has inevitably resulted in an over-emphasis on urban excavations and on the Roman period. This fact in no way detracts from the outstanding contributions to the archaeology of Kent made since the end of World War II: the Classis Britannica and Saxon Shore forts at Dover, for example, so brilliantly investigated and interpreted by the Kent Archaeological Research Unit, or the important work on sub-Roman and post-Roman Canterbury by the Canterbury Archaeological Trust.

Nevertheless, the imbalance in Kentish archaeology that is highlighted by the synthetic studies in the present volume remains. It is to be hoped that its influence will be a seminal one, and that it will be seen and used by archaeologists working in Kent, and in the south-east generally, to indicate the most fruitful areas for future research. Barry Cunliffe points to the significance of Kent as part of that cultural and geographical region 'focused on the Thames and the rivers of East Anglia' which looks naturally towards the Low Countries, the Rhine, and north-eastern France, and as such its archaeology throughout the prehistoric period and into the Middle Ages is of crucial importance in the understanding of much of the rest of the southern half of Britain. It is in this context that the present volume must be judged--and used.

Henry Cleere

As with many other chapters in this volume this paper can only be a tentative summary of the environmental history of the county of Kent. Much work remains to be done before a detailed picture can be drawn of the changing landscape through time of this corner of south-east Britain.

The strong geological structure of the county with the horseshoe of Wealden rocks open to the east and its fertile north-eastern coastal plain seems likely, at first sight, to be a dominant factor in explaining settlement patterns but during the conference anomalies were shown to exist. This close relationship of culture with environment can best be demonstrated for the earlier periods. The distribution of various Mesolithic implements can in part be related to the availability of raw materials from the contrasting Wealden rocks (Mellars & Reinhardt 1978). The requirement of large nodules of flint from the Chalk for tranchet axes is an example of this. The striking concentration of microliths on the Folkestone Sands, however, can have a variety of explanations. Possibly the easily draining soils due to the porous quality of the sub-strata were an attraction, or the availability of animal and vegetable food supplies, or even the ease with which the open oak woodland could be deliberately fired to encourage grass and herbage to colonize open clearings and thus act as focusing points for game.

Soils and drift deposits

From the work in other areas of southern Britain (Limbrej 1978) it seems clear that early farmers in Kent would have encountered rather different soil conditions from those found today in the country. McRae and Burnham (1975) have emphasized the importance of Pleistocene glacial episodes in the development of modern soils. It is doubtful that England south of the Thames was covered by a Pleistocene ice-sheet although recently Kellaway *et al* (1975) have suggested that the Clay-with-Flints on the Downs may partly be a decalcified boulder clay of an early Pleistocene cold phase, subsequently much disturbed by cryoturbation. The puzzling Lenham Beds of Kent could be explained by the same phenomenon which would account for their position at 600 feet OD whilst their shell content is similar to the Coralline Crag material at about sea-level in East Anglia. Most workers, however, look only to periglacial conditions to explain the Drift deposits of Kent and, even where these deposits were too thin to be mapped by the Geological Survey, McRae and Burnham found significant differences in the soil profiles developed on them. In particular, the admixture of aeolian loess from areas immediately in front of the Devensian glaciers, with its largely unweathered mineral content of potassium, magnesium, and trace elements, led to such an improvement in the Maidstone area that it now supports the mid Kent fruit beds. In addition to the mineral and chemical composition of such soils, their water-holding capacity is much improved where the loess content is fairly high, especially on the gravels and sands which would otherwise be too freely draining.

The occurrence of loess in southern Britain, identified by its unique mineral suite, has been mapped by Catt (1978). It is probably mainly Devensian in age and the sheet of aeolian silt may well have been continuous when the ice first melted, although blank areas now occur. It does not seem

to be present overlying Weald clay but a brickearth (silty-loam, probably of loessic parentage) occurs over Hasting Beds and thin, silty drifts are found on the Lower Greensand. That such large areas are now denuded of loess is probably due to the climatic conditions which followed its initial deposition at the maximum of the Devensian glaciation. Silty loessic deposits, particularly when over a metre in depth, have a propensity to structural collapse under stress. The increased precipitation and snow-melt which occurred between 10,800 and 10,300 bp, according to pedological and molluscan evidence from coombes on the North Downs near Brook (Kerney *et al* 1964), would have started the process of dissection. Even though the remaining loess would be stabilized by vegetation growth and soil formation in the subsequent post-glacial climatic optimum, it would remain vulnerable to sheet erosion and wind dispersal when forest cover was disturbed by man. The combination of man's land use and the increased precipitation of the Atlantic period could account for the patchy distribution today of this valuable legacy of the last glaciation.

One of the best exposures of loess of any great depth is at Pegwell Bay near Ramsgate where it overlies Thanet Sand and Chalk. The section is not only interesting because of its periglacial sediments and features (Kerney 1965) but also because of the colluvium or hill-wash which lies over the soil horizons developed on the loess. A C¹⁴ sample of the organic matter within the soil gave a date of 6120 ± 250 bp (Weir *et al* 1971) which fits in well with Kerney's evidence at Brook of comparable burial of soil horizons due to pre-historic land use at about 5000 bp. The detailed analysis by Martin Bell (1981) of large accumulations of colluvium in Sussex has produced interesting results and the location of these deposits in Kent and their relationships to archaeological material would be a valuable adjunct to land use studies in the county.

Vegetational history

Another aspect of the environment of Kent on which much work still remains to be done is the vegetation. Pollen analyses from two sites were published several years ago by Godwin (1962) but in a not readily available journal. The site of Frogholt was particularly valuable as it is not easy to find suitable deposits for the survival of pollen within the Chalk downlands. The sequence came from peat infilling the valley of Seabrook stream near Folkestone. The other site lay on the north side of the Downs at Wingham, near Canterbury, close to the Little Stour. The palynological evidence at both sites indicates deforestation of the Downs during the Bronze Age, possibly as early as 1700 bc at Wingham.

The well known denizen of the chalk, *Fagus sylvatica* (Beech), although mainly planted today in stands or hangers, appears as part of the natural canopy from the earliest levels at Wingham although in small numbers. It occurs also at the High Rocks rock shelter near Tunbridge Wells (Dimpleby 1960; 1962), but whereas at Wingham there is an increase in its frequencies at about 200 bc, at the Iron Age camp near the rock shelters at High Rocks it is not present at all in the pollen sequence from beneath the ramparts. Clearly the status of this tree in the vegetational history of the area is not yet established.

Although forest clearance and pastoral and arable land use can be traced on the downland from the Early Bronze Age, other subsoils in Kent carried dense forest to a much later period as shown by the pollen sequence from Caesar's Camp at Keston on the Blackheath Pebble Beds (Dimbleby 1970). Here the soil under the rampart of stage I indicated a closed canopy of oak woodland with some birch, hazel, and holly but with little *Tilia* (lime). Recent work on this tree has shown it to have a variable status in southern Britain with some areas showing a dominance over oak (Moore 1977). Kent is clearly in an important geographical situation with regard to entry of some of these species from the continental mainland and a forthcoming paper by Kerney and Turner (1980, 1-43) relating to recent palynological and molluscan studies in the Folkestone area will clear up some of the uncertainties about the early status of floral and faunal climatic indicators.

Unfortunately little recent work has been done on soil pollen from archaeological sites in Kent and the analyses from estuarine and riverine peats inevitably are dominated by local fresh and brackish water communities. Nonetheless Devoy's work on Thames estuary sites (1979; 1980) does indicate that *Fagus* was present, though in small numbers, even before the elm decline of 5000 bp. This decrease in frequency of *Ulmus* in the vegetational sequence is usually taken to be anthropogenic and related to the first entry of farming communities. Not until later in Zone VIIb, however, do the Thames sites show a major recession of woodland together with the first appearance of cereal pollen. The decline of *Tilia* (lime) has also been associated with farming activities (Turner 1962; Mitre 1971) but Devoy finds it difficult to separate the effects of the marine transgression which occurs at the same time at about 4000 bp. The changed edaphic conditions which would occur in the estuary as a result would not favour the local growth of lime.

Sea-level changes

Archaeologists working in counties such as Kent with its limits dominated by coast and estuary must always be conscious of the changing land-sea boundaries and two symposia on archaeology and coastal change held in 1977 (published in one volume, Thompson 1980) reflect the problems connected with such studies on a national scale. At the Kent symposium it emerged that the pre-Roman cultural affinities seem to lie with Essex across the estuary rather than inland with Sussex so that the coast and river boundaries were particularly important.

Devoy (1980) established five marine transgressions for the Thames estuary area which he dates as follows:

Thames V	c 1750 years bp
Thames IV	2600 - ? years bp
Thames III	3850 - 2800 years bp
Thames II	6575 - 5410 years bp
Thames I	8200 - 6970 years bp

There is, however, partial disagreement on the timing, number, and amplitude of relative sea-level changes even between the inner and outer Thames estuary and this indicates the problems which abound for archaeologists treading the uncertain ground of coastal and riverine flats and marshes. Over a decade ago, Akeroyd (1966; 1972) illustrated the errors which can occur when the stratigraphical context of archaeological material is related to peats and fluvial silts without understanding the relationship of biogenic deposits to tidal positions or taking into account the differential shrinkage of sediments (Greensmith & Tucker 1971). These problems were further reinforced at

the coastal change symposium by Everard (1980). That Kent archaeologists cannot ignore these problems, however, is clear from the number of finds from all periods reported from such situations (Evans 1954). Cunliffe (1980) has shown how archaeological and pedological studies (Green 1968) can be integrated in an area such as Romney Marsh and there is now available from the Soil Survey (Fordham & Green 1980) a bulletin on soils of the whole county which might inspire further work of this kind.

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Dedicated to the memory of François Bordes, who was right

Even if it were not the home of the only Middle Pleistocene hominid so far discovered in the British Isles, Swanscombe would remain one of the most important localities for students of the British Lower Palaeolithic by virtue of its stratified sequence of Clactonian and Acheulian industries. In the last decade or so the Swanscombe deosits have been receiving considerable attention from palaeoecologists as well as archaeologists: Sutcliffe's study of the mammalian fossils (Sutcliffe 1964) has been followed by analyses of the aquatic and terrestrial molluscs (Kerney 1971), two palynological investigations (one, of the Lower Loams, by Desair-Coremans & Mullenders (in Wymer 1974, 406), the other (by the author) of the Upper Loams, Middle Gravels, Lower Loams, and Lower Gravels), and Dr Eric Robinson (pers comm) has studied an ostracod fauna from the Lower Loam. Moreover these researches have been accompanied by unusually detailed geological investigations (Conway 1968; 1969; 1970; 1971) which not only produced observations corroborating finer points of the biological studies, but also radically altered the conventional larger-scale geological framework in several respects.

One of the results of this profusion of new and detailed information has been to enforce a reassessment of the chronological interpretation of the Swanscombe deposits (Hubbard & Conway, in preparation). Wymer, in his contribution (below), has stressed Kent's remarkable richness in Lower Palaeolithic material: a revision of the chronology of the Palaeolithic sequence represented at Swanscombe would accordingly be of considerable significance for the archaeology of Kent. The revision proposed is not of purely parochial importance however, since it also involves a corresponding rationalization of the continental European archaeological correlations: indeed, to the extent that it clarifies our understanding of cultural developments during the greater part of the most recent quarter of human history, it may be justifiably claimed to be of world-wide significance. The conclusions we have reached in our reconsideration of the Swanscombe deposits are controversial, and are based upon complicated arguments of a palaeoecological nature which it would be inappropriate to enter into here even if space permitted. For present purposes, the environmental evidence will be reviewed in a selective manner, and the essential features of our interpretations and conclusions will be presented with justifications of only the crucial points of contention being indicated.

Some theoretical considerations

Comparison of multiple lines of palaeoecological evidence has two important purposes. Firstly, deductions corroborated by independent lines of evidence are much less likely to be incorrect than those with a single foundation. Secondly, examination of different components of an ecosystem affords a variety of partially overlapping perspectives allowing palaeoecological reconstruction of much greater detail and subtlety, in much the same way as stereoscopy is an improvement on monocular vision.

When comparing palaeoecological studies, as well as considering the habits of the various species of plants and animals involved, it is also necessary to take into account

where the material in question came from and what is its longevity. It is quite conceivable that material drawn from a very wide area could tell a totally different story from material of very local origin: in that case a knowledge of local environmental conditions could allow some clarification of the regional ecology. On the other hand, mutual contradictions could be caused by changing environmental conditions being recorded by both ephemeral and long-lived materials; and such explanations have sometimes had to be invoked when comparing palynological and malacological evidence (Dimbleby & Evans 1974, 119). Unfortunately knowledge of dispersal and catchment régimes in only remotely adequate for pollen-analysis and is virtually non-existent for the other analytical methods involved at Swanscombe. Peck's discovery that 90% or more of the pollen in lacustrine sediments is derived by water-transport from land surfaces and that direct rain-out of pollen account for not more than 10% of the influx (Peck 1973) has been confirmed by a number of subsequent studies. The generalized and derived nature of the pollen contained by water-laid sediments contrasts strongly with the pollen recoverable from land surfaces, which mainly comes from within a hundred metres or so of the sampling spot as Dimbleby (1957) demonstrated. The sedimentological implications of Peck's work do not seem to have been appreciated by many pollen analysts: at Swanscombe, there is strong evidence of the implied relationship between sediment texture and pollen content. The effect on pollen spectra of different catchment régimes has been investigated by Crowder and Cuddy (1973), who found that the most important result was a much stronger representation of herbaceous pollen types in river water and fluvial sediments, and a paradoxical scarcity of pollen of aquatic plants in these contexts-observations of great relevance to the interpretation of the Lower Loam pollen analyses, in which aquatic pollen types are virtually absent, and which are strongly influenced by changes in the pollen catchment régime.

While the factors governing the disposal and recruitment of pollen are comparatively well understood, the survival of pollen is not. It is sometimes stated that pollen is not preserved in calcareous sediments-which Swanscombe at least disproves. There is no reason to believe that alkalinity itself is harmful to pollen. Pollen analyses of calcareous buried soils from archaeological sites, however, indicate that pollen is destroyed rapidly in them, presumably by weathering processes that are absent or of less importance in acid environments. Incomplete destruction can create major problems by causing relative over-representation of more resistant pollen grains. Both pollen diagrams from the Lower Loams show signs of such processes giving rise (most obviously) to unnaturally inflated pine and impoverished oak and elm pollen percentages; but percolating oxygenated ground-water is suspected of being responsible for the distortion in this case. Complete destruction of pollen, by removing pollen which would otherwise be available for erosion and reincorporation as a contaminant in other deposits, could be regarded as positively advantageous. Indeed, it seems likely that from the point of view of contamination by reworked palynomorphs calcareous environment pollen-diagrams should be more reliable than the orthodox ones.

In contrast, almost nothing is known of the catchment and survival of bones and shells. Thus it was possible for a respected authority like Kerney to regard the aquatic molluscs from the Lower Loam as being *in situ* and the terrestrial ones as derived, while it now seems much more likely that the reverse is true. If one can assume that in alkaline environments chemical decay is less important than abrasion, then in both cases the water-flow régimes that would permit rapid transport would also cause rapid comminution, while good preservation of bones and shells would be incompatible with long-range derivation. (Dr K D Thomas (pers comm) however points out that mats of vegetation could raft numerically significant snail faunules into alien environments.) The range of environments represented in most samples of fossil aquatic snails suggests that the catchment area is extensive.

The interpretation of the animal bone assemblages employed here is possibly controversial, being based upon unpublished studies (Hubbard, in preparation) of the ecologies of the extinct large mammals. As far as catchment problems are concerned, one can only observe that there is little or no significant difference between the herbivore faunas of the Lower Gravels, where the bones are to a greater or lesser extent derived, and those of the Lower Loams, where they are the *in situ* remains of Clactonian butchering.

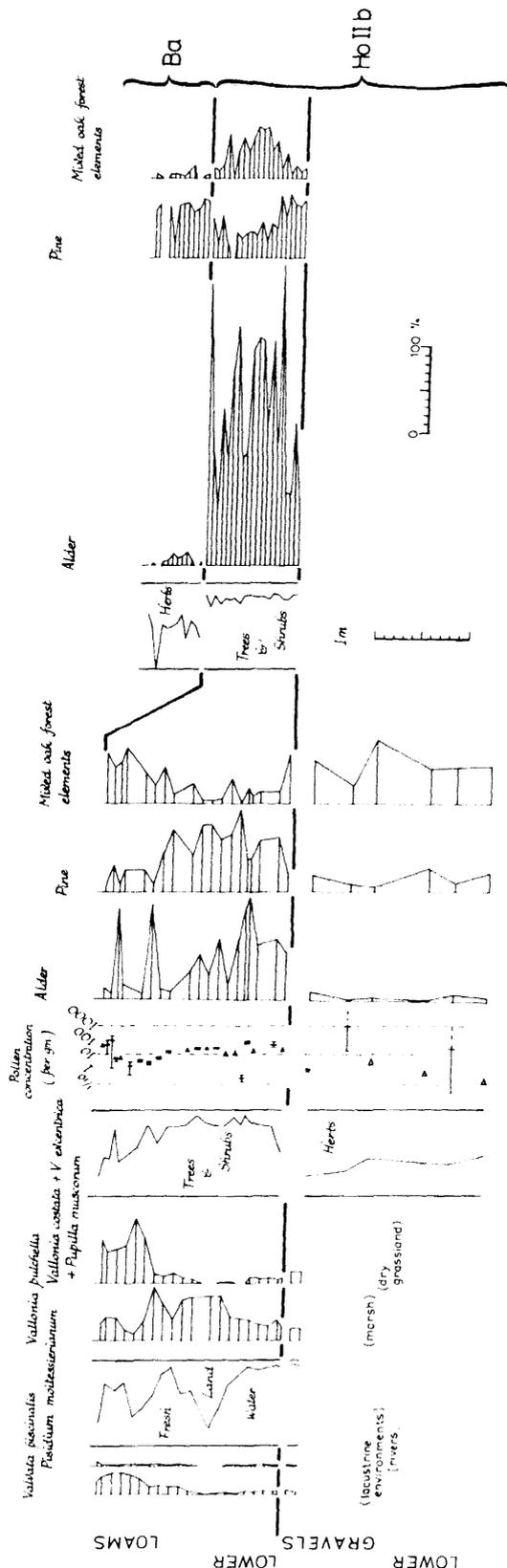
It is refreshing to turn to the geological evidence of channelling events, desiccation horizons, etc, where even if there are ambiguities in interpretation, there can be no question of derivation, and the age of the features is quite clear!

Stage I

Although the Lower Loams and Lower Gravels are sedimentologically very different, the environmental evidence they have yielded is closely comparable. Both deposits are dominated (c 70%) by mammalian species indicative of a scrubby environment, with those of open spaces virtually absent. Figure 1 illustrates selected elements of the malacological and palynological analyses from the Lower Loams and Gravels. Although the Lower Gravel has yielded few terrestrial molluscs, these are qualitatively and quantitatively similar to those from the lower part of the Lower Loams. The aquatic molluscan faunas are essentially identical. Kerney interpreted the terrestrial component of the mollusc fauna from the Lower Loam as indicating fen conditions giving way to hazel scrub. Terrestrial and aquatic molluscs indicate temperate conditions with frost-free winters. The pollen analyses confirm that the Lower Loams and Gravels were deposited in the early temperate (zone IIb) part of an interglacial, which, on the basis of finds of pollen grains of the enigmatic Type X and glochidia of *Azolla filiculoides*, can be identified with the Hoxnian interglacial of Britain and equated with considerable confidence (given the complexities of Middle Pleistocene correlations) with the continental Holsteinian interglacial. The presence of holly pollen supports the malacological evidence of mild winters.

About 60 cm below the top of the Lower Loam alder pollen decreases dramatically and herbs and grasses increase

Fig 1 Selected elements of the molluscan and palynological analyses from the Lower Loams and Lower Gravels. *Valvata piscinalis* and *Pisidium moitessierianum* are expressed as percentages of the aquatic mollusc total: *Vallonia pulchella*, *V. costata* + *V. excentrica* + *Pupilla muscorum* are expressed as percentages of the sum of the terrestrial and semi-terrestrial snails. Tree pollen percentages are of the total arboreal pollen sum, excluding alder and shrubs.



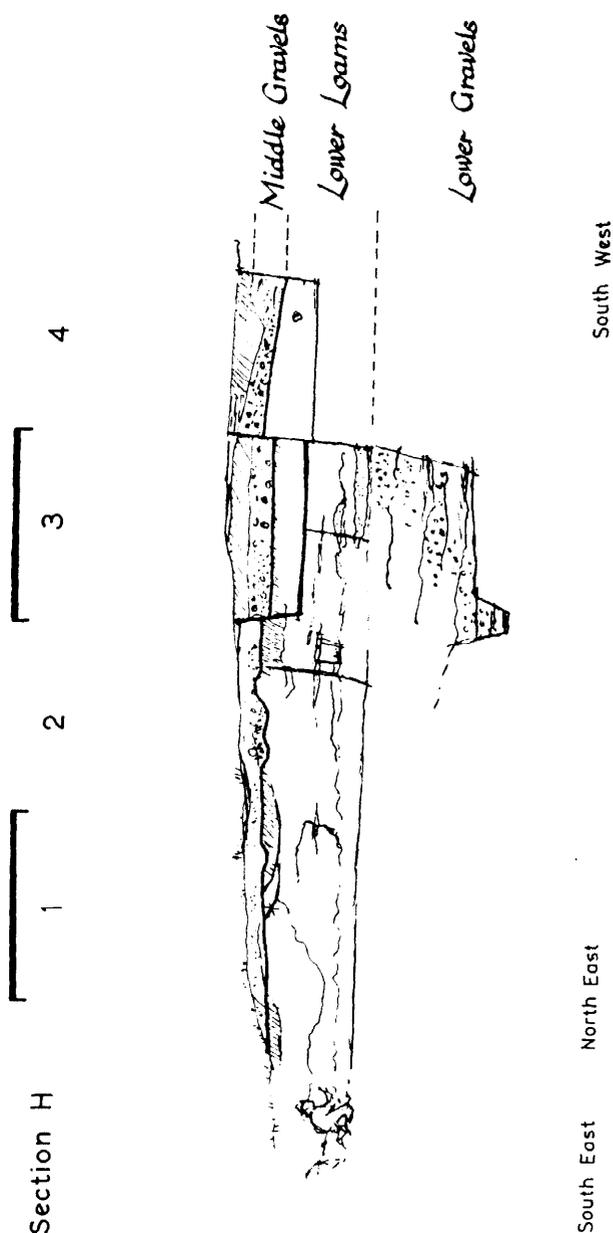


Fig 2 Sketch section by an architect (Robert Hubbard) of the Lower Loams and Lower Gravel exposures during collection of pollen samples on 29th August 1971. The main section is the junction of the B and C excavation squares, except for the Lower Gravel (A3-B3 baulk) and the upper part of the Lower Loams in the C3 excavation (C3-D3 baulk). The oblique hatching indicates the truncated decalcified base of the *sol lessivé* profile. The Barnfield interstadial channel, whose existence was at that time unsuspected, is clearly indicated in the upper east (left-hand) part of the B1-C1 baulk and turning the corner to the south east in section H.

correspondingly, suggesting the development of open conditions from alder carr; but this deduction is contradicted by the two abrupt alder pollen peaks in my pollen diagram, which show that the effect is attributable to changes in the pollen catchment régime. The Lower Loams are essentially water-laid deposits, and a lacustrine type of pollen catchment is giving way to a stream-like régime, with

occasional reversions to the lacustrine pattern. Such conditions could prevail as an estuary (pseudo-lake) silts up by stream and river aggradation, with spasmodic estuarine flooding episodes. This interpretation is strongly supported by the ostracod fauna of the Lower Loam, which contains one species (*Cyprinotus salinus*) that suggests a position just upstream of the tidal limit in a river estuary.

The pollen analyses from the Lower Gravel differ from those from the Lower Loams in their much richer representation of herbaceous pollen types, but this can be attributed, once again, to the differences between riverine and lacustrine-type catchment régimes. Furthermore, while the pollen concentrations in the Lower Gravel are often low (c 1 grain per gram of sediment), they are sometimes much higher than those in the Lower Loams: these high pollen concentrations seem explicable only in terms of temporary land surfaces, which would not only explain the eccentric nature of some of the Lower Gravel pollen spectra, but would also mean that these spectra should reflect the vegetation in the immediate vicinity of the site during the laying-down of the Lower Loams and Gravel much more closely than should the generalized pollen spectra from the Lower Loams (It must be emphasized that the open conditions recorded in the top of the Lower Loam in my pollen diagram cannot be equated with the open conditions of subzone Ho IIc as represented at Hoxne (West 1956) and Marks Tey (Turner 1970).)

The terrestrial molluscs in the upper half of the Lower Loam give strong indications of dry grassland conditions. The presence of *in situ* Clactonian occupation horizons in the top half metre of the Lower Loam also tends to imply dry ground. These conclusions are reconciled with the fluvial origins of the deposits by the geological observations made during the late Dr Waechter's excavations, which revealed that, although superficially homogeneous, the Lower Loams have a complicated sedimentary history and contain desiccation horizons and ephemeral stream channels whose banks bear dendritic rainwater runnels and signs of animal trampling.

It seems that we may imagine the Clactonian occupations of the Lower Loams as occurring on grass-grown mud flats subject to periodic flooding, dissected by small streams containing spears of cat's tail (*Typha*), on the edge of hazel scrub merging into elm-rich mixed oak forest, in the neighbourhood of a river estuary.

Desair-Coremans and Mullenders' pollen diagram from the Lower Loam revealed a quite unexpected phenomenon: a stratigraphic discontinuity, once more half a metre below the top of the Loam, caused by localized channelling at a much later date than the deposition of the rest of the Lower Loam. The pine and herb-rich pollen spectra from the channel cannot be attributed to the results of differential destruction of a Ho II pollen assemblage. The absence of late Hoxnian elements such as silver fir indicates that this channelling episode belongs to a post-Hoxnian interstadial, and is not of Hoxnian zone IV date. One reason why this channel was not previously suspected is because the colour and texture of the sediments filling it only become distinguishable in weathered sections (Fig 2).

Stage II

The surface of the Lower Loam (including the interstadial channel fill) is decalcified and clay-enriched. The discontinuous occurrence of this feature shows that it is the base of a truncated *sol lessivé* and not a simple solution effect as has sometimes been suggested. This decalcified horizon (Stage If) has yielded a snail fauna that must have been

trodden in immediately before the aggradation of the Lower Middle Gravels, and which is indicative of dry grassland and scrub.

Conway (1971, 834) argued persuasively that the 'channel' separating the Upper and Lower Middle Gravels was a solution hollow of no chronological significance. This is supported by the mammalian fossils (Sutcliffe 1964; and pers comm) which show both units to be dominated (c 70%) by species of closed forest environments, with scrub and open country animals making up the remainder equally. Similarly the pollen samples that have been analysed so far have produced exceedingly sparse assemblages about which all that can be said with confidence is that they appear to indicate an interglacial zone IIb age for both Upper and Lower Middle Gravels. The ram's-horn snail assemblages from the Middle Gravels are strongly 'Hoxnian' in character, and the aquatic mollusc faunules differ from those of the Lower Loams principally in the appearance of various continental and thermophilous species such as *Corbicula fluminalis*, *Belgrandia marginata*, *Valvata naticina*, etc-the 'Rhenish element' recognized by Kennard in his admirable and unjustly neglected paper (1944) on the Crayford brickearths. On the other hand, while the terrestrial molluscs from the Lower Middle Gravels indicate heavily shaded forest conditions (corroborating the mammalian evidence), the Upper Middle Gravel faunules are monotonous and, although directly indicative only of an open environment, comparable with late Devensian snail faunas. Moreover, there is also the record of a fragmentary lemming mandible from the upper part of the Upper Middle Gravels (Schreuder 1950). The reason for this lack of agreement is unknown: the Middle Gravels have always been regarded as interglacial deposits and there is no reason to doubt that this is true of their lower parts at least. The presence of late interglacial or glacial channels could reconcile the conflicting evidence, but is almost impossible to prove since little of the Middle Gravels remains accessible for study.

Stage III

A complicated series of cold-climate phenomena separate the Middle Gravels from the Upper Loams. The upper Middle Gravels appear to be penetrated by deep and narrow ice-wedge casts, are cryoturbated at the top, and are overlaid in places by a thick solifluxion deposit. The Middle Gravels and solifluxion are in turn overlaid by the Basal Upper Loam, which is attributed to niveo-glacial deposition since it contains horizons of small ice-wedge casts. The Basal Upper Loams pass conformably into the Upper Loams, from which the only environmental evidence consists of pollen-and not much of that. The pollen analyses once more indicate temperate interglacial conditions, and the presence of holly pollen again shows that the winters were mild. On the basis of the general scarcity or absence of alder and yew pollen, and the apparent presence of a zone III in which hornbeam dominance is not accompanied by spruce or silver fir, this interglacial can be tentatively correlated with the Ipswichian.

Conclusions

The cumulative evidence of the recent geological and biological investigations vindicates King and Oakley's (1936) interpretation of the Swanscombe sequence, and renders untenable the orthodox version of the British Middle Pleistocene succession, in which the Ipswichian interglacial is immediately preceded by the Hoxnian interglacial. In

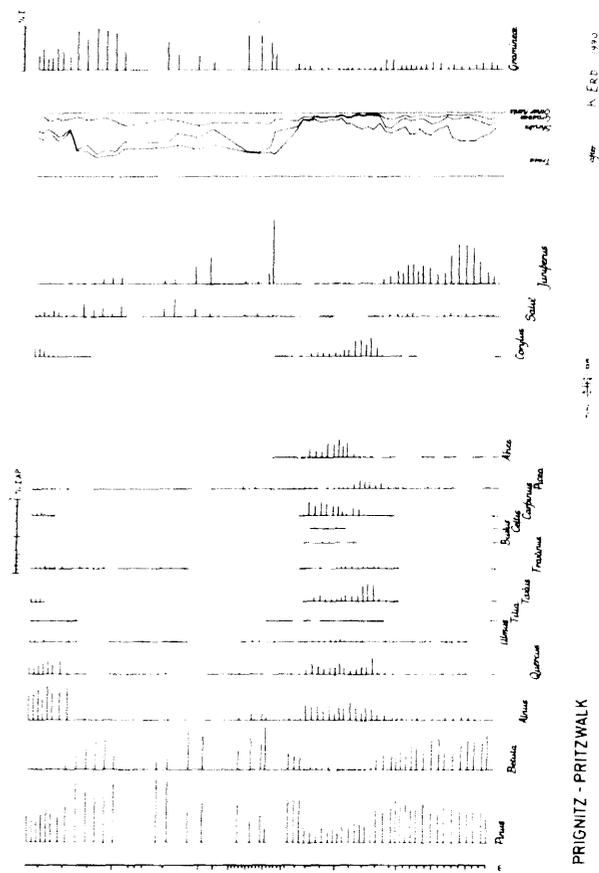


Fig 3 Pollen diagram from Prignitz-Pritzwalk showing a nearly continuous sequence from the Holsteinian interglacial, through the subsequent cold phase (including an interstadial episode) and into the subsequent Holsteinian-like Dönnitz interglacial. The diagram appears to correspond closely with Stages Z and II of the Swanscombe deposits. Note the non-linear depth scale, and the 18 m gap in sampling around 70 m. Recalculated and redrawn from Erd (1970)

fact, matters are almost certainly still more complicated, because Shackleton and Opdike (1973) gave good reasons for expecting the interglacial preceding the Ipswichian not to be recorded in geological contexts connected with marine action except under special circumstances. In that case, the Middle Gravels episode (which Conway and I are proposing to call the Swanscombe interglacial) would have to be equated with oxygen isotope stage 9 (c 330,000 years ago) and the Hoxnian with stage 11 (410,000 years ago). Menke (1968) and Erd (1970) have reported a 'double' Holsteinian (Fig 3) with which the Hoxnian and Swanscombe interglacials can be correlated on circumstantial grounds. The only archaeological sites undoubtedly belonging to oxygen isotope stage 7 are Terra Amata, with an absolute date of $230,000 \pm 40,000$ years (Ox-TL 195a) (Wintle & Aitken 1977), and Bilzingsleben (Harmon *et al* 1980). Table I lists the Swanscombe stage names proposed by Conway and myself, and their tentative correlations with continental European geological events, the Tenaghi Philippon Middle Pleistocene pollen diagram (Wijmstra & Smit 1976), and the marine oxygen isotope stages.

In the past, any non-Cromerian (in the loosest sense)

Table 1 The revised Swanscombe sequence and its proposed correlation with British and European geological episodes

SWANSCOMBE SEQUENCE			CORRELATIONS		Philippi zones	¹⁶ O/ ¹⁸ O stages
Deposit	Stage	Stage name	Britain	N Europe		
Higher Loam	IIIe					
Upper Gravel	IIId	early Milton Street Stadial	Devensian Glaciation	Weichselian Glaciation		
Upper Loam	IIIc	Alkerden Road Interglacial	Ipswichian Interglacial	Eemian Interglacial	O	5e
Basal Upper Loam	IIIf					
	IIIa	Orchard Section Stadial Complex				
Upper Middle Gravel	IIb					
Lower Middle Gravel	IIa	Swanscombe Interglacial		Dömnitz/Wacken Interglacial	C	9
	If	late Ricksonian Stadial		Fühne/Mehlbeck Kaldzeit	B	10
Lower Loam pp	Ie	Barnfield Intersradial		? Hoogeveen & Vejby I Interstadials	Al	
		early Ricksonian Stadial		Fühne/Mehlbeck Kaldzeit	ZZ	
Lower Loam	Id	Colyer's Pit Interglacial				11
Midden Level	Ic					
Lower Gravel	Ib	Craylands Lane Interglacial	Hoxnian Interglacial	Holsteinian Interglacial	YY	
Basal Gravel	Ia					

interglacial preceding the last interglacial has tended to be attributed to a single 'Mindel-Riss interglacial'; and any cold climate episode between a Holsteinian-like interglacial and the Eemian has been correlated with a 'Riss' sub-stage. Equally, any glacial episode immediately preceding a 'Mindel-Riss' interglacial had, by definition, to belong to the Mindel glaciation. Acceptance of the existence of two (and probably three) interglacials between the end of the Cromerian complex and the last interglacial implies a mighty state of confusion. Torralba and Ambrona (Howell 1966) exemplify sites whose chronology is clarified by the implications of the investigations at Swanscombe.

It seems that the Pleistocene deposits at Swanscombe contain important elements of a framework for a fundamental revision of European Lower Palaeolithic chronology. An important aspect of such a reassessment would involve typological analysis—a field in which more than a handful of British palaeolithic archaeologists would do well to specialize.

Acknowledgements

The revision of British and European Middle Pleistocene chronologies proposed above is based on the combined endeavours of seven investigators: Sutcliffe, Kerney, Conway, Desair-Coremans, Mullenders, Robinson, and the author. All have produced vital evidence. My own part in these investigations, however, is heavily indebted to the assistance and generosity of Bernard Conway.

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Looking backwards in time, through the different periods of history and prehistory, it is obvious that county boundaries diminish in their relevance to past societies. It soon becomes more meaningful to use geographical boundaries. Once into the Pleistocene even these boundaries cease to have much validity, for the land has undergone such changes that it would no longer be recognizable. If a physical map of south-east England had been prepared in the middle of the Pleistocene period, even with the solid geology marked upon it, unless it included the national grid it is unlikely that any geographer could confidently superimpose it upon a modern one. Valleys exist where there were hills, sea where there was land, and so on. Kent happens to be the richest county in Britain for the palaeolithic in terms of the numbers of sites, ie find-spots of single or numerous artefacts belonging to the period. Roe (1968) lists 492 such sites yielding 7673 hand-axes. In this brief survey I shall attempt to explain what these mean in relation to the broad theme of cultural evolution as we comprehend it today.

In the absence of anything to refute it, the evidence is that the first human groups appeared in East Africa at 1.8-1.9 million years ago, possibly somewhat earlier. Among the repertoire of characteristics and activities that differentiated them from the other higher primates, there was tool-making. As might be expected this did not go much beyond the production of stones which had keen cutting edges or were modified to perform such operations as hacking, scraping, and boring. However, some of the earliest Oldowan industries of Africa show a remarkably rapid comprehension of efficient knapping techniques, 'light duty' tools on fine-grained rocks that would not look out of place on a Neolithic site, and a variety of forms to which names such as chopper, scraper, and awl are not inappropriate. A circle of small stones and cobbles at the base of the Olduvai sequence must be balanced against the notion that our earliest human ancestors were little more than apes fresh out of the trees with a few-broken stones.

The only geological deposits in Kent which could date to this time (Early Pleistocene) are the Lenham Beds which are found at about 180 m OD on the North Downs, once thought to be the edge of a marine platform and possibly so, although it has been suggested that the sands in question may have been blown off glacial outwash deposits. It is unlikely that the Weald existed or that the drainage pattern bore any resemblance to the present one. The geological history of the Weald in the Quaternary has recently been reviewed by Shephard-Thorn (1975). Nothing remotely of an archaeological nature is known from the Lenham Beds, nor for the whole of the immense span of time between them and the time when glacial ice advanced southwards across Britain, not perhaps for the first time, but to its greatest extent. This was in the middle of the Pleistocene in a stage referred to as Anglian (Mitchell *et al* 1973). Glacial boulder clay in the Upminster-Hornchurch area of southern Essex testifies to ice within the Thames Valley drainage system and very close to Kent, This major glacial advance in Britain is a convenient marker. It probably destroyed the evidence for any earlier glacial episodes, and left much of its own evidence, as ice has certainly never come so far south again. The number of glacial advances and recessions is unknown, but the temperature curve for the Pleistocene period obtained by oxygen isotope analysis

of deep sea cores (Shackleton & Opdyke 1976) shows at least ten very cold periods since the palaeomagnetic reversal between the Matuyama and Brunhes events, convincingly dated by a number of methods to about 700,000 years. On present assessments, which cannot be regarded as definitive, the end of the Anglian Stage would be at about 400,000 years. The ice retreated and the climate ameliorated to the interglacial of the Hoxnian Stage. The effect of these climatic events on human occupation was paramount; even if glacial ice never reached Kent, periglacial conditions in such proximity to ice sheets would have made life unbearable if not impossible.

Prior to the advance of the Anglian ice there was the interglacial of the Cromerian Stage. Over a million years had now elapsed from the appearance of the first human groups in Africa. *Homo erectus* was present both in Africa and parts of Asia. A few weathered flakes and clumsy tools from Westbury-sub-Mendip (Bishop 1975) are sufficient to demonstrate that Man had reached Britain, and a few sites in Europe support the probability that he was migrating slowly northwards and westwards across Europe in this period. The only site in Kent which may qualify for this date is at Fordwich, where an industry of crude, stone-struck hand-axes, cores, and flakes has come from a gravel of the River Stour, 45 m above its present level, and a little higher than the gravels of Sturry on the opposite side of the river, which abound in hand-axes. This is suggestive, but there is no way of showing that the gravel is earlier than the Anglian Stage and the typology of the hand-axes is misleading; reference to the African material will show that well-made, refined hand-axes were being made at least by about 1.3 million years ago, but that crude hand-axes may form the major component of industries then or later. The term Acheulian covers numerous stone industries that existed during a million years or more. These industries have one common factor: they all have hand-axes, but there is considerable variety in the shape preferences for the hand-axes and the skills lavished upon them or not. This variety has little or no temporal significance, but it does point to the existence of human groups with their own distinctive traditions, coexisting but not necessarily in contact with each other. The Fordwich industry is very interesting in this respect and it does so happen that where a similar industry is found in Britain there are usually suggestions that it predates other, more refined Acheulian ones.

The distribution of Acheulian hand-axe industries throughout the world strongly indicates a dispersal from Africa. Contemporary human groups in Asia had no need for this standardized tool form and their industries can be conveniently labelled as chopper-core industries, differing very little in the level of technology from the earliest African Oldowan. This does not imply any connection beyond a human response to working stone to perform particular functions. Whether the chopper-core industries denote a different form of human society, ie culture, to that of groups using hand-axes is one of the most fascinating and perhaps important aspects of palaeolithic archaeology. Certainly there is such a division, but not all such simple chopper-core industries may represent a clear-cut division as is geographically apparent in Asia. Some archaeologists would see the chopper-core industries of Europe as merely the expression of unsuitable raw material, a functional

demand, or a factory-like production of large flakes, by people who otherwise made hand-axes. The Clactonian industry of the Lower Gravel at Swanscombe in Kent strongly suggests it is none of those things it is found within a river gravel, more associated with a precursor of the Darent than the Thames, that dates to a time either immediately after the retreat of the Anglian ice, or even in some milder interstadial time during a climatic oscillation at the end of it. It is also found in primary context within the Lower Loam which overlies this gravel (Waechter & Conway 1968) and it has been possible to create a relatively vivid picture of the human activity alongside this Kentish river about 400,000 years ago. Elephant, rhinoceros, horse, and deer were hunted, or at least eaten. Molluscs indicate a swift-flowing, rather deep stream at one stage, with no marshes, but the environment would have changed as the loam was deposited. The loam is interglacial and almost certainly belongs to the Early-temperate zone of the Hoxnian, as does the latest stage of the same industry at Clacton-on-sea (Wymer 1974). Within the Lower Gravel prodigious quantities of cores and flakes have been found, and not a single hand-axe. This gravel extends eastwards to Rickson's Pit at Northfleet, where similar numbers of cores and flakes abound. If this industry is the facies of an Acheulian one, some hand-axes would have been found. Even then it might only mean that the hand-axes were contemporary, and not necessarily part of the same industry. There can be little doubt that this Clactonian industry is a genuine chopper-core industry, but what this implies in human terms is problematical.

It has been noted above that over 7000 hand-axes have been recorded from Kent. With very few exceptions these hand-axes have come from coarse gravel sediments, either swept off land surfaces adjacent to rivers during tumultuous flooding, or incorporated into the gravel by the cut and fill mechanism of an active river swinging over its flood plain. The latter would mean human occupation on the gravelly or sandy edges of a river contemporary with the deposition, whereas the former implies material that could date to much earlier periods. It could even be derived not from land surfaces but from earlier river deposits, destroyed by erosion during times of flooding. In either case, in a lowland area such as Kent and all of south-east England this implies a quantity and velocity of water beyond that available during the normal conditions of an interglacial. It seems much more likely that most of the coarse gravels with their contained hand-axes were deposited in the Wolstonian Stage which followed the Hoxnian Interglacial, when cold conditions generally prevailed. Obviously, the amount of archaeological and environmental information that can be extracted from such derived material is very limited. In most cases, however, it can be shown geologically that the gravels cannot be as recent as the Ipswichian (= Last Interglacial Stage) and that they are more recent than the Anglian. This, at least, does put them into a broad time bracket in relative terms, and possibly 400,00-128,000 years in chronometric ones. The Hoxnian Stage probably lasted only about 30,000 years and it is very unlikely that all these hand-axes originate from that! Even on palaeolithic standards, this is a long period of time. It seems to have been something of a period of cultural consolidation; hunting groups were becoming larger and more efficient, capable of exploiting all manner of environments, confident of obtaining ample food and a certain stability of life even if it was nomadic. The numerous hand-axes found in the gravels are almost the only archaeological evidence remaining. They support the apparent and not surprising preference of these hunters for areas adjacent to fresh water, especially along the wider,

major rivers. The richest sites in Kent are found in such an area, between Dartford and Chatham, where the Darent, the Medway, and the Thames converge. Gravels, sands, and silts are preserved in patches from the old courses of these rivers, when they flowed about 25-30 m above their present levels. Hand-axes have been found in hundreds, sometimes thousands, at Dartford, Greenhithe, Ingress Vale, Swanscombe, Northfleet, in the Darent-Thames confluence, and at Cuxton, Chatham, Gillingham, and Twydall in the Medway valley. In some cases, as at Swanscombe in the Middle Gravels, and at Cuxton, the palaeoliths have moved very little distance from their place of manufacture or use. At Bowman's Lodge on Dartford Heath they were sealed beneath loam in primary context (Tester 1976). At Frindsbury it would seem that a chalk cliff beside the Medway was exploited as a source of good quality flint.

The other rich area in Kent for Acheulian material is the valley of the Stour, at Canterbury and especially Sturry and Westbere. Channels of this ancient river system are exposed in the cliffs between Bishopstone and Reculver, and many hand-axes have come from them. Higher up the Medway valley, near Maidstone, is the rich hand-axe site of Aylesford. Less prolific sites exist at Ightham, West Wickham, and Wilmington- Sites with just one or a few hand-axes abound, as can be seen by reference to the CBA Gazetteer (Roe 1968). The distribution pattern they reflect is partly one of modern collecting, for where people have actively searched for hand-axes larger numbers have correspondingly been found. The work of Benjamin Harrison swells several pages of the Gazetteer. Apart from his insistence on regarding thermal flakes with natural edge damage (eoliths) as human handiwork, Harrison discovered many-deeply worn and weathered hand-axes on the higher parts of the North Downs, particularly around Ash. These cannot be regarded as exactly in primary context, but are unlikely to have travelled far, either vertically or horizontally. They prove that Acheulian hunters were active on the Chalk uplands, although it must be remembered that sub-aerial erosion, solifluxion, and chemical dissolution make it impossible for any of the original surfaces to have been preserved.

Kent possesses the most important Acheulian site in Europe: Swanscombe. The importance lies in the association of most of a human cranium with an industry of elegant, pointed hand-axes and small, irregular ones. The individual whose skull was washed into the Upper Middle Gravels of Swanscombe was probably a young man in his twenties. Anatomically, he falls into that difficult group of human fossils which are not *erectus* but have both *sapiens* and *neanderthal* traits. In this case neanderthal traits predominate. It belongs with Steinheim, Tautavel, and Fontéchevade, sometimes referred to as pre-*sapiens* or pre-neanderthal. *Homo sapiens steinheimensis* is more dignified, but may be misleading. What is certain is that, in 20th century terms, he was much more human than *Homo erectus*, although the latter is known in Africa with (or at least contemporary with) an Acheulian industry. However, a few hundred thousand years may separate them. If the archaeological evidence suggests something of a cultural stagnation, it is clear that this was not so with physical evolution.

The date of the Middle Gravels at Swanscombe is usually regarded as Hoxnian. If so, it must be late in the interglacial, perhaps the Post-temperate zone (Kerney 1971). It could equally well be a mild interstadial during the earlier part of the succeeding Wolstonian Stage. Above the Middle Gravels is an Acheulian industry of refined ovate and cordate hand-axes in primary context, perhaps dating to a

later part of the same interstadial, another one, or considerably more recent. Much remains to be learnt of this Wolstonian Stage, which is no more than a convenient label for everything between the Hoxnian Interglacial and the Last Interglacial, or Ipswichian Stage. On the oxygen isotope scale it might span stage numbers 6 to 10 (367,000 to 128,000 years on present assessments). This would involve two major cold phases when it would have been very unlikely that any hunters were present in this part of Europe. During milder phases there would have been hunting forays, if not permanent occupation of southern Britain. Acheulian industries continued in various forms but, for the most part, have been jumbled indiscriminately into the river gravels mentioned above. It is impossible to estimate what advances were being made, if any, in hunting techniques, social groupings, specializations, adaptations, and general so-called cultural heritage. Language must have been an essential ingredient. Social groups were probably becoming larger. Archaeology cannot do much to support such speculation, but it does show that in the latter part of this Wolstonian Stage a new flint-working technology was beginning to dominate the hand-axe industries: the production of regular flakes of pre-determined shape from prepared cores, ie Levallois technique. Kent has one of the richest and most important sites where this technique was used almost to the exclusion of hand-axes. This is Baker's Hole, Northfleet, about a kilometre distant from the Swanscombe skull site, within a valley which cuts through those deposits and is thus considerably more recent. The loess and solifluxion deposits associated with this site suggest that the industry was contemporary with a very cold period. The relative lack of vegetation cover because of this climate may have made it easy to see and grub out fresh flint from the partly bare Chalk. Flint nodules were used extravagantly for this industry and the site was possibly a factory or quarry. Mammoth remains are associated and, although the human activity may have been restricted to the more clement summer months, there is a suggestion that hunting groups were beginning to cope with inhospitable environments. Towards the beginning of the Last Interglacial, in Southern Africa, hunting/food gathering groups were establishing themselves in semi-permanent situations, where the natural resources were adequate. Some degree of control must have been exercised to prevent over-exploitation of resources if one limited area was to be occupied for a considerable time. It is unlikely that anything as advanced as this was prevalent in Europe, although social organization was developing slowly.

Other Levallois sites in Kent include Bapchild, Ebbsfleet, and New Hythe, apart from several isolated finds of the distinctive cores and flakes. Crayford is a particularly important site in the Thames valley where the industry was in primary context with associated fauna, but is now within Greater London. The date of Crayford is problematical. It is generally regarded as Ipswichian but could be late Wolstonian or, if Ipswichian, at either end of it! The fauna (Sutcliffe & Kowalski 1976) suggests the earlier date, whereas the blade-like nature of the industry suggests the later one.

It is possible that deposits such as the Crayford brickearths and the Ebbsfleet loams and other sites in south-east England regarded as Last Interglacial (= Ipswichian) are not of the same age, and that the Ipswichian Stage is really a very complex one with two or more warm periods during which time such deposits could accumulate. If Stage number 5 of the oxygen isotope scale is really the Last Interglacial, then it spans a period of 128,000 to 75,000 years. There are very few sites in Britain dated to this

period that have more than a handful of artefacts that are definitely contemporary. The Ebbsfleet loams have produced a relatively rich industry but may be earlier. The forthcoming report of excavation undertaken by the British Museum may clarify this. What does seem inescapable is that the British Palaeolithic sequence from about this time in the Late Pleistocene bears little resemblance to the continental one, and there is very little of it. In East Anglia, but not in Kent, there are several sites with prodigious numbers of the bones of large mammals but with no associated archaeology other than a few flakes, occasionally showing Levallois technique. The answer to this puzzle may be that the high sea level of the Last Interglacial broached the English Channel and effectively cut Britain off from the continent. There may have been a very limited contact or movement across a stretch of water into France or the Low Countries. Some form of primitive raft would hardly exceed the ability or ingenuity bestowed on the lithic remains.

The latter part of the Last Interglacial and the first half of the Last Glaciation (= Devensian Stage) witnessed in Europe the spread and development of the Mousterian Industry, generally associated with *Homo sapiens neanderthalensis*. It did not spread to Britain in the same way presumably because of the geographical barrier mentioned above. In Britain a distinctive industry seems to have developed based on small hand-axes and Levallois flakes. This can be described as British Mousterian or Acheulian Tradition. The hand-axes were often cordate or ovate form, sometimes of plano-convex sections when made on flakes, occasionally with twisted edges. A flat-butted type of cordate hand-axe is virtually diagnostic of the industry, whereas the other types could all occur in earlier Acheulian industries. Kent has a high proportion of sites where such fiat-butted cordate hand-axes have been found, usually as isolated finds ploughed out of the subsoil. Their number may reflect the proximity of Kent to the continent. They have been found at Canterbury, Elham, Ivy Hatch, Swanley, Hampton, Orpington, and elsewhere. A small, twisted cordate hand-axe from a deposit at only 3 m OD at Lower Halstow may belong to this period. They are also occasionally dredged up in the gravels of the buried channels of the Thames and Medway, which certainly date to some time during the Last Glaciation.

Actual glacial ice at this stage did not come further south than north Norfolk, but conditions were bound to have been extremely cold at times. The continental evidence suggests a series of climatic oscillations. Hunting groups were now adapting themselves to cold places, utilizing rock shelters, caves, and fire. The wonder is not so much how they did but why. Geographical barriers do not seem to have had any effect beforehand. Territorial problems in an expanding population may have been the biggest reason.

Kent is unique in south-east England in possessing numerous rock shelters produced by outcrops of sandstone in the Folkestone and Hastings Beds. Oldbury Hill, near Ightham, is such a site, and has produced one of the best assemblages of British Mousterian or Acheulian Tradition in the country. Investigations by D and A Collins (1970) indicate that the industry is not in primary context but had become incorporated in the talus as the sandstone rock shelter gradually eroded back. However, it is sufficient to show that hunters with this industry were making use of natural shelters in south-east England. Nothing similar is known from the line of rock shelters in the Chiddingfold-Penshurst area, but it is possible that important sites exist well below the depths that have yielded Mesolithic occupation.

The maximum of the Last Glaciation is considered to be at

the latter end of the Devensian Stage, between about 25,000 and 18,000 years BP. It is likely that this coincided with a low sea level from some time before the greatest extent of the ice advance. This would have allowed migration to and from the continent if the sea had lowered sufficiently to create a land bridge where the English Channel now stands. Radiocarbon dates put the earliest Upper Palaeolithic of Europe at around 34,000 years bc and, although nothing in Britain can be dated as early as this, there is plenty of evidence for occupation prior to the maximum advance of the ice (Campbell 1977). This British Earlier Upper Palaeolithic is mainly found in caves within the Highland zone, but open sites are also known. If a land bridge existed across the Channel it would have most likely been between Kent and the Pas de Calais. However, there is not a single trace of anything that can be reasonably attributed to this period in the whole of Kent. Either Kent was well away from the mainstream of population movement at this time or there is another reason. It could be that bands of these advanced hunting communities kept to the river valleys. With a sea level at about 100 m below OD, the major rivers of Kent would debouch into the Thames through greatly deepened channels. These channels now contain sediments up to the height of their modern flood plains and the archaeological evidence for this period may be buried beneath them.

During the maximum of the Last Glaciation it is unlikely that there was any occupation of Kent save for a few hunting forays in summer months. Even these may not have been possible or desirable with glacial ice only 120 kilometres to the north. Only with the amelioration of the climate in Late Glacial zone II (Allerod interstadial) is there good evidence for a resumption of human activity in Britain. The sea level was still at this time (*c.* 10,000 bc) very low and this may be the explanation for the lack of evidence in Kent for the British Later Upper Palaeolithic, for the same reasons as the Earlier Upper Palaeolithic. Only one site has yielded any flints that can be accepted as diagnostic of an industry of the period. From Oare, near Faversham, on the edge of the Thames estuary are two

shouldered points, a saw, a flake, and a blade. The shouldered points suggest a source in north-west Europe.

A deterioration of the climate in Late Glacial zone III (Younger Dryas) would have discouraged any settlement. Cold conditions were severe enough to produce thick solifluxion deposits in the Chalk coombes (Kerney 1963). This was the last cold period and ice was soon retreating fast in the northern hemisphere. It was not the end of the Upper Palaeolithic period, for the same culture and economy were practised by the hunters who appeared in some numbers as the climate improved. For convenience, however, this period is known as the Mesolithic, and is the subject of the next paper.

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Late-Devensian finds from Kent

On a visit to the British Museum a little before the last war, Alfred Rust drew attention to a pair of shouldered and truncated flint artefacts (Fig 4) from Oare, just north of Faversham. These resembled closely the shouldered spearheads which he was excavating from Hamburgian sites of Oldest Dryas age in northern Germany (Clark 1938; Rust 1943, 150-1). Their find context is, however, unknown since the two flints came to the British Museum from Garraway-Rice who had in turn obtained them in January 1911 together with a mixed lot of Neolithic and Mesolithic artefacts as part of the collection of a J Wilkie Morris (Maidstone and Lewes Museums).

While isolated finds of Hamburgian-type shouldered and truncated artefacts have been made from a number of spots in England, including Stonewall Park near Chiddingstone (Tunbridge Wells Museum) and Shoeburyness on the opposite shore of the Thames estuary (Jacobi 1980a), there are so far no assemblages of Hamburgian artefacts—shouldered and truncated pieces, 'Zinken', and scrapers on elongated, laterally retouched supports—which would suggest a resettlement of Britain after the maximum of the Devensian glaciation, as early as just before 11,000 radiocarbon years bc. Such settlement would fall within the earliest and warmest part of the Windermere interstadial (Coope 1970; 1975; Coope & Brophy 1972), when, between about 11,000 and 10,250 radiocarbon years bc (Osborne 1972, 351 *et seq*), with mean July temperatures estimated at over 15°C reindeer can be expected to have been in the southern part of the present island only during the winter months (see Degerbøl 1964, 74).

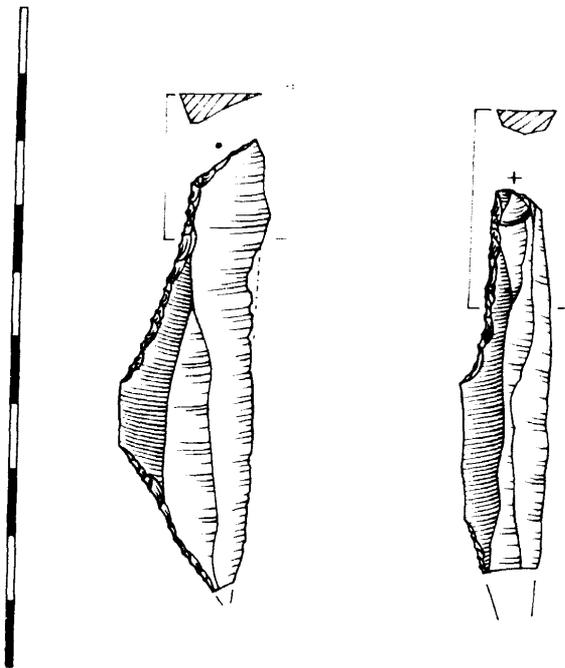


Fig 4 Oare, N Kent: shouldered and truncated pieces. British Museum: don Garraway Rice (scale in cms)

An alternative interpretation of these artefacts would be to see them as residual from more polythetic assemblages of 'Federmesser' type known from at least 71 findspots in England and Wales as far west as Pembrokeshire and as far north as Grange-over-Sands. Within such assemblages, which can be argued to date at earliest to the *Betula* phase of the later Windermere interstadial (or L-De II), shouldered and truncated pieces equivalent to those from Oare can be combined with angle-backed pieces (Creswell points), trapezoidal-backed pieces (Cheddar points), and most characteristically convex-backed artefacts—the so-called 'Federmesser', a northern equivalent of the Azilian points found in final Magdalenian and initial post-Magdalenian contexts in France.

The game exploited by users of this 'Federmesser' technology is known in England to have included elk, wild cattle, and horse, and it must remain a speculation that there existed a faunal gradient across the island with species of deer contributing significantly to the diet in the more wooded south and east, while horse with perhaps reindeer would be of greater economic importance where this woodland thinned to the west and north (Godwin 1975, fig 15b).

From only a single findspot in Kent, originally described as 'Aurignacian' (Dines 1929, 16), comes certain evidence for human settlement at this time, that is from the Haywood brickpit at Bapchild (near Sittingbourne: Dines 1928; 1929) where a pair of convex-backed 'Federmesser' (Dines 1929, fig 7a and e), scrapers (*ibid*, fig 8a-c), a burin, blades, and cores (*ibid*, fig 9a) all patinated a pale blue were localized to 25-30 square yards within the lower part of a 'brown loam'. From the top of this loam came an unpatinated core adze of Mesolithic type (*ibid*, fig 9c).

The course of technological development in south-east England during the final cold part of the Devensian, that is during L-De III (the Younger Dryas), remains obscure. It would, however, be possible to argue that a small number of finds of broad-stemmed spearheads resembling the Bromme spearheads of mainland Europe are of this age, as should be a small assemblage from the Kennet Valley (Avington VI) which includes an Ahrensburgian-type stemmed arrowhead and a pair of microliths.

A Late-Devensian or Earliest Flandrian findspot in Kent

Also believed to be of L-De age are some at least of a number of finds of a so-called 'long-blade' technology identified from within the cretaceous zone of Norfolk, Suffolk, Berkshire, Wiltshire, London, and Kent. This 'long-blade' technology differs from that of the earliest local Mesolithic of Thatcham type, dated at oldest to the opening of post-glacial zone IV, in the relative number and more obviously in the volume of the blades recovered and in the exceptional mass of the residual cores often discarded when still seemingly capable of providing substantial removals. At Crown Acres (Newbury) such a technology is associated with a Federmesser-type knife and could therefore be argued to be as early as L-De II in age. At Avington VI a 'long-blade' technology is associated with an Ahrensburgian-type stemmed arrowhead and microliths, and may therefore be of L-De III age, while at Sproughton

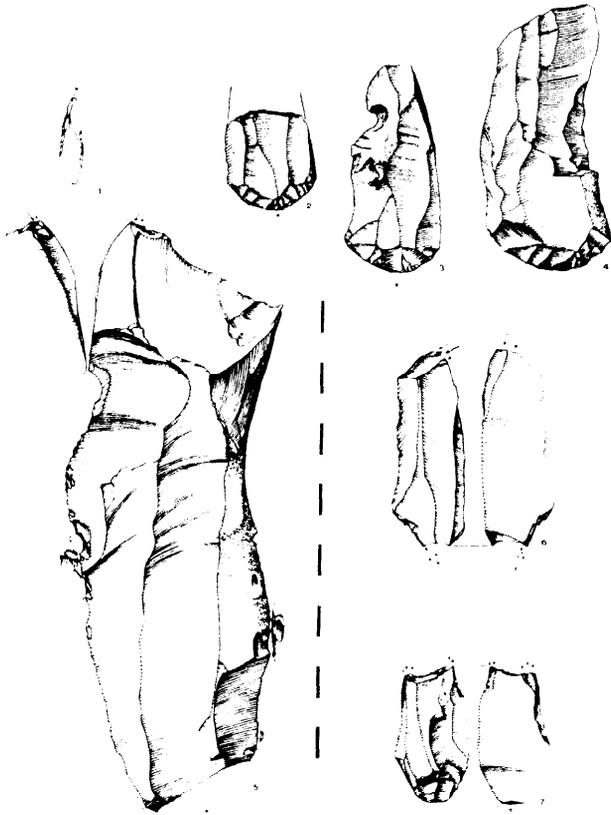


Fig 5 Flint artefacts from the 'lower floor' at Springhead, N Kent: 1 bitruncated bladelet; 2-4 end scrapers; 5 angle burin on 'lame machurée'; 6-7 burins. British and Cambridge (Archaeology and Ethnology) Museums: don f P T Burchell (scale in cms)

(Suffolk: Wymer 1976, 10; Rose 1976, 13) such a technology cannot be shown not to be of L-De age.

The single assemblage of this type from Kent is that from the 'lower floor' at Springhead (Burchell 1938). This material was recovered from '... around the base...' (Burchell, pers comm) of an eighteen inch (45 cm) thick band of 'fine white stoneless calcareous silt...' (Burchell 1938, 397 and MSS, BM Nat Hist). Manuscript notes would seem to suggest more specifically that this 'lower floor' in fact lay below the white silt and on top of a '... coarse ferruginous gravel: sometimes calcareous...'. The upper part of the silt was decalcified and from its topmost six inches (15 cm) came a second group of artefacts, none of which appears necessarily to be older than later Mesolithic (among the finds from this level is also an ovoid mace-head of flint: cf Roe 1968, 150, fig 32, nos 2, 3, 5, and 8-17). This 'upper floor' was also investigated by Sieveking (1960). A mollusc fauna collected from within the lower (unweathered) part of this silt does not exhibit any characteristics suggestive of an age younger than equivalent to Kerney's (1977) mollusc zone A, believed to be broadly synchronous with pollen zone IV, an equation confirmed by a radiocarbon date of 8,010 bc \pm 170 (Q1503: *ibid*, 389). With the minimal information at our disposal we can only conclude that the artefacts, if recovered from within the base of the silt, will, on the evidence of the associated mollusc assemblage, not be younger than Kerney's mollusc

zone A, or that if recovered from below this silt will be equivalent to whatever part of mollusc zone A may have preceded accumulation of the silts, or will indeed be rather older. This archaeological material (Fig 5, 6), supposedly recovered from a limited horizontal area, was never published in any detail and clearly what survives in the British, Ipswich, and Cambridge Museums is made up only of retouched forms, cores, and the rather larger (and more attractive) pieces of debitage (see Table 2).

The discussion that one can offer upon an assemblage whose preservation has been so clearly selective is obviously severely limited. There is, however, no feature of the material as it survives which is suggestive of a later Mesolithic assemblage - ie an assemblage of early Boreal or later date - and indeed the presence of any such component would be improbable given the chronological evidence that is available. Equally the primary technology, in so far as one can make any judgements, does not appear particularly similar to that of the early Maglemosian sites of Thatcham type either within the Weald or to the north of the present Thames estuary in Essex. The stratigraphic evidence as we have it from Springhead would support either a L-De or Earliest Flandrian dating. The bitruncated bladelet (Vierecke) can be paralleled in both mainland Ahrensburgian assemblages of L-De III age and in British and mainland assemblages of earliest Flandrian age while the long (or 'giant') blades could be paralleled most easily in the Eggstedt-Stellmoor group of the Ahrensburgian (Taut 1968, 215-17 and Karte 2 and 10). From the British evidence alone it appears unsatisfactory to assume that the

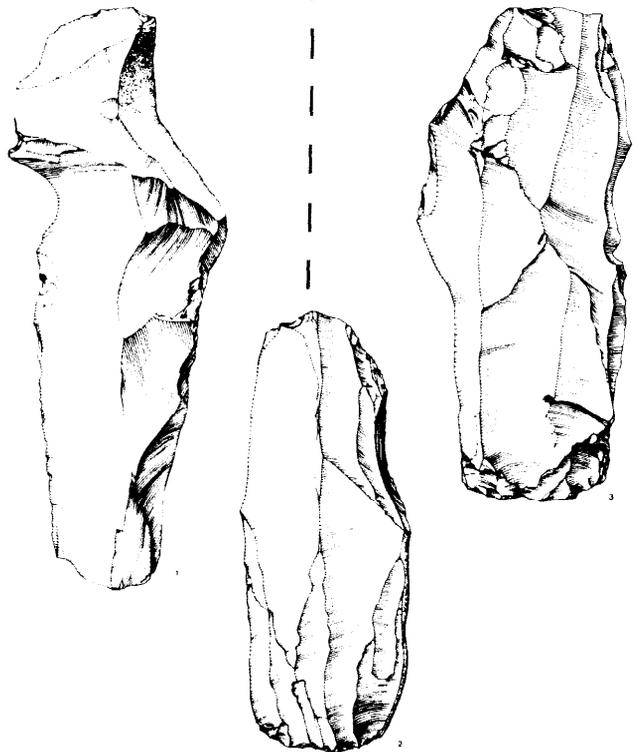


Fig 6 Flat artefacts from the 'lower floor' at Springhead, N Kent: 1 blade with two separate notches on the left hand edge; 2-3 two platformed blade cores. Cambridge (Archaeology and Ethnology) Museum: don J P T Burchell (scale in cms)

Table 2 The Springhead assemblage

<i>Retouched forms</i>	microlith(s)	1	(bitruncated bladelet: 'Vierecke')
	scraper(s)	5	(three single-ended on blades, one double-ended on elongated flake, and one broken)
	burin(s)	9	
	obliquely truncated piece(s)	1	
	notched piece(s)		
	Total tools	17	
<i>Utilized pieces</i>	lames et eclats machuré(s)	6	(cf Bordes 1967: the edges of one burin are also damaged)
	utilized piece(s)	2	
<i>By-products</i>	burin spall(s)	1	
<i>Debitage</i>	unretouched pieces	188	(including core tablets (3) and crested pieces (17))
	cores	25	(single platform (2): double platform (23))
	Grand total	239	(surviving)

assemblage from Springhead, fragmentary as it now is, is as late as earliest Flandrian, and instead it is suggested to be made up of the larger and more easily recovered portions of an otherwise uncharacterized L-De technology.

The Flandrian: animal, human, and organic remains

As with the other counties which make up south-eastern England, no animal bones have survived from any Mesolithic findspot within Kent, the nearest finds of post-glacial, or potentially post-glacial, fauna coming from the north of the Thames in London and Essex (Reynolds 1933; Banks 1962; Heath 1969). It must therefore be an assumption that exploitation at this time will have concentrated upon wild ox, red deer, pig, and roe deer, and that wild ox may have contributed more to the diet than any other species (Carter 1976). Elk, which may have been hunted to extinction at least within England by the Early Boreal, will have been available only to the earliest Mesolithic groups. From the Stonewall rock shelter near Chiddingstone come broken and carbonized hazel nut shells showing that, as elsewhere in northern Europe, at least one plant food was collected for consumption.

Again, while there are Mesolithic-type artefacts from both Galley Hill (Dartford Borough Museum: Oakley & Montagu 1949 and refs therein) and from Halling (Cook 1914, pi XX, fig 3, no 3; Garrod 1926, fig 40, no 3) radiocarbon dating (Table 3) indicates that both human skeletons are of farmer period age.

Significantly, from stratum 5 Halling—the deposit in which the skeleton was said to have been found (Cook 1914, pi XXII; Cook & Killick 1924, fig 6)—comes a sickle, or knife, of early Neolithic type (Cook 1914, pi XIX, no 3: Cambridge Arch and Ethn Museum, Acc No 55.90. For parallels see Smith 1965, fig 43).

Further, despite speculation in the early literature (cf Burkiitt 1926, 33) there is no evidence for cremation ritual

Table 3 Radiocarbon dates

Galley Hill	BM86 = 1360 bc + 150	Barker & Mackey 1961, 41
Halling	BM168 = 2150 bc + 180	Barker & Mackey 1968, 3
Halling	BM249 = 2230 bc + 190	Barker <i>et al</i> (1969), 289

(For Halling see also Oakley 1963 and Oakley *et al* 1967)

at this early date such as was once suspected on the basis of a 'barrow' investigated by Lewis Abbott at Wildernesse near Sevenoaks (Abbott 1896a; Taylor 1926, 204; Jessup 1930, 38; Clark 1932, 71; Kennard 1947, 277; Jessup 1970, 64). While there are indeed Mesolithic-type artefacts surviving from this mound including much debitage (amongst this core tablets and crested pieces), end scrapers, and early shapes of microlith (British, Dartford, and Tunbridge Wells Museums), there also exists part of a burnt surface retouched arrowhead, while Abbott (1896b, pi XI, no 8) illustrates as coming from this 'barrow' a scale-flaked knife. These objects can only be of farmer period age.

The only artefact not of flint or stone (perforated and partly perforated pebbles from Addington and Lower Halstow and a 'traded pebble' from Hollingbourne: Rankine 1956, 57) to have survived from this period—at least long enough to be recorded just before the last war—was a wooden boat paddle found '... a short distance up the Ebbsfleet Stream...' (nr Swanscombe: for Ebbsfleet see Burchell 1938; Burchell & Piggott 1939.; Sieveking 1960). The dating of the paddle (wood unidentified) which was '... perhaps about three feet in length, shafted and with a broad blade...' (Jessup, pers comm) rests upon its association with a pair of chipped flint tranchet adzes (Jessup 1970, 51) and it joins the paddle from Star Carr (Clark 1954, pi XXI and fig 77) and the pine log boat (now lost) from Friarton near Perth (Geikie 1880) as the only navigational tackle certainly of Mesolithic age known from this side of the North Sea and English Channel. While it would, of course, be tempting to link the larger and heavier of the core adzes ('Thames picks'—for derivation of this term see Smith 1918, 29) dredged from the lower part of the Thames with the creation of monoxylous craft (cf Jessup 1970, 51 and see also Kobusiewicz 1973, 270), it is worth noting that both the Pesse and Friarton craft (Van Zeist 1957; Geikie 1880, 2) were observed to have been charred and scraped rather than adzed into their final form.

The early, basal, or 'broad blade' Mesolithic

There may be only one sample of flints from Kent equivalent to assemblages excavated at Thatcham and Broxbourne or more tentatively recognized from across the present Thames at Dawes Heath near Southend and at High Beech in Epping Forest (Jacobi 1980b; Jacobi *et al* 1979), and for which we would suggest ages of between about 8000 and 7000 radiocarbon years bc (Churchill

1962; Jacobi 1976). This technology, recognized from further westwards within the Weald, combines obliquely-backed pieces (B points; Bohmers & Wouters 1956, 29) with isosceles pieces, bitruncated rhombic and trapezoidal pieces, and convex-backed lanceolate microliths. Such assemblages are known to have had associated with them the heads of hunting spears made in bone and antler and with small barbs along one side (Jessup 1970, 63 and pl 8), 'lissoirs' or 'ecorchoirs' of antler (Deffarges *et al* 1974; Wymer 1962, pl L and fig 13, no 6), 'ciseaux' of antler (Sheridan *et al* 1967, fig II, no 21), 'sagaies' and 'poinçons' of bone or antler (Wymer 1962, fig 13, nos 1-3, 5, and 7-9), perforated 'mattocks' of elk antler (Clark 1954, fig 69 and pl XIII-XV), and red deer antler head-dresses (*ibid*, pls XXII-XXIV). Accessory equipment included scrapers, a small number of burins, serrated pieces (micro denticulates), hafted core adzes, and drilled pebbles of quartzitic sandstone.

Only one small collection consisting of debitage, three obliquely-backed pieces, a serrated piece, and an adze resharpening flake from Ditton (published by Clark 1932, 70-1, and listed by Rankine 1956, 30 as from East Malling) could at the most subjective be interpreted as extending the distribution of early Mesolithic assemblages eastwards into Kent from near Wych Cross (Tebbutt 1974, 39) and from near Uckfield (Hemingway, pers comm and 1980), both in eastern Sussex. Other microliths from Stonewall shelter B, Bessels Green, Chevening, Packhorse Way, Chipstead Place Estate, and Seale's Nursery (Abbot 1896c, 140), all near Sevenoaks, from The Mounts at Swanscombe, from near the Long Barrow at Addington, and from Goddington Lane, Harrietsham, are individually of a size (Pitts & Jacobi 1979, fig 5) to suggest that they may be residual from eighth millennium bc hunter sites.

The Wealden technology

It can be argued that a basal (or broad blade) technology is only the earliest of at least three microlithic tool kits to be identified within south-east England (Jacobi 1978, 20-1). Local to eastern Hampshire, Surrey, Sussex, south Hertfordshire, and southern Essex, as well, it will be suggested, as Kent, is a second technology which combines obliquely-backed with isosceles pieces, bitruncated (rhombic) pieces, and basally retouched pieces. This technology shows marked variability between assemblages in the representation of these microlith shapes, most notably an increasing proportion of triangles compensating for a decrease in the proportion of obliquely-backed pieces and a switch from symmetrical to asymmetrical (Horsham type) basally retouched pieces. These changes have been interpreted as of chronological significance (Jacobi 1980c). The full range of the accompanying non-microlithic flint equipment is only just beginning to be appreciated and it remains to be investigated how closely it will compare to that of the preceding early Mesolithic.

Arguments for the existence within Kent of at least one assemblage attributable to this technology depend upon the interpretation of a group of only eighteen microliths collected by Mrs J H R Betts from the surface of a ploughed field on the Lower Greensand at Fairbourne Court, Harrietsham. The sample available for discussion is further reduced in size in that only fifteen of the microliths are sufficiently intact to allow successful typing.

Five of the fifteen microliths are concave basally retouched pieces, three being asymmetrical 'Horsham points' (Fig 7, nos 10-12), one symmetrical (no 14), and one perhaps originally symmetrical but now without its tip (no 13). Six

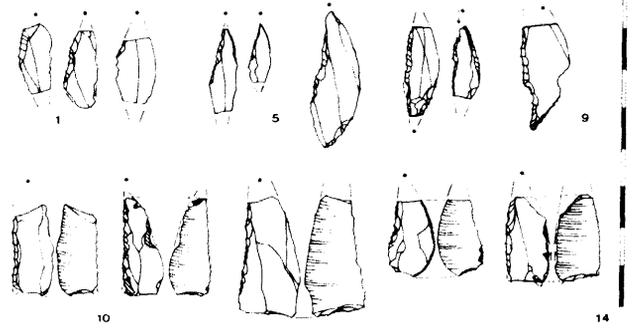


Fig 7 Flint microliths from Fairbourne Court, Harrietsham, Kent: 1-5 obliquely backed pieces; 6 bitruncated rhombic piece; 7-8 convex-backed pieces; 9 broken shouldered piece; 10-14 pieces with concave basal retouch. Maidstone Museum: don Mrs J H R Betts (scale in cms)

microliths are obliquely-backed pieces with in two cases (nos 4 and 5) additional retouch on the leading edge. There is a single bitruncated piece (no 6), a broken lanceolate 'point' (no 7), and a tip fragment difficult to classify but perhaps the forepart of a very narrow basally retouched piece (no 8). Finally there is (no 9) the tang of a shouldered piece (cf Clark 1934a, fig 3; Gabel 1976, fig 4, nos 7-9). There is a noticeable absence of narrow scalene triangles or narrow straight-backed bladelets such as were picked up from the surface of Parkwood Farm, Goddington Lane, and Harrison's Nursery, all close to Harrietsham.

It would be difficult to find another microlithic technology in the British Isles within which one in three of the backed artefacts is a concave basally retouched piece, where the obliquely-backed pieces are all small, and where one in three of these has retouch on the leading edge. Each of these features supports our identification of the assemblage as one of 'Wealden' type. By comparison the bitruncated piece (no 6) is relatively large and this again would not be discordant with the attribution suggested. The sample is, of course, bit large enough to allow any closer identification and it must remain a speculation that no 8, if not the forepart of a concave basally retouched piece, could be from an asymmetric convex-based piece with inverse retouch (our class 12), a type which makes a significant contribution to a series of surface flint assemblages from just east of Horsham (Clark 1934a; Jacobi 1978, fig 8) If the identification suggested is accepted it is particularly significant in that this 'Wealden' technology will now have been recognized on both sides of the concentration of known and potential rock-shelter sites in western Kent and eastern Sussex (Money 1960, 218-21). With a carefully constructed research programme it should be from below these rock shelters that the chronological data will be forthcoming which may confirm a suggestion that at least the earliest stages of this technology are of seventh millennium bc age, and east of the Hampshire chalk either precede or are contemporary with the earliest stages of a third technology recognized from all parts of the island.

The narrow blade Mesolithic

General

This third technology can combine straight backed microliths with small scalene pieces and within at least some assemblages of the fifth and latest sixth millennia bc a range of 'geometric' microliths including lunates, four-sided forms chipped to a rhombic or trapezoidal outline, small

tranchet pieces, and tip pieces of pear- and boat-shaped outline. If we are correct in suggesting that in south-east England the majority of these 'narrow blade' assemblages are later than the majority of 'Wealden' type assemblages then the sequence suspected may resemble closely those inferred for north-western (Arora 1976) and north-eastern Germany (Gramsch 1973) and detectable within the sequence of microlithic industries established for rock shelter sites in south-western Germany (Gumpert 1933a; 1933b; Naber 1968; Taute 1972).

Sites in Kent

Lower Halstow

Seven sites in Kent which it can be argued possessed flint assemblages attributable to one or another variant of this technology have been investigated by excavation. Of these the earliest to be explored was the pair of occupation sites—the 'northern' and 'southern' floors—identified by the late J P T Burchell at Lower Halstow in the Upchurch marches (Burchell 1925; 1927; 1928; 1931, 296-301; 1934, 371; 1957; Clark 1932 635; 1936, 158-61, 217, and 221; Jessup 1930, 41; 1970, 64). The sites became prominent in the early literature since the flint industry was believed (quite possibly correctly) to be the chronological equivalent of the Danish Ertebølle (Clark 1936, 158) although differing markedly in technology, a divergence which of course reflected '... the marine transgression and the geographical tendencies of the time ...' (*ibid*, 160). Lower Halstow, in fact, gave its name to a 'culture' (Clark in Warren *et al* 1936, 122-3) dated to the Atlantic, confined to the south-east of England (Clark 1932, 63), and characterized by a supposed presence of 'gravers tranchet' flake axes, the presence of 'true Thames picks', and a ... marked predominance of the macro- over the microlithic element'. In fact no flake axes can be identified within the assemblage, the core adzes are not markedly different from those found on other hunter period sites in south-eastern England, and the numerical predominance of adzes over microliths can be accounted for by the fact that the assemblage was excavated from a sticky clay with no attempt to capture particularly minute artefacts.

One of the two sites, more probably the 'northern floor', is believed (Clark 1932, 63; 1936, 158) to be dated to the Atlantic-zone VIIa-by pollen analyses performed by Erdtman on samples of the peat which overlay the artefacts and of what was interpreted as a 'marsh clay' which underlay them (Burchell 1927, 289 and 296; 1934, 371). The two counts are not absolutely identical and the low values for both elm and lime recorded for the overlying peat suggest that this could be of Sub-boreal rather than Atlantic age and may thus only be useful in showing that there is no reason why the assemblage from the northern floor could not incorporate artefacts of very latest hunter type. Formation, however, of a 'marsh clay' below the artefacts at a height close to OD (Burchell 1957, 90) before the end of the Atlantic appears improbable given the recent estimate for High Water Spring Tides at the end of this pollen zone of -5.0 m OD (Devoy 1977, 714). If indeed a 'marsh clay', then this deposit and the pollen assemblage within it may belong to a rather earlier point within the Pleistocene (as assumed in Godwin 1956, 98) and thus be irrelevant to the dating of the artefact assemblage. Alternatively, the pollen assemblage may indeed be of Atlantic or even Sub-boreal age but downwashed into an older mineral soil. This would then only confirm that the surface upon which artefacts were discarded remained uncovered by further deposits until some point within either the Atlantic or the Sub-boreal. Any or all of the

artefacts from the 'northern floor' could then be as recent as the Atlantic, but equally any or all could be more ancient. The typology of a single microlith (Burchell 1927, 190, fig 5) taken together with the technology of surviving samples of debitage from this site suggests its use at some moment (or moments) after about 6800 radiocarbon years bc-or later if uptake of a narrow blade microlithic technology is locally successive to one of 'Wealden' type.

It is not therefore possible to associate either of the occupation sites at Lower Halstow with the rapidly changing geography of the Thames estuary (D'Olier & Maddrell 1970; D'Olier 1972), and there is no certainty that their site catchments taken at 6 miles (10 km) radius will have touched the contemporary coastline as they now do. In an area of rapid horizontal erosion (So 1971) combined with maximum isostatic downwarping there may indeed be no coastal or near-coastal exploitation bases surviving along the north Kent coast. Finds of core adzes from coastal and beach locations east of Halstow Creek (Worsfold 1926, 1927; Jessup 1930, 41) may thus derive from bases formerly inland and only relatively recently brought forward to coastal situations. Similarly too core adzes dredged from distances of up to 6 km offshore on the Kentish Flats (for refs see R A Smith 1909, 413; 1911, 161 footnote; Worsfold 1927, 228 and Pl V, fig I; Rankine 1956, 21) could in any or all cases derive from locations occupied when sea-level was markedly lower in relation to the land. The imprecision surrounding the finding of these adzes prevents us from estimating whether they disappeared below sea-level within the hunter period and it remains of course an assumption that such adzes could be the larger, most easily trawled, components of occupation sites rather than objects lost with (or from) boats, as has been argued for Neolithic axes from the Lower Thames (Adkins & Jackson 1978, 9-10).

Since the artefact assemblages from both sites at Lower Halstow survive only in a highly selected and dispersed condition, and since only part of the surviving artefacts could be examined, any statistical assessment is necessarily hazardous. The different tool categories are thus presented on Table 4 only on a presence/absence basis. Omitted from Table 4 are categories of artefacts known or suspected to be of farmer period age.

Addington

Hunter period artefacts have been recorded from at least six separate locations within an area of three to four acres close to Addington village, an area which lies only one and a half miles (2.4 km) south of the escarpment of the North Downs (Alexander 1961, 2-3). At two of these localities material has been recovered as a result of excavation at the Chestnuts megalithic tomb (*ibid*, 5 and 29-36), and from the south-west margins of a sandpit dug into the Folkestone sands, 300 yds (274 m) south-west of Addington Barrow. After its discovery in 1938 (Fisher 1939), only the most abbreviated notes have been published on the archaeology of this latter site (Ashbee 1950; Rankine 1956, 29 and 61; Burchell in Dimbleby 1963, 141-3) but more detailed discussion has been offered on the pollen content of the mineral soil within which the artefacts occurred (Burchell & Erdtman 1950; Dimbleby 1963). This suggested that the artefacts were of Atlantic-zone VII-age, and that occupation(s) took place in the environment of a dense alder, birch, and oak forest. Finds were made in a space of approximately 40 by 25 ft (12 x 7.7 m) surviving as a 'stack' left by the sand diggers (Burchell, pers comm). Burchell observed that within this space '... artefacts and raw materials occurred ... concentrated in very small specific areas ...'. Each of these was regarded ... as

representing a separate small site . . . and to the finds from each concentration was assigned a letter of the alphabet. A plan of these concentrations was said (Burchell, pers comm; Jessup 1970, 211) to have existed in the Library of the Kent Archaeological Society but this cannot now be traced (Kelly, pers comm). It is therefore impossible independently to confirm details recalled a quarter of a century after the artefacts were collected.

The Mesolithic artefacts from the excavations at the Chestnuts tomb cannot now be traced and any assessment depends upon the accuracy of Alexander's publication of these. These finds are therefore indicated on Table 4 only on a presence/absence basis. The artefacts recovered by Burchell from Addington sandpit are divided between the British, Cambridge, and Maidstone Museums, but that segment now at Maidstone, since it is suspected to have become mixed with finds from another of Burchell's 'hunter' sites-Motney Hill near Gillingham-has not been incorporated into the statistics presented on Table 4.

Perry Wood: Selling

The fifth excavated site in Kent is that at Perry Wood (site I), one mile (1.6 km) south-east of Selling village, itself seven miles (11 km) west of Canterbury (Woodcock 1966; 1976). The site lies on a localized patch of Thanet Beds overlying the Upper Chalk and east of Shottenden Camp. Within half a mile (0.8 km) are readily accessible flint-bearing chalk deposits. In the course of preparing this paper it was not possible to restudy this assemblage whose age is suggested to be Atlantic (*ibid*, 177) and for the entries on Table 4 I have relied on the detailed published account of the artefact assemblage (*ibid*, 170-6)

Stonewall rock shelters: Chiddingstone

The sixth and seventh sites which have been investigated by excavation are a pair of adjacent rock shelters-A and B-at Stone wall near Chiddingstone in the central Weald, thirteen miles (21 km) from the nearest flint-bearing chalk. Of this pair of shelters, both investigated by Mr James Money between 1957 and 1962 he more significant is shelter B in that the total profile was up to 10 ft (3.1 m) in thickness, and from it was recovered charcoal which has given a series of radiocarbon determination. The Profile is divided by a massive rock fall perhaps representing the collapse of the shelter roof. This rumble overlies sand near the surface of which is an occupation layer marked by flecks of charcoal, a small group o debitage, and a broken broad convex-backed piece perhaps optimistically to be regarded as a Federmesser of L-De II type Above he rock fall, which may have been generated by the intense cold of L-De III, is abundant evidence for later Mesolithic occupation, while the size of a single obliquely backed piece from immediately above the rock fall is such as to suggest the possibility of a visit by an early group as well. Associated with determinations of just before 6000 be and just before 5000 be on charcoal fragments from a grey sand directly on top of this rock are microliths including small scalene forms, an isosceles triangle, what appears to be the base of a four-sided piece (Froom 1976, 107), straight-, convex- and obliquely-backed pieces, and a concave basally retouched piece identical to those from Fairbourne Court

These occupations appear to be earlier than a sequence of hearths at the back of the cave and to be locally separated from these by an accumulation of white sand. There are three carbon dates for these hearths. One falls in the mid fifth millennium bc and is from hearth B, while there are single dates in the fourth millennium bc from hearth B and

in the fifth millennium bc for a hearth (hearth A) stratigraphically higher in the profile. The reversal is not easy to explain. The hearths are cut through by a pit with an inhumation accompanied by a grooved arrowshaft smoother (Rozoy 1978, fig 271 bis, no 4) of Breach Farm type (Grimes 1938, fig 4), a device not known this side of the Channel before the Chalcolithic (Newall 1931).

The total of microliths associated with the series of hearths at the back of the shelter is disappointingly small, but includes small scalene forms and straight-, convex-, and obliquely-backed pieces. A single concave basally retouched piece is from below these hearth spreads and hence older by an unknown factor.

Functional considerations

If we look (Table 4) at the pattern of tool representation within these 'narrow blade' sites, in each case, except Lower Halstow with its poor standard of recovery, microliths are the most numerous retouched form. If we follow in the traditional interpretation of this artefact type then hunting was taking place from each of these locations (but see Clarke 1976). The rather greater proportion of microliths at Stonewall probably indicates a greater rigour in retrieval procedures instead of or rather than any greater specialization upon cropping ungulate resources. The presence of microburins (and related forms) at each find-spot indicates that hunting equipment was becoming damaged and required replacement of either or both its tipping and barbing. On each of the four sites for which we have accurate scores either scrapers or truncated pieces are, after microliths, the most numerous essential tool represented. Truncated pieces are sometimes the only tools apart from microliths found on upland sites on the Pennines and Clevelands and one must suspect that they are to be connected with some aspect of either (or both) tool renewal or butchery. Addington and Stonewall (B) have eighteen and fourteen categories of essential artefact respectively, Stonewall (A) eight, and Perry Wood at least nine. At the two latter sites excavations were on a smaller scale. Each total hints at several activities taking place at each site with Addington and Stonewall (B) possessing the most diverse tool kits. Absent from Stonewall but present at Addington are a rostro-carinate-like artefact of uncertain function (classed as divers), a drill bit (*mèche de foret*) for which the perforated weight was found (Rankine 1956, 61, fig 12; Burchell in Dimbleby 1963, fig 1, no 4), a pair of backed knives, and a *combined* burin and scraper. Perhaps the greatest difference in the representation of essential tools is the far higher ratio of adzes to microliths at Addington (1:4.6) and at Perry Wood (1:7) as compared to Stonewall site B (1:95). This observation could be seen to imply the greater importance of hunting at Stonewall in place of perhaps carpentry, or a difference in attitude to the volumes of high-grade flint invested in adzes at sites adjacent to, or on, the chalk on the one hand and out in the central Weald, 13 miles (21 km) from the nearest cretaceous flint, on the other. Thus at Stonewall adzes may have been reduced (and in effect removed from the archaeological record) by subsequent refashioning down to normal core-like pieces while at Addington and Selling, whose site catchments take in substantial areas of chalk with viable deposits of flawless flint, there was less incentive to curate or recycle adzes which had become too short or too blunt to be usable as carpentry equipment. Care (1979) has argued that concentrations of core adzes and picks on areas of flint-bearing chalk may be used to identify quarry and production centres for these adzes. Such a concentration of adzes and picks but without microliths exists on the Upper

Table 4 The narrow blade assemblages

	Lower Halstow (northern floor) *	Lower Halstow (southern floor) *	Lower Halstow (unlocated) **	Addington (Chestnut) ***	Addington (sandpit)	%	Perry Wood (Site I) ****	Stonewall (Shelter A)	Stonewall (Shelter B)	%
<i>Essential tools</i>										
Microoliths	+			++	46	= 41.8	21	14	95	= 60.5
Scrapers	++	++		++	10	9.1	11	2	12	7.6
Burins	+				4	3.6	3	3	9	5.7
Scrapers/burins					1	.9				
Truncated pieces	+				10	9.1		7	20	12.7
Awls				+	6	5.5	2	1	2	1.3
Nosed pieces	++	++		++	2	1.8			1	.6
Meches de foret					1	.9				
Serrated pieces				++	1	.9	1		2	1.3
Denticulated pieces	+	++			6	5.5			5	3.2
Single notches				++	2	1.8		4	7	4.4
Double notches				++	1	.9			1	.6
Backed knives	+	+		+	2	1.8		2		
Retouched pieces	++	++			16		++	4	12	
Core adzes/fragments	++	++		++	10	9.1	3		1	.6
Picks/pick borers?				?	2	.8			1	.6
Rods with abraded end							1			
Choppers/chopping tools				+	5	4.5			1	.6
Divers					1	.9	1			
					110(+16)	98.9		37	157(+12)	99.7
<i>Worn pieces</i>										
Lames esquilles									1	
Pieces emoussees			+	+	1			6	> 65	
Abraded pieces		+							1	
Abraded cores									1	
Utilized pieces	++				10			7	7	
<i>By-products</i>										
Microburins (and related forms)				++	17		14	2	36	
Burin spalls					1		2	1		
Adze (re) sharpening flakes	++			++	12		13		4	
Adze thinning flakes	+									
Debitage	++	++		++	++	++	++	++	++	++
<i>Stone objects</i>										
Drilled pebbles					1					
Countersunk pebbles	+									
Hammerstones		+								

* Presence/absence entries based on that part of the British Museum collection which is marked as deriving from one or the other site. Much of the Lower Halstow assemblage does not carry this information. NB It was not possible to examine the Museum's total holding from the site.

** Tool-type in the Lower Halstow collection not found among material attributed to one or the other site.

*** Presence/absence entries based on data contained in Alexander 1961.

**** Figures based on totals contained in Woodcock 1976.

Chalk at Ash cum Ridley (only four and a half miles (7.2 km) north-north-west of Addington), and one could speculate that this concentration (at least 29 transversely sharpened adzes alone) marks the flint extraction centre which supplied at least the social group at Addington. Similarly, groups of adzes from the North Downs chalk at Ridley, South Ash, and West Yoke all within five miles (8 km) of Addington could hint at further exploitation centres.

It is, however, peculiarly hazardous to make proportional comparisons between assemblages of flint and stone artefacts if these have been recovered using different retrieval procedures. At Farnham in Surrey with an adze to microlith ratio after excavation of 1:46 neither microlith nor microburin was recovered prior to excavation '... although a very thorough surface exploration had been made...'

(Clark & Rankine 1939, 72). Excavation of the adze concentrations identified at Ash cum Ridley, Ridley, South Ash, and West Yoke would be required to demonstrate that any or all of these sites was functionally different from sites in other locations interpreted as occupation spots. To extend the discussion beyond Kent, excavations roughly 145 km to the west at Broomhill near Romsey, a site situated on an outlier of the Reading Beds overlying and surrounded by the Upper Chalk, raised a ratio of adzes to microliths based on surface discoveries of 1:2.3 to 1:44.8 by use of a 6 mm mesh and then to 1:199 by the use of a 3 mm mesh (O'Malley & Jacobi 1978, table 3). The total of adzes from the surface was 68 by 1973, a total far higher than that achieved by any of the north Kent sites. Microliths were only discovered on the surface at Broomhill because an intensive search was directed towards their recovery, and an

absence from collections made on the North Kent Chalk must be due to these having been amassed only during the first two decades of the century when the assemblages were assumed to be of farmer period age and the existence of a microlithic component was not even suspected. At Broomhill adzes and microliths were found to be associated with a substantial assemblage of processing tools in flint and this whole with a group of artificial pits, one surrounded by the postholes of a subrectangular timber structure, tentatively interpreted as a winter house. Without excavation it is not possible to demonstrate that groups of core adzes from sites on the North Kent Chalk were not components of polythetic assemblages whose statistics resembled those of assemblages recovered from sites in other locations within south-east England.

Excavated sites within and immediately surrounding the Weald can be argued to occupy three locations in relation to *in situ* supplies of flint. (1) They can be placed on flint-bearing chalk or on outliers of some younger deposit on top of flint-bearing chalk. (2) They can be placed on geological deposits immediately or closely adjacent to the chalk in such a way that their site catchments taken at a radius of 10 km (2 hours' walk) include in these a source of flint. (3) Finally, sites may be placed sufficiently far within the Weald that their catchments fail to touch a source of cretaceous flint. Table 5 explores one aspect of the assemblage structure for excavated narrow-blade sites in each of these locations. The assemblages were recovered either by excavation without the reported use of sieving (unstarred), or by excavation using only a 6 mm mesh (starred). For Broomhill the figures used derive from those for 1971 when a 6 mm mesh alone was used. By this device the statistics for Broomhill are rendered more comparable with the ratios achieved for the other sites.

The statistics presented in Table 5 suggest that where a 6 mm mesh was used the ratio of adzes to microliths could be closely similar as between a site on the chalk (Broomhill) and a site on the closely adjacent Lower Greensand (Abinger). The ratio for Farnham is also closely similar at 1:46, while those for Perry Wood and Addington, where no use is reported as having been made of sieves, seem markedly lower, but closely comparable one to another. If not a function of sampling then the range of the ratios as achieved between sites on the Chalk and between sites adjacent to the Chalk appears comparable, and in both cases the variation in this ratio is equivalently large: 1:45 to 1:7 and 1:49 to 1:5. While no adze blades were discovered in

pits 1 and 3 at Selmeston, some 23 whole or broken adzes were recovered from the sandpit (Barbican House Museum: Clark 1932, fig 57; 1934b, fig 11) giving an adze to microlith ratio for the site of 120, well within the expected range. This result must, however, be regarded with caution both because the bulk of the assemblage is surface collected and because the morphology of microliths suggests the probable presence of populations of different ages of which the narrow-blade forms are only the latest.

While core adzes have been discovered at each of the locations on or immediately adjacent to the Chalk only a single adze blade has been recovered from one of the five sites without access to cretaceous flint, although at Hermitage Rocks thinning flakes suggest at least the whittling down of such a blade perhaps to fit a new and smaller sleeve. Table 5 and the data discussed above suggest that adzes were *regularly* discarded at sites with access to flint of sufficiently high grade to allow their replacement, while within the Weald where such high-grade flint was not locally available, either activities which led to the discarding of adzes tended not to take place, or, if discarded, adzes tended to be removed from the archaeological record by being flaked away. Rankine on several occasions drew attention to the association between large totals of discarded adze blades and the presence or suspected presence of pit features, At Broomhill one such pit could be seen as integral to a post-built structure. We might, therefore, speculate that a major use of such chipped adze blades would be in the carpentry of timber houses and we could perhaps go on to speculate that concentrations of adze blades mark not simply production centres but sites sufficiently significant to generate construction of permanent or semi-permanent houses. Within these sites some adzes were produced, used, and discarded on immediate carpentry tasks while others will have been produced for use in areas away from sources of locally available high-grade flint, perhaps at different seasons of the year.

Given that any hunter band will be unwilling to carry excess weight such adze blades would further provide a directly functional form in which to transport units of flint ultimately intended for transformation into smaller artefact categories away from the original bases. Yet again such adze blades may have formed an acceptable form within which to introduce flint into any exchange system—that is as both a ready flaked tool and, by dint of having been successfully flaked, as a weight of raw material of a demonstrably high grade. (For the scatter of adzes beyond the cretaceous zone see Mellrs & Reinhardt 1978, fig 4.) An analogous phenomenon in later prehistory would be the importation into the Low Countries of finished bronze objects of central European origin, relatively few of which, once arrived, escaped the melting pot (Coles & Harding 1979, 309-10). The bronze by having already been worked up into finished artefacts would be of a guaranteed quality and hence of potential usefulness to the receiving community even after the original artefact had itself ceased to be useful. Flint adze blades can therefore be interpreted as artefacts designed for immediate use; as designed for use at extractive camps away from their point of production; as sources of easily transported raw material for the community making and owning them; and finally as the most acceptable form in which to input units of flint into an exchange-system. Away from sites on or adjacent to cretaceous flint relatively few such adze blades may be expected to have escaped reworking once they became damaged or whittled down by resharpening to the point where they no longer projected a sufficient distance from their sleeves.

If we move on from the discussion generated by the

Table 5 Assemblage structure for narrow-blade sites

	<i>Ratio of adzes to Microliths</i>
<i>A Sues on the Chalk</i>	
Perry Wood site 1: Kent	1:7
Broomhill (1971): Hants	1:45*
<i>B Sues adjacent to the Chalk</i>	
Addington: Kent	1:5
Farnham: Surrey	1:46
Abinger: Surrey	1:49*
Selmeston (Pit 3): E Sussex	0:19
Selmeston (Pit 1): E Sussex	0:109
<i>C Sues without direct access to cretaceous flint</i>	
Stonewall (Shelter B): Kent	1:95
Stonewall (Shelter A): Kent	0:14
Oakhanger (Site 8): E Hants	0:28
High Rncks (all shelters): E Sussex	0:54
Hermitage Rocks: E Sussex	0:141

statistics for the essential tools of these Kent 'narrow-blade' assemblages, one feature highlighted by the figures in Table 4 requires comment. This is the total of over 65 'pieces émoussées' from Shelter B at Stonewall. While visually identical worn or edge-striated pieces have been recognized from many hunter period assemblages (Wymer 1962, 348-50; Saville 1977, 4-7) microscopic study of the wear traces on a small sample of the worn pieces from Stonewall indicated this wear to be due to use on stone (Moss, pers comm, 1979). This observation, of course, recalls the association made as early as the beginning of the century (Courty 1902) between such worn pieces and rock engravings (for further literature see Hinout 1966; 1976; Hinout & Angelier 1968; Bordes *et al* 1974; Rozoy 1978, 1144; Leroi-Gourhan *et al* 1979, figs 84-86), and it seems legitimate to speculate whether before exfoliation the shelter walls at Stonewall had been decorated, and that it was this process of decoration which attracted hunter groups to the shelter(s) over a period of at least two millennia. A single block with deeply incised lines on its surface found fallen into the hunter period deposits in front of Shelter B makes this hypothesis particularly attractive. Finally a pick from this site can be compared to the 'pits' recovered from later Palaeolithic shelter sites in France and suspected as having been used to peck rock faces (Capitan & Peyrony 1928, 28). This may thus form an additional item of decorative equipment.

Kent in Tasmania

While it was straightforward (see above) to catalogue in detail the range of bone and antler artefacts which accompanied our earliest hunter technology, it was possible to list only artefacts of flint and stone which belonged certainly to the later stages of the period. In large part this inability must reflect the very small number of later Mesolithic sites where organic material has been preserved and which have been explored by excavation (Cherhill, Wawcott XXIII, and Westward Ho!). However, such artefacts are absent also from the rather larger number of findspots in the Kennet Valley where both flints and animal bones have been exposed by ploughing. By analogy with Denmark (Mathiassen 1943), one would expect artefacts of bone and antler, were they present, also to be brought to the surface by such agricultural operations and to survive the process in a recognizable state. The fact that such artefacts have not 'surfaced' is, I believe, significant.

It has, however, become traditional to assign to the Mesolithic (Lacaille 1961; 1966; Wymer 1977, 183-201) and more particularly, by implication, to its later stages, a large population of bone and antler artefacts dredged from rivers particularly in the south-east of England. The largest collections derive, of course, from the Middle Thames Valley (Lawrence 1930; Vulliamy 1930) while very much smaller totals of technologically identical items derive from the Upper Thames, the East Anglian Fens, the Essex Stour (Lovett 1898; W G Smith 1898), the Thames off Kent (Wymer 1977, 147), the Medway (Jessup 1933, fig II), and the north Kent coast (Worsfold 1927, 230). Counterparts for each of these artefacts which consist of 'axes' developed on perforated beams of antler, perforated hammers sometimes with lattice decoration on the 'striking surface', antler helms (sleeves) for flint or stone axes or adzes, detached, and detached and perforated tines and strips of bone reduced by grinding to elongated points, have been sought in either, or both, the Danish later Maglemosian or (more often) the Ertebølle of northern and eastern Denmark (Lacaille 1961, 132, 135, and 137-8; Lacaille 1966, 16 and 41). It would, however, be possible

equally to match each of these artefact classes with finds (albeit rare) from British Neolithic and Chalcolithic sites and, to look farther afield at the rather larger samples of bone and antler equipment from French and Dutch sites also of this age (for basic references see Glasbergen *et al* 1966; De Laet 1972; Billamboz 1977; Blanchet *et al* 1978). In short it is now possible to find parallels for the great bulk of artefacts at sometime published as later Mesolithic either locally in Britain or in immediately adjacent Neolithic/Chalcolithic Europe rather than around the Baltic, an area with which Britain maintained no social connection within the Later Mesolithic.

If this argument is correct then there are no artefacts of bone and antler from southern *England* which cannot be paralleled *either* in later prehistoric (farmer) period contexts or in the assemblages of artefacts from such specifically Pre-boreal occupation sites as Starr Carr (Clark 1954), Duvensee (Schwabedissen 1949, 66-9; Bokelmann 1971), and the 'Older Settlement' at Hohen Viecheln in Mecklenburg (Schuldt 1961). The only exception might be the group of perforated bone artefacts ('picks') from Hammersmith (Vulliamy 1930, 114; R A Smith 1934, 144-5, pl LVI; Lacaille 1961, 137 and fig 8, no 1; 1966, 13), Kew (Lawrence 1930, 81; Lacaille 1961, 134 and fig 7, no 5), and Putney, similar to items which at Hohen Viecheln occur first only at an early (?Boreal) stage of the 'Younger Settlement' (Schuldt 1961, 126-7). In the case of each of the examples from the Thames, however, it remains still to be demonstrated that these 'picks' are not made of bones of domestic cattle. This it is hoped to investigate. Absent from the whole of Britain are a number of later Maglemosian bone, antler, and tooth artefacts of categories which we might expect to have been present had a social connection, such as has been implied by a number of writers, survived. These categories include elbow-bone daggers, tusk knives, perforated skinning knives, decorated picks of stag's antler, bone (?netting) needles, and fish hooks. Again it might be suspected that, should sites with suitable preservation be found, all forms of netting, fish and eel traps, (so-called) bird arrows, and boomerangs (for illustrations see Mathiassen 1948, figs 118-222) may also prove to be absent in just the same way as one-piece trapezoidal and rhombic flint arrowheads are absent from flint inventories on this side of the Channel and North Sea. It can thus be convincingly argued that once Britain became an island, close to 6500 radiocarbon years bc, novel bone and antler and not just flint artefacts failed to reach the now isolated population.

Further a seeming absence of bone and antler artefacts from later Mesolithic findspots may hint not just that new artefact categories were failing to be introduced but that the number of tool forms used by hunter groups may actually have decreased through time and a bone and antler equipment have been absent from the later Mesolithic technology of south-east England. Equivalent would be the loss of microlithic equipment (and with it perhaps also use of the bow) from the final Mesolithic of Ireland (Woodman 1976, 301) and more debatably of western Scotland, or the sharp reduction in the range of microlithic shapes current in northern England between the fifth and fourth millennia bc, while midway through the seventh millennium bc chipped and hafted core adzes cease to appear in the artefact repertoires of populations exploiting both Wales and northern England. Yet again, to become more speculative, the few British records for dog can be argued to belong to early in the period (Degerbøl 1961; King 1962) and we may wonder if this animal was unknown to the later hunter occupants of Britain.

If these observations are correct then the technology of hunter period Britain can be argued to parallel very closely that of Tasmania where a rich stone and bone technology deriving from that of a Pleistocene mainland to which the island was once joined became after insulation severely attenuated in the range of tools produced, with for the terminal few thousand years of its social isolation the loss of some tools successfully introduced prior to its insulation (Jones 1977). In the case of Britain such an impoverishment of an ancestral technology was taking place at the time of, and indeed was only halted by, the arrival of the earliest farmer groups.

An apparent exception to this generalization may be the fourth millennium bc technology of the west Scottish Obanian, which includes, or into which are introduced T-shaped antler axes (Tüllengeweiähäxte: Lacaille 1954, fig 103; Clark 1958, 94, fig 1), short beam axes (Clark 1958, 93, fig 3), and barbed, usually bilaterally barbed, antler harpoon-heads (Lacaille 1954, fig 81, nos 9-11, fig 82, nos 11, 12, figs 86, 97, and 104, nos 18, 19). Both T-shaped axes and antler harpoons have been found in latest hunter (Bandi *et al* 1963; Andersen 1974, 101-2; Clark 1975, 183) and earliest farmer period contexts (Gersbach 1956; Van der Waals 1972) within mainland Europe of the fourth millennium bc.

Following from this it is worth observing that all dates for Obanian sites run on substances not affected by hard water error (Mackie 1972; Shotton & Williams 1973, 455-6) are equivalent to, or younger than, the earliest determinations from the farmer site of Ballynagilly (A G Smith *et al* 1971, 106; Ap Simon 1976) while the later dates for Obanian middens overlap determinations from farmer period sites on both the Irish (Knockiveagh, Co Down, and Mad Man's Window, Co Antrim) and Scottish sides of the Irish Sea (Monamore, Arran; Raigmore, Invernesshire; Glenvoidean, Bute; data from Whittle 1977 appendix). Further, Bradley (1978, 7) has pointed to the near complementary distribution of Clyde Cairns and Obanian shell middens, a pattern suggestive both of partial contemporaneity and of the existence of a pair of communities each with a distinct subsistence base and each specializing in the exploitation of particular ecological niches within the region.

The significance of the earliest determination from Ballynagilly is as a suggestion of how early a population ultimately derived from voyagers from mainland Europe, where both T-shaped axes and antler harpoons were part of contemporary technology, passed up the Irish Channel. It would seem logical to speculate whether these two artefact classes were introduced into the area as part of the technology of these incomers and if it was from them that they were taken up by aboriginal groups.

Equivalent to this suggested uptake of farmer equipment by Obanian groups would be the use made of farmer pottery by the aboriginal society based at Newferry (Woodman 1977, 178) and the hunting or keeping of domesticated animals derived from the stock of incoming farmers at Sutton and Dalkey Island (Mitchell 1956; Liversage 1968; but for Dalkey Island see Woodman 1976, 299-300).

In each case '... materials or objects almost as useful to a food-collecting as to a food-producing community...' are acquired from 'intruders' while the aboriginal economy remained based purely on hunting and collecting (Whitehouse 1971, 250-2).

From southern Britain potential evidence for aboriginal hunter groups taking up either artefacts or animals from farmers appears particularly slight. Pottery found with

microliths at High Rocks, Shelter F (Money 1960, 212; 1962) is of types too evolved to be associated with dates of 3780 bc \pm 150 (BM 91) and 3700 bc \pm 150 (BM 40). Indeed, although the association, interpretation ('a pottery-using Wealden culture'), and accuracy of the dates have recently been reasserted (Money in Burleigh *et al* 1976, 16-17), one must wonder if the dates could be the product of a mixing of two populations of charcoal fragments (one hunter- the other farmer-period). Seemingly more suggestive of contact between aboriginal and farmer groups may be Rankine's recovery of a broken '... metacarpal of a very small domestic sheep...' (Rankine 1936, 43 and 42, fig X) from the base of pit 13 at Farnham, apparently sealed by a pair of hearths, two chipping floors, and flintwork including a large number of microliths (*ibid*, 31, fig III). Of the microliths, however, it is possible only to comment that this mixture of shapes cannot be precisely dated while the bone which appears no longer to survive cannot be demonstrated not to have been of roe deer.

Bradley (1978, 7) has commented on the rarity of radiocarbon determinations for hunter sites of the fourth millennium bc from Britain. This number is reduced still further if we remove the dates from High Rocks and for the south-east: such a process would leave only two determinations with apparently microlithic associations belonging within the fourth millennium bc. The first is a date within the fourth millennium from Stonewall obtained on a sample of charcoal collected from a hearth directly below a second hearth spread higher in the profile and dated to the fifth millennium bc. Such an inversion suggests, of course, that either or both dates must be treated with reserve.

The second determination apparently of fourth millennium bc age and with seeming microlithic associations is that from Wawcott site I, a site in the Kennet floodplain a little north-west of Kintbury church (Berks: Froom 1972). This date of 3310 bc \pm 130 (BM 449) is on 'decayed wood' (unidentified: Barker *et al* 1971, 173) from a hearth half way up the silting of what is interpreted as a pit-house (Froom 1972, 25-7). A hunter cultural association is assumed from the presence of a microlithic flint industry both in the silting of the pit and on the surface of the floodplain gravel around it. The very clear section of this pit (*ibid*, fig 4) can, however, be argued to show points of similarity to those of tree fall hollows discussed by Kooi (1974, fig 4c) and, if so, the hearth would lie half way up a naturally formed hollow perhaps developed on a site with a 'spread' of microlithic material-hence the presence of this latter in all parts of the pit fill. If, however, we prefer to accept the excavator's interpretation, then the fire post-dates the digging of the pit (Froom 1972, 42) and was lit only after any surrounding structure had collapsed and its piled gravel spilled into the pit (*ibid*, 27). The presence of flint artefacts in all parts of the filling would be accounted for by incorporation into the silting of components of the soil proœe from around the pit edges and the flint industry on or in this profile and need not imply continuous visits by a group, or groups, using a microlithic technology. A direct equivalent would be Selmeston pit I where the bulk of the microliths and the highest totals of Mesolithic flint artefacts silted into the hollow only after it had been used as the siting of a hearth in the later Middle Neolithic (Clark 1934b, fig 2 and appendix I).

We might on this basis open up the discussion and question further the social group responsible for lighting a fire in the half-filled hollow at Wawcott site I. The similarity of 3310 bc \pm 130 with a date on charcoal from the base of a quarry ditch for the burial mound at Lambourn only 10 kms away (3415 bc \pm 180: GX1178: Wymer 1970) and with a

determination of 3310 bc \pm 110 (Har 1198: Bradley *et al*; 1976; Otlet & Walker 1979, 372) for Cannon Hill, Maidenhead-associated with Grimston/Lyles Hill pottery and flint work which included a leaf arrowhead—does strongly suggest that the hearth ought to be a farmer artefact—a fire lit in the half-filled pit house of an earlier hunter group or in a tree-fall hollow developed on an older hunter site. Special pleading would thus allow us to disassociate the hearth and the date on it from a microlithic technology (suggested as) original to the site. If this argument is accepted then instead of a model which would presuppose intrusive farmer and aboriginal hunter groups exploiting contemporaneously distinct environments within a local world—such as can be suggested both for western Scotland and north-east Ireland in the fourth millennium bc—in south-east England absorption or annihilation of the aboriginal group can be argued to have taken place at any moment after as early as 4000 radiocarbon years bc (for latest archaeologically clearly associated hunter dates for south-east England see Burleigh *et al* 1976, 31).

Equivalent in age to the determinations for Cannon Hill, Lambourn, and Wawcott I are further near local determinations, from what can be interpreted as farmer artefacts from Fussell's Lodge (3230 bc \pm 150: BM 134: Barker & Mackey 1968, 2) and Ascott under Wychwood burial mounds (3248 bc \pm 225: BM 835: Burleigh *et al* 1976, 20), Blackpatch (3140 bc \pm 130: BM 290) and Church Hill flint mines (3390 bc \pm 150: BM 181: Barker *et al* 1969, 285-6), and Abington causewayed camp (3110 bc \pm 130: BM 351 : Barker *et al* 1971, 170).

Both Case (1969, 181) and I F Smith (1974, 101-2) have questioned whether construction of large funerary monuments or communal centres and the digging of flint mines—the first categories of farmer artefacts with hollows sufficiently deep to trap and hold the pottery, flint artefacts, and charcoals upon which we have built a chronology for this settler period—would have formed a part of the behaviour of the earliest incomers. Indeed it may further be speculated that it was only the need to symbolize ownership which encouraged the building by a group of at least the first two of these categories of 'monument', and that the competition between farmer groups which led to their construction arose only as agricultural pressures on the environment increased—ie as the landscape became infilled by incoming groups or populations descended from incomers.

The arguments presented suggest that 'from the Mesolithic end' there is no reason why in south-east England such pressures on all parts of the environment could not have had their origins as early as 4000 bc. Certainly such an extended chronology for the farmer period would immediately explain the openness and artificiality of the environments in which both burial mounds and causewayed camps were built (I F Smith 1974, 103; Evans in Barker & Webley 1975, 185), the seeming sophistication of the trade networks of the later fourth millennium bc, the appearance further west of fortified 'villages', and the appearance in all areas of arrowheads intended for use not against wild animals or an aboriginal population who had long ceased to identify themselves culturally, and perhaps even to exist, but against other agricultural groups competing for the same resources.

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Introduction

The archaeology of the Neolithic period in Kent has been neglected. The archaeologists of the last century, being attracted to the more visible remains of antiquity, did not find in the Kentish landscape the obvious Neolithic field monuments, henges, enclosures, and barrows, and turned to the study of the plentiful Roman, Saxon, and later medieval antiquities. This bias in archaeological research has continued into recent times to the point where prehistoric archaeology is virtually ignored. However, the salvage and preservation of the prehistoric record is as urgent, though less spectacular to the public eye, as the rescue of later historic remains.

The lack of modern excavation and research is surprising, and where it has taken place it has all too often been inadequately published. The position of Kent in relation to influence from the Continent and the southern and eastern regions of Britain adds disappointment to the scarcity of records.

There are a few radiocarbon dates, but only one, from Ebbsfleet, is associated with cultural material. A chronological framework for the prehistoric period is a primary requirement.

In view of the dearth of recent research, this paper will concentrate on reviewing the published sources in an attempt to bring together the areas of knowledge and highlight the areas of ignorance.

Environment

The state of environmental research in Kent has been summarized by J Sheldon earlier in this volume. The lack of data produced under modern research methods is conspicuous and a hindrance to progress. The few data that are available come not from projects concerned directly with archaeological problems, but as a by-product of research in other sciences, and are consequently limited in application and interpretation.

The clearance of forest from large areas of Britain by the first farming communities has been recorded in pollen sequences from peat and lake deposits. In chalk regions such as Kent, where deposits are largely calcareous, and pollen poorly preserved, the evidence for forest clearance and subsequent land use has been recorded by molluscan analysis (J G Evans 1971, 27). Two sites in organic valley deposits close to the chalk at Wingham and Frogholt (Godwin 1962, 83) have produced pollen sequences which showed the presence of cleared land by the Early Bronze Age.

Forest clearance actually on the Chalk Downs has been recorded in the deposits at Brook (Kerney *et al* 1964, 135-204) and dated to 2590 BC (Barker *et al* 1971, 39-45). Here a clearance was followed by the accumulation of hillwash deposits containing Neolithic artefacts. This process of accelerated soil erosion following clearance and cultivation is also seen at Pegwell Bay (Weir *et al* 1971, 131-49) where a soil was also buried by hillwash deposits containing Neolithic artefacts.

The extent and duration of forest clearance in Kent is unknown. The evidence from sites in Wiltshire suggests that clearance was extensive and permanent (J G Evans 1975, 116). However recent work at Offham, Sussex

(Thomas 1977, 234) has shown the enclosure to be associated with a wooded environment, demonstrating that Neolithic activity and clearance do not always correspond.

Distribution

Figure 8 shows the distribution of published sites and spot finds. In spite of the obvious correlation between fieldwork, urban and rural development, and site density, some general observations may be made on the present pattern of sites. It is at first surprising how much Neolithic material has been found, but since it is mostly material located by chance or without modern archaeological techniques, its value is limited. Systematic field collection and recording is urgently required, particularly with increasing damage to sites through deep ploughing and development schemes. This is an aspect of research in which local groups could participate. Drewett (1979, 19) has shown the value of this work in producing information on settlement location.

River systems and coastal areas offer varied resources to supplement a farming economy and aid communication between communities. These are then obvious foci for site location, for example the two communal monument groups on the lower slopes of the Medway and Stour valleys, and some settlement sites in the floodplains of river valleys. The settlement sites at Wingham, Darent, Ebbsfleet, and Minnis Bay were all abandoned after rising sea-levels created swampy environments, which later left the sites sealed by peat. A regional series of dates for these and other sites is necessary for assessment of the changing pattern of settlement location and inter-site relationships.

Coastal sites with evidence for a primary, adaptive phase of settlement are likely to have been lost through marine transgression (Case 1969, 176). However, a number of sites in the Folkestone, Deal, and Thanet areas are located near enough to the coast to have been within reach of littoral resources.

Also noted previously (Dunning 1966, 1; Whittle 1977, 8) is the concentration of sites along a band of low-lying soils that spread north of the Downs from Deal to London. Dunning and Whittle attribute this site distribution to the light nature of these loess-based soils, which would have rendered them more easily cleared and cultivated than soils based on the clay-with-flints that cap the higher parts of the Downs. Catt (1978, 12) shows the widespread occurrence of loess over southern England and discusses the degradative effects of agricultural practices on loess-based soils. The presence of Neolithic artefacts in hillwash deposits at Pegwell Bay (Weir *et al* 1971, 131-49) and Brook (Kerney *et al* 1964, 135-204) points to a more extensive settlement of the Downs than previously envisaged, and it is likely that much of the evidence for settlement on the higher areas of the Downs will be found in similar deposits.

Settlements

In common with much of lowland Britain, the evidence for Neolithic settlement in Kent is limited to isolated pits and artefact scatters (Smith 1974a, 104).

The best known but most enigmatic Kentish site is that of Grovehurst near Sittingbourne, which was documented in

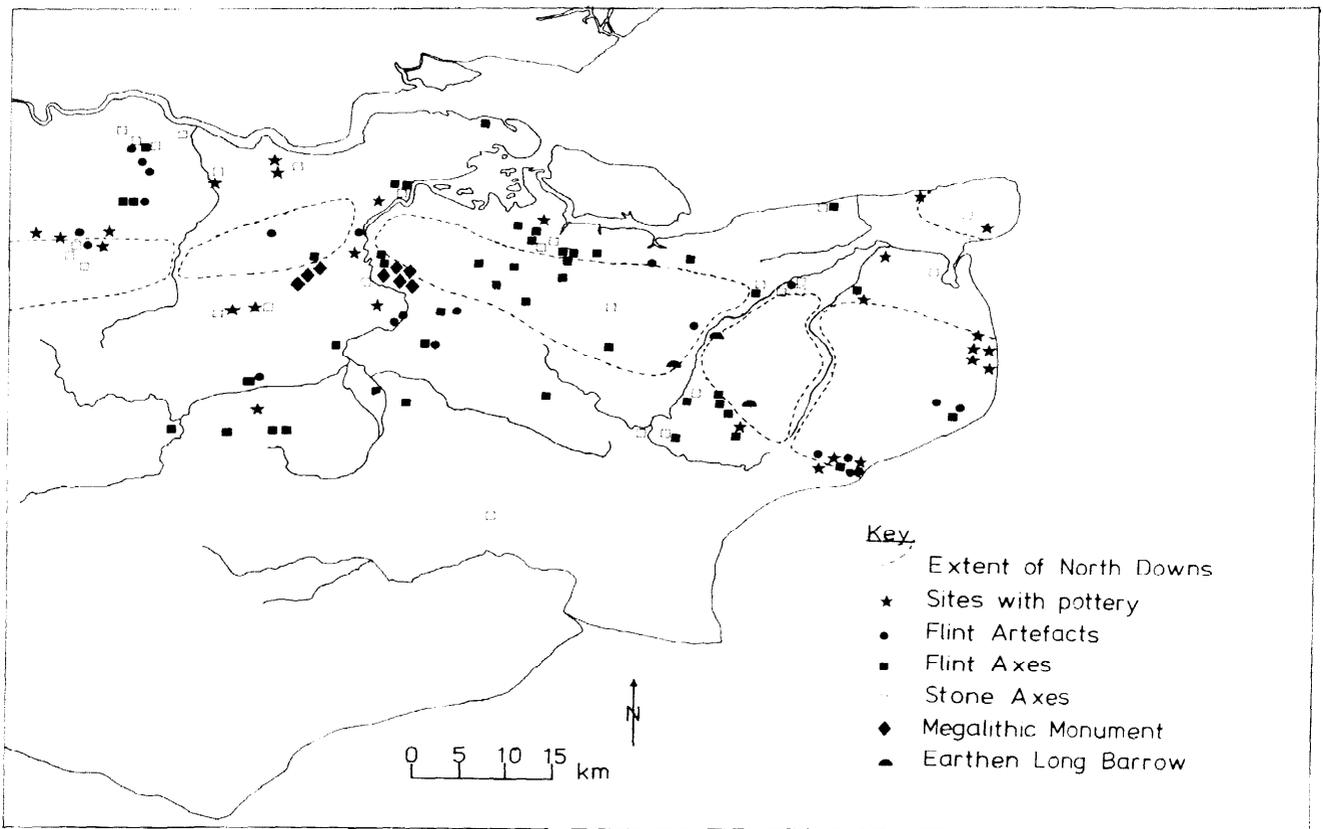


Fig 8 Distribution of Neolithic material in Kent

the last century (Payne 1880, 122). It was interpreted by him (*ibid*, 123) as a village of sunken huts, and it is interesting to record his brief description of the site:

A closer inspection, however, of the débris upon the so-called 'floors' revealed quantities of flint weapons and tools, evidently made on the spot, as innumerable chips and flakes were found which had been splintered off in the process of their manufacture. Blocks of sandstone were occasionally met with for grinding and polishing purposes, some of the smaller pieces being conveniently fashioned for use in the hand. One large block was much hollowed, and worn quite smooth from friction. Several bones, skulls, and horns of *Bos* were likewise found, doubtless the remnants of daily meals, also fragments of rude urns made of clay mingled with minute particles of flint.

Viewed from a modern perspective the contents of the huts seem to be very similar to those described from pit sites elsewhere in Lowland Britain (Smith 1964, 367). The site as a whole could be reinterpreted as a pit complex site of Hurst Fen type (Clark *et al* 1960, 202).

Other pit sites include a series of single pit sites from east Kent (Dunning 1966, 1), which has produced most of the Earlier Neolithic material for Kent. The site at Wingham (Greenfield 1961, 58) produced a bone pin and red deer antler in association with round-based pottery. The pit at Nethercourt St Lawrence, Ramsgate (Dunning 1966, 1) which contained two secondary burials is another example of a burial away from barrows (Whittle 1977, 61). Although

these pits are considered to be the surviving parts of larger settlements they might alternatively be whole single sites and represent the disposal of material after one season's activities. Smith (1964, 367) interprets the function of pits as for grain storage because of the frequent presence of querns. However, there is no necessary connection between the presence of querns and the storage of cultivated grains. Querns may be used for the preparation of wild food plants, and discarded or stored in pits for future recovery.

Later Neolithic settlement sites are relatively rare and distributed mostly in west Kent. A recently excavated site at Lord of the Manor, Thanet (MacPherson-Grant, pers comm), thought to be of later Neolithic origin, alters this picture and demonstrates the need for further fieldwork.

The potential for settlement studies in Kent is good. The settlement sites found in the river valleys, with good conditions for the preservation of organic remains, could provide many environmental and economic data that are rare in chalk regions.

The Folkestone area, particularly around the Creteway Down, is worth further attention. The discovery of Neolithic pottery at Caesar's Camp (Pitt-Rivers 1882, 429) is an indication of the possible importance of the area.

Material equipment

There are few well-provenanced assemblages from Neolithic sites in Kent. The need for stratified assemblages cannot be over-emphasized, particularly in view of the evidence discussed below, which suggests that Kentish

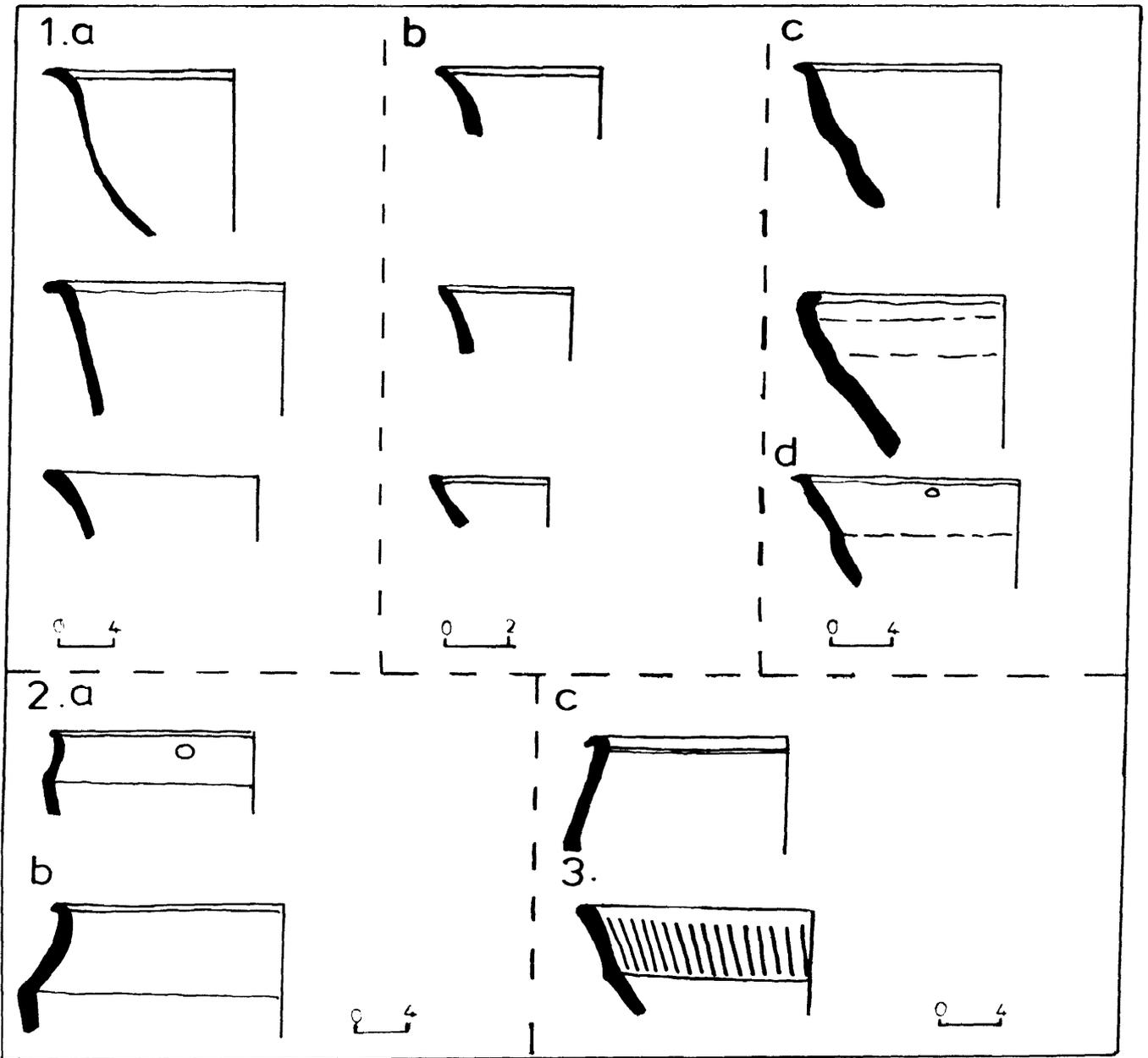


Fig 9 Earlier Neolithic pottery: 1 Eastern style-- a) Wingham (after Greenfield); b) Chestnuts (after Alexander); c) Mill Road, Deal (after Dunning); 2 South-western style--a) Minnis Bay (after MacPherson-Grant); b) Mill Road, Deal (after Dunning); c) Preston (after Dunning); 3 Decorated style--Creteaway Down (after Dunning) (scales in cms)

material could prove important in understanding the development and associations of Neolithic traditions.

Round-based pottery in the tradition of the Earlier Neolithic is well represented in Kent (see Fig 9), as is the Peterborough series of Later Neolithic pottery. Grooved ware occurs only rarely. Wainright and Longworth (1971, 278) noted only one site, that of East Malling, Snodland.

Whittle (1977, 77) has distinguished three contemporaneous style zones for the Earlier Neolithic tradition within southern England: the South-western, the Eastern, and the

Decorated. Each of these groups is represented in Kent, but it is the Eastern style which appears to have a strong influence.

The pottery groups from Wingham (Greenfield 1961, 62) and Chestnuts (Alexander 1961, 1) contain open bowls with flared, rolled, and hooked rims. These are features found in Whittle's Eastern group (1977, 77) and also in Smith's broader Grimston/Lyles Hill group (Smith 1947a, 107). The two Kentish sites show particular affinities with the Fengate assemblage (Smith 1974b, 31), and with the

material from Yorkshire (Newbigin 1937, 189). Part of the assemblage from Mill Road, Deal (Dunning 1966, 2, fig 3) and the pot from Hawkshill Down (*ibid*, 6, fig 4) would also seem to be local variants of this style, where the flared profile of the bowl has been created by adding a strip of clay to the pot, joining the body by a butt joint.

The South-western style is represented by a deep baggy pot and carinated bowl from the same Mill Road site (*ibid*, 2, fig 2) and by two other carinated bowls from Preston (*ibid*) and Minnis Bay, Birchington (MacPherson-Grant 1969, 249).

The Decorated style is represented by the assemblage from Creteway Down, Folkestone, where the pots show a degree of similarity in form and decoration to those at Whitehawk (Whittle 1977, 92).

Two sites, Ebbsfleet (Burchell & Piggot 1939, 405; Sieveking 1960, 192) and Baston Manor (Philp 1973, 5) are the main sources in Kent for the Peterborough series.

The pottery from Ebbsfleet shows the influence of the Decorated style on later ceramic developments. The heavy rims, concave necks, and zonal decoration particularly on the rims of the Decorated pots can all be recognized as prototypes for the development of the Ebbsfleet style (Whittle 1977, 94).

The increasing complexity of stylistic interaction between pottery traditions during the Later Neolithic is also seen at Baston Manor (Smith 1973, 9). Here, Smith discusses the influence of Beaker pottery on Later Neolithic ceramic developments, and notes the association at this site of Barbed-wire beaker, Mortlake, and Fengate sherds.

Grooved ware has been recorded from one site at East Malling, Snodland (Wainwright & Longworth 1971, 278). This rarity of Grooved ware sites is also a feature of the Neolithic in Sussex (Drewett 1978) perhaps indicating that the social developments of this period did not cover the whole of southern England, and that in some areas existing traditions continued or even died out.

The stone, antler, and bone industries of Neolithic Kent are little known. Bone artefacts are rare, the bone pin and red-deer antler comb from Wingham being the only published examples (Greenfield 1961, 58).

The stone axe groups identified for plain Neolithic axes (not perforated axes) are: Group 1 (Cornwall) from Keston (2) and Murston, Group VI (Great Langdale) from Rolvenden, Ashford, and Bexley, Group VII (Graig Lwyd) from New Hythe, Group IX (Tievebulliagh) from Sittingbourne and Gravesend, Group XVI (Cornwall) from Downe, and one jadeite axe from Canterbury (D B Kelly, pers comm). The above list, plus the possible import from Scandinavia at Chilham (Jessup 1939, 268) illustrates the wide network for exchange and trade that existed in Britain during the Neolithic.

Little work has been carried out on flint assemblages from Kent, which is hardly surprising considering the haphazard method of recovery. The only assemblage to be considered in detail is that from Baston Manor (Broadfoot 1973, 14). The assemblage was shown to be comparable to that of Durrington Walls in the percentage of implements to debitage (Wainwright & Longworth 1971, 156).

Unlike Durrington Walls, however, no Grooved ware was identified (Smith 1973, 12). It is possible that these are indications of the continuation and development of ceramic and flint traditions in the Late Neolithic without the influence of Grooved ware. More sites with well associated and stratified finds need to be found before such ideas can be examined in detail.

Communal monuments

There are two groups of communal monuments in Kent: a small group of earthen long barrows in the Stour valley, and a group of megalithic monuments in the Medway valley (see Fig 10). No causewayed enclosures, henges or flint mines have been recorded with any certainty.

Julliberrie's Grave has always been regarded as an outlier of the main barrow distribution (Ashbee 1970). Recent field-work has however produced two further examples at Boughton Aluph and Elmstead (*Archaeol Cantiana* 1970) and these now form a small group around the Stour valley.

The excavations at Julliberrie's Grave (Jessup 1937, 123; 1939, 260) produced few artefacts but showed the barrow to be similar in construction to that of Thickthorn Down (Drew & Piggott 1936, 77). The barrow contained no primary burials, but it was suggested (Jessup 1937, 136) that they had disappeared over the edge of an adjacent chalk pit. Barrows without primary burials are now increasingly recognized as a phenomenon within the Neolithic, and function is no longer seen as being concerned only with funerary rites (Kinnes 1975, 16). Excavations such as those at Nutbane (Morgan 1959, 15) have also shown the complexity of the development of barrow form and function through time.

At Julliberrie's Grave an empty pit predating the construction of the mound was discovered, and the later insertion of a second empty pit into the mound suggests a continuation of the non-funerary function of the barrow.

The isolationist attitude towards Julliberrie's Grave has been perpetuated by the rigid approach to barrow studies. The insistence on a separate terminology for stone structures and the mystical awe in which their architectural complexities are shrouded has created a blinkered approach to their study.

Recent work has demonstrated a corresponding complexity of design amongst wooden structures, for example at South Street (Smith & Evans 1968, 138) and Nutbane (Morgan 1959). Work on henge monuments has shown in many cases the presence of wooden structures preceding the stone structures (Wainwright & Longworth 1971, 192).

With these examples in mind it is worth examining the suggestion by Manby (1970, 1) that explanations for the form and affinities of the Medway megaliths be sought amongst the eastern long barrows.

The first point of similarity is the simplicity of the Medway megaliths: a single chamber and entrance structure. This can be compared to the features seen at Willerby Wold (Manby 1963, 173), Fussell's Lodge (Ashbee 1966, 1), or Wayland's Smithy I (Atkinson 1965, 126).

The design of the Chestnuts megalith with a crescentic facade, forecourt, and chamber can be seen as a stone version of the Yorkshire barrows, for example East Heselton where a similar facade was found (Vatcher 1965, 50). This association with the Yorkshire group is further emphasized by the pottery and cremated bones from the forecourt. The size of Chestnuts chamber (3 m) is well within the size range of the mortuary structures found under earthen mounds.

J H Evans (1950, 63) considered the Coldrum monument to consist of a small stone chamber and stone revetment. However, if the revetment is seen as forming the mortuary structure and the chamber the entrance structure, further comparisons of design can be made. The entrance structures of the eastern long barrows are frequently blocked by postholes, for example at Wayland's Smithy and Fussell's Lodge. If the chamber at Coldrum is regarded as the

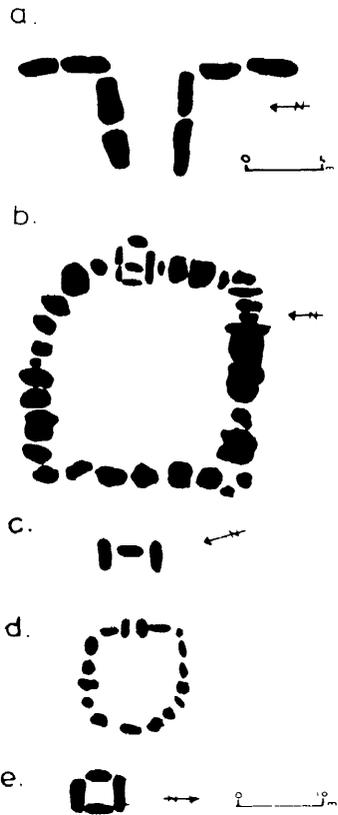


Fig 10 Kent megaliths: a *The Chestnuts; Coldrum*; c *Kits Coty d Lower Kits Coty*; e *Addington Long Barrow*

entrance structure the medial stones then produce a similar design. This is seen at Kits Coty, and Lower Kits Coty would also appear to be of this type (Evans 1950).

From this brief examination of the evidence it would seem that the Medway megaliths, with their simple design, have close affinities with the wooden structures of earthen barrows. Regarded in this light, Julliberrie's Grave and the Stour group need not be seen as isolated from the main barrow distribution, but form part of a larger Kentish group. Why build in stone? Perhaps to make a more permanent expression of a form and function originally designed in wood, or more simply to use the most convenient building material. It would be interesting now to return to the Medway sites and strip areas around the existing stone to pick up any surviving features, to obtain both dates and a series of artefacts for comparison with other barrows, particularly those from Yorkshire.

Summary

This review of the archaeology of the Neolithic of Kent has highlighted two things: firstly the lack of recent, detailed work, and secondly the potential of Kentish material for providing insight into the development of Neolithic traditions. The strong association with the traditions of the eastern region of Britain is an interesting feature, as is the similarity with Sussex in the Later Neolithic, where an absence of Grooved ware sites is conspicuous.

The increasing rate with which sites are being lost makes prehistoric research a priority for Kent archaeology. This

paper concludes with some suggestions for work on Neolithic material:

- 1 Systematic collection and recording of artefact scatters, particularly on the Downs.
- 2 Excavation around Medway megaliths to obtain any evidence for structures, settlement, and dating.
- 3 Reinvestigation of Julliberrie's Grave to obtain material for dating and for a reexamination of the buried soil. Excavation at Boughton Aluph and Elmstead.
- 4 Reinvestigation of Caesar's Camp, Folkestone.
- 5 Excavation of deposits in dry valleys and river valleys to obtain evidence for clearance and land use.

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If the prehistory of Kent has been neglected in favour of the later periods of its archaeology, the Bronze Age has perhaps suffered worst. Lacking any match for the spectacular Palaeolithic material from the Thames and its estuaries, or the Neolithic megaliths of the Medway valley, or the few but impressive earthworks of the Iron Age, the Bronze Age has not proved a focus for particular attention. There are in fact no major field monuments, no important ceremonial centres, little pottery, and few settlements. The only class of artefact that is at all common is the metalwork, and of that remarkably little has been properly published; only three out of twenty-four Late Bronze Age hoards have been published in an adequate manner by modern standards.

Remarkably little interest has been displayed in the Bronze Age of Kent in recent years. Since the last summary of the evidence 50 years ago (Jessup 1930, 88-128), there have been very few published contributions to the period. To be sure, various categories of material have been treated as part of a much wider study, such as the Beaker pottery (Clarke 1970), the Early Bronze Age daggers (Gerloff 1975), and the Middle Bronze Age metalwork (Rowlands 1976), while further studies of Middle Bronze Age pottery and settlements and Late Bronze Age hoards still await publication. But there have been few attempts to pursue research into the Bronze Age of Kent for its own sake, despite the fact that it is precisely that period, and especially its middle and later phases, that has seen the greatest concentration of archaeological work in the last few years in England, and in consequence the greatest change in our knowledge (Barrett & Bradley 1980). There are, nevertheless, some signs of renewed interest and some important new discoveries, but much remains to be done, both in the reassessment of old material and the formulation of new research.

Kent stands apart from the other chalkland counties of England, especially Wiltshire, Dorset, and East Yorkshire, in not having a large body of Bronze Age antiquities revealed by the mania of barrow digging in the 18th and 19th centuries; elsewhere, this formed a nucleus from which research later developed, but not in Kent. It was not that Kent lacked antiquaries or barrows. Douglas Faussett, Beale Post, Brent, Godfrey Faussett and others were all active antiquaries, as eager as any others to open barrows. Yet the vast majority of the barrows opened were of Anglo-Saxon date, and examination of the accounts of these antiquarian operations shows that there are very few cases where it is even possible that Bronze Age barrows were not recognized as such. This suggests either that the Bronze Age barrows were not there in any substantial numbers to be excavated, or that they were there and were missed. Some were excavated, it is true, and will be discussed below, and it is possible that others still remain to be found, especially in the now wooded regions of the Downs, but the former explanation seems more likely. If we discount the possibility that, for some unknown reason, Kent showed a unique regional feature in the earlier Bronze Age in not raising barrows to any extent over the dead, it follows that the barrows have been largely destroyed. To understand the Bronze Age of Kent properly, it is essential to appreciate how the evidence for the period has been preserved and recovered, and if the most substantial field monuments have not survived, how much else has been destroyed or lost.

Environmental changes since the Bronze Age

Kent has undergone more severe physical changes since the Bronze Age than most other areas of England. Since these have recently been discussed in some detail elsewhere (Champion 1980), only a short summary need be given here.

The most obvious changes have been to the coastline. To start in the south of the county, the true state of Romney Marsh in the Bronze Age still needs exploration. It may now be impossible to recover the exact line of the coast at that time, but the nature of the marsh and its vegetation could be determined. The present evidence suggests that peat formation in a marshy woodland had begun already by the middle of the second millennium BC and continued till late in the first millennium BC to be followed by a salt marsh; radiocarbon dates of 3340 ± 92 bp (NPL-24) and 3020 ± 94 bp (NPL-23) have been obtained from tree-stumps in the peat. The environment and resources available were therefore very different from those of the Roman, medieval, or modern Marsh.

Further north, most of the east coast has been severely eroded, but the extent to which the Bronze Age land has been lost is now impossible to estimate. Material derived from this area was transported northwards to form the Sandwich Bay spit, which together with the formation of the Stonar bank southwards from the Isle of Thanet led to the increasing deposition of alluvium brought down by the rivers of east Kent, especially the Great Stour and Little Stour, thus creating the marshlands of the Wantsum and Lydden Valley (Hawkes 1964; Hardman 1938; Robinson & Cloet 1953). The chronology of this alluvial growth is not yet clear, but it must have begun well back into the first millennium BC (Champion 1980), and it is quite possible that substantial tracts of the Bronze Age coastal zone of both the mainland and Thanet are now buried beneath the Wantsum and Lydden Valley marshes.

Erosion has again seriously affected Thanet, particularly at Cliffs End, Ramsgate and Minnis Bay, Birchington (So 1965); the loss in some places should probably be measured in hundreds of metres (Macpherson-Grant 1969). To the west, the low Eocene cliffs between Reculver and Whitstable have been severely attacked by the sea, and the coast may have retreated as much as two miles (So 1966; 1971). Certainly, Late Bronze Age axes have been found at distances of up to a mile off Whitstable (National Index of Bronze Implements, British Museum).

One area about which we still know very little is the North Kent marshes; despite the work of J H Evans (1953), there is little firm evidence for their nature before the Late Iron Age. For the Thames estuary west of the Medway, Devoy (1979) has shown that sea-level was rising almost continuously throughout the Bronze Age; his phases of marine transgression, Thames III and IV, are separated by a short period of regression, Tilbury IV, which may have varied in date from place to place, but probably occurred within the Middle or Late Bronze Age.

Post-Roman marine transgression has also been an important factor, since it has led to the deposition of deep alluvial layers in the lower valleys of some of the major rivers, especially the Darent and Stour. Pre-Roman land surfaces have thus been lost, and at Dartford, for example, Late Bronze Age bronzes have been recovered from considerable

depths below modern ground surface (National Index of Bronze Implements, British Museum).

These processes of erosion and deposition have either destroyed or made inaccessible large parts of the coastal regions of Bronze Age Kent, and, as will be shown below, it was the coastal regions that saw the heaviest concentration of Bronze Age occupation, especially in its later phase. Destruction has not, however, been limited to the coast and the lower river valleys, for, as has already been argued above, the barrows, and by implication other slighter earthworks, have been largely removed by agricultural activity. Inland? and especially on the chalk, there is at least a possibility of recovering much of this information, in particular by aerial survey, but on the coast the case is different: for the alluviated areas; recovery is impractical, for the eroded impossible.

Early Bronze Age

It must by now be apparent that the destruction of Bronze Age sites by man and nature has been immense. The barrows, which in other counties are numerous, in Kent are too few to have attracted serious survey and listing. Ashbee and Dunning (1960) have provided a preliminary list of barrows in East Kent, while there are numerous, but unspecific, references to barrows in other parts of the county (eg *VCH Kent* 1, 331; Spurrell 1889, 308). It would be of the greatest interest to remedy this lack of knowledge by survey on the ground and from the air, and by the examination of older accounts, both published and unpublished.

As it is, the total of barrow excavations with anything like a respectable account of the discoveries and accompanying plans and sections is precisely five, the most recent of which was in 1911. The excavations at Iffins Wood, Nackington (Akerman 1844), Free Down, Ringwould (Woodruff 1874; 1877), and Shorne (Payne 1900) were remarkable early examples of detailed description and recording in purposive barrow excavations. Elsewhere barrows have been recorded in rescue operations. Hurd excavated two in Broadstairs, both of which consisted of two concentric ditches and had been ploughed totally flat. One, which he mistook for part of an Iron Age occupation site, was at King Edward Avenue (1909, 434; 1913a; 1914, 312), the other at Valetta House (1913b; Parsons 1913, fig 1) which more recent excavation has shown to be one of a group of three. More recently a pipe-line bisected a barrow with a Beaker burial of some sort at its centre near Preston (Ogilvie 1977, 123), and two barrows were found during the excavation of the Anglo-Saxon cemetery at St Peters. There has also now been a revival of interest in barrows for their own sake, and work has begun on a complex of crop-marked sites at the Lord of the Manor, Ramsgate, where a large triple-ditched barrow was dug (*Archaeol Cantiana*, 92 (1976), 204-5).

The well documented examples are few, but there are some features that appear repeatedly. Barrows with double or triple ditches seem common in Thanet, secondary burials, predominantly crouched inhumations, occur regularly in or on the edge of the ditches, and piles of flint were sometimes heaped up over the bodies. Crouched inhumations and cremation under an inverted urn are both found regularly.

There are also a number of burials not found in barrows, either surviving or ploughed out. In many cases, it is possible that traces of a barrow were overlooked or had simply been destroyed. Of particular interest is a line of three crouched inhumations in cists of tufa slabs, found in a sand-pit at Aylesford in 1886-9 (A J Evans 1890, 325-7);

though they were totally without grave goods, and cist-burial is without obvious parallels in the region, attribution to the earlier Bronze Age seems reasonable on the grounds of the rite of crouched inhumation. There are also other burials where the original circumstances are totally unknown; these include both cremations, as at Orford (Pyke & Ward 1975) or Ashford (Cook 1935, 239), and inhumations as at Aylesford (James 1899, 376; Gerloff 1975, nos 86 and 103) or Sittingbourne (Payne 1883; Gerloff 1975, no 13).

The actual contents of the burials are remarkably varied. Beaker assemblages are surprisingly rare in view of the number of beakers found; many of these were recovered whole and almost certainly came from burials, but the circumstances of their excavation, especially in old sand and gravel quarrying, make certainty impossible. Crouched inhumations with beakers and 'wristguards' are now known from recent, as yet unpublished, excavations at Cliffe and St Peters. The Sittingbourne burial (Payne 1883) containing a crouched inhumation accompanied by a bronze dagger, a 'wristguard', and a bone pendant, would be a classic Beaker grave but unfortunately lacks a beaker. At least 36 substantially or totally complete beakers are now known from the country (Clarke 1970, 484-5; Tatton-Brown 1977; And unpublished examples from Cliffe and St PETERS).

They are drawn from a wide variety of Clarke's typological groups, but over half are of just three types, Eastern, East Anglian, and Barbed-wire. These are all types with a predominantly eastern distribution in England, while on the other hand types, relatively common further west in southern England, for example the Wessex/Middle Rhine type, are almost unknown. Kent's links in beakers are thus firmly to eastern England north of the Thames rather than to the west.

Apart from Sittingbourne, bronze daggers are known from several sites in Kent (Gerloff 1975, nos 5, 13, 17, 86, 103, 110, 206), though only the two from Aylesford were definitely associated with a burial; they were found together with a bronze flat axe accompanying one of two crouched inhumations (James 1899, 376). The daggers are, with the exception of those from Ashford and Cuxton, not closely akin to the well known Wessex series, and have better parallels with weapons elsewhere in eastern and northern England.

There are, however, some closer links with the Wessex burials, as Ashbee and Dunning (1960, 53-4) have pointed out. One of the Ringwould cremation urns contained four faience beads, and among the small accessory vessels now known from several sites are three of the slotted type called 'incense cups'; two of these, from Tilmanstone and Luddington Wood, are unfortunately lost, but their connections with the others of this type found in Wessex burials are clear.

A further link with Wessex can be found in the biconical urns known from Ringwould (Woodruff 1874, fig 1; 1877, fig 2; Smith 1961, fig 1, 3) and Capel-le-Ferne (Ashbee & Dunning 1960, fig 4). The drawings of the five urns from Iffins Wood, Nackington (Akerman 1844, 60) are too schematic to allow certainty, but some or all of them may be biconical; if not, they must belong within the range of local variants of Middle Bronze Age Deverel-Rimbury pottery.

Apart from the beakers, the most common class of pottery is the collared urn (Fig 11). They are known, for instance, from Westbere (Brent 1886, pl 14, 3), Ringwould (Woodruff 1874, fig 2; 1877, fig 1; Smith 1961, fig 1, 1) and Otford (Pyke & Ward 1975), and two were dug up by Beale Post in 1842 from a barrow at Whiteheath, Hollingbourne; his manuscript notes and drawings were published by

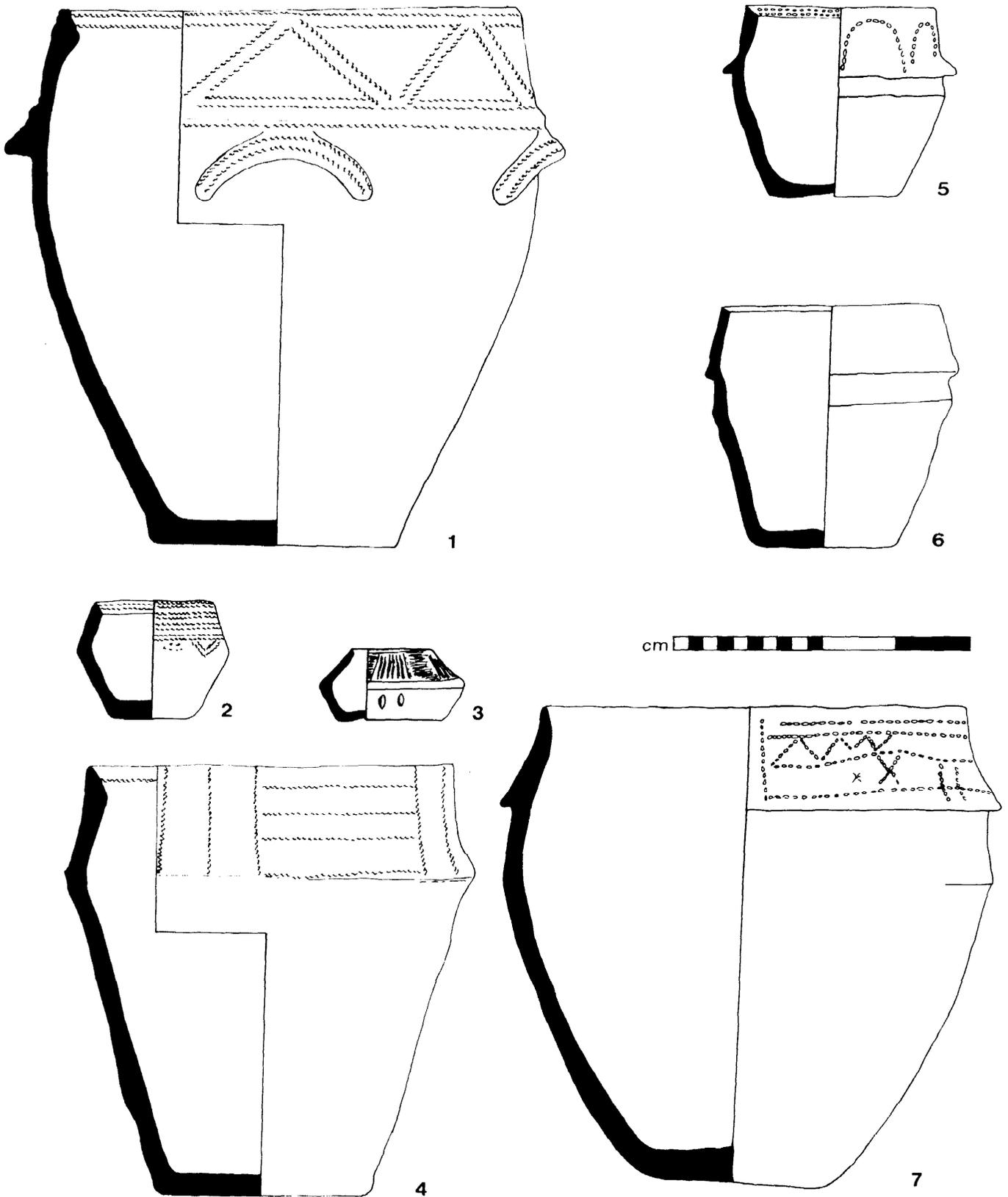


Fig 11 Early Bronze Age pottery in Kent: 1 biconical urn; 2 accessory vessel; 3 incense cup, Ringwould; 4 collared urn, Ringwould; 5-6 collared urns, Whueheath; 7 collared urn, Oxford

Grove (1952), and the pots themselves have recently come to light again (Kelly 1976, 232 and fig 2, 1-3).

Other classes of Early Bronze Age pottery are very rare. A possible Food Vessel has been reported from an inhumation grave at Deal (Stebbing 1951), while the pot found inverted over another inhumation at Potters Corner, Ashford (Cook 1935, 239) is an Enlarged Food Vessel Urn.

It is depressingly true that almost all the material of the Early Bronze Age comes from burials or from stray finds; some of these may have been burials, for example many of the beakers found intact, but there are others whose real context is unknown. The evidence for aspects of the period other than the funerary is therefore very slight. There is a small collection of metalwork; the daggers and related blades have already been mentioned. Apart from a number of stray finds of flat axes, such as the one from the Thames off Swanscombe, only one hoard is known, that from Buckland, Dover (Megaw & Hardy 1938, 283-4, 300, and fig 10), containing three flanged axes and a tanged spearhead.

Evidence for settlements or for the economy is almost non-existent. No settlement excavations are known, but the rectangular enclosure at Broomwood (Parsons 1961) with a flint industry possibly of Early Bronze Age date is of great interest. Much research is still needed, and in view of recent work which has shown how the edge of the Fenland was exploited in the Late Neolithic and Early Bronze Age (Pryor 1978), it would be worth concentrating attention not only on the more obvious areas of the greensand, chalk, and north coastal plain, but also on the fringe of Romney Marsh, which offered a very similar set of resources to those of the Fen-edge.

Nor is there much evidence for subsistence economy. Analysis of the molluscan remains in the hillwash deposits at Brook has shown clearance of primary woodland at 2590 ± 105 bc (BM-254), followed by partial regeneration of woodland, probably at some point in the Bronze Age (Kerney *et al* 1964; Barker *et al* 1971). Pollen analysis at Wingham revealed continuous mixed agricultural activity from at least the beginning of the peat deposition there estimated at c 1600 BC (Godwin 1962), while Devoy's work (1979) in the Thames estuary has suggested a continuous increase in man's effect on the environment from the neolithic onwards.

The distribution of finds of the Early Bronze Age is difficult to interpret, partly because of the effect, which cannot yet be properly appreciated, of regional variations in the destruction and recovery of the material and in the intensity of archaeological interest, but partly also because it is difficult to assess the degree to which the predominant types of find, burials and stray finds, reflect a true picture of Bronze Age activity. Nevertheless, on the evidence currently available, it seems that the extension of human activity visible in the late Neolithic was carried on, and finds are widely scattered in the river valleys, the chalk, the greensand, and the northern coastal zone. The signs of links to the rich Wessex burials, however, are confined to the chalklands of east Kent, a distribution which is in marked contrast to that of the other contemporary prestige items, the metalwork, which is limited to the valleys, especially the Medway, and the northern plain. If, as seems probable, these differences are not just a product of modern variations in archaeological recovery, but represent a true picture of Bronze Age depositions, our knowledge of the period is still too limited to be able to say whether they are merely the result of differential selection of goods for contemporary burial rites, or are an indication of the restricted circulation

of certain items within the region. Reconstruction of such important features of the Bronze Age social organization is unfortunately not yet possible with any degree of certainty.

Middle Bronze Age

Fortunately things are rather better in the succeeding period of the Middle Bronze Age, with a more plentiful supply of data including a few settlements as well as pottery, metalwork, and burials. There are nonetheless still some very large gaps, especially concerning the subsistence economy and the organization of the landscape.

Burials of the period are surprisingly rare but are mostly by cremation, for example at Kingsdown, Ringwould (Stebbing 1936; 1937), and Tankerton (Worsfold 1927, 230). A particularly interesting example was found at Godmersharn (*Archaeol Cantiana*, 81 (1966), liii), where a crouched inhumation of unknown date had been partly cut away by the construction of a small cist of chalk blocks containing an inverted bucket urn over a cremation. The only probable case of a burial of this period in a barrow is at King Edward Avenue, Broadstairs, where the primary deposit at the centre of a double-ring barrow was an inverted urn presumably over a cremation; the vessel seems unique, but is best assigned to this period (Hurd 1909, 434; 1913a; 1914, 312).

A very different rite is seen at Hollicondane, Ramsgate, where in 1891 what appears to have been an inhumation burial was found, together with a penannular ribbed bracelet and two, or possibly three, other decorated bronze bracelets (Rowlands 1971, 184; *Inventaria Archaeol G B* 48, 1-3). These are typical ornaments of the period, but are the only metal objects to be found in Kent with a Middle Bronze Age burial.

It is probable, however, that at least some of the vessels from the barrow at Iffins Wood, Nackington, mentioned above may also belong to the Middle Bronze Age. There are also a number of sites where it is not clear from the recorded evidence whether the pottery found was indeed from a burial. The urns found at Findsbury (Jessup 1930, 123) could be from cremations, or possibly from a settlement, while the urn from Charing (Cook 1935, 239) probably had no connection with the inhumation burial found 'a few feet away' at an earlier date.

The pottery of this period is the local variant of the Deverel-Rimbury tradition (Fig 12). Commonest are bucket urns with decoration limited to rows of finger-tip impressions either on the body of the vessel itself or on an applied cordon, and small accessory vessels frequently with lugs. The vessel from the barrow at King Edward Avenue, Broadstairs (Hurd 1913a) is different; the form is more globular and the decoration consists of two rows of impressions with a series of horizontal incised lines between. Somewhat similar decoration is found on the globular bowl from Birchington which originally contained a hoard of fourteen palstaves. Both of these could be local variants of the Deverel-Rimbury globular urns, though the Birchington vessel may also be a local copy of a Nordic metal bowl.

The metalwork of the Middle Bronze Age has been studied by Rowlands (1976), who has shown how the bronze industry developed in this period. The range of types and variants increased enormously, as did the sheer quantity of metal, the organization of the industry became much more complex, and a series of regional industrial traditions emerged. Kent belonged within a south coastal tradition which also embraced Sussex and Hampshire; it was an

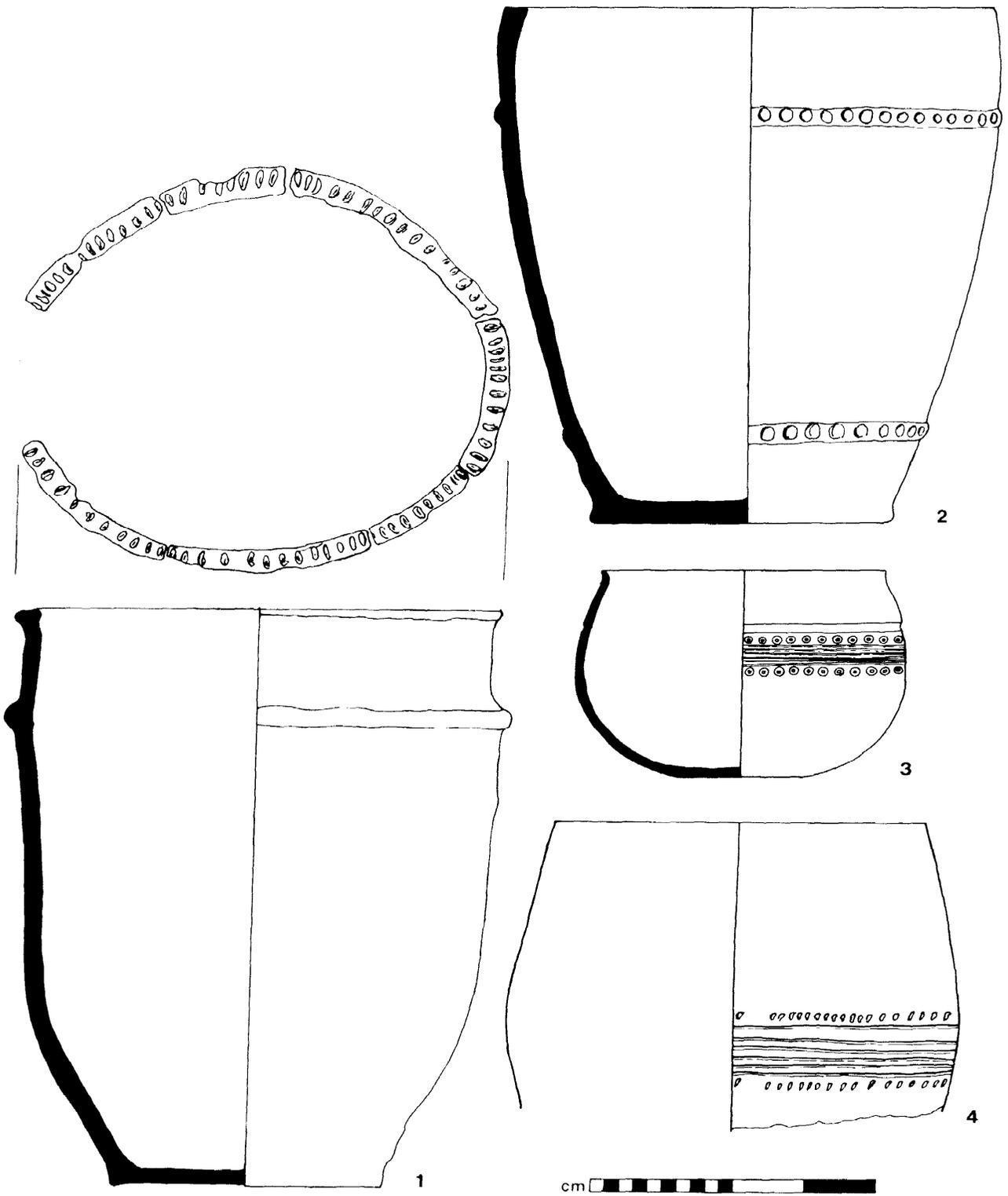


Fig 12 Middle Bronze Age pottery in Kent: 1 bucket urn, Ringwold; 2 bucket urn, Great Mongeham; 3 globular bowl, Birchington; 4 globular urn, Broadstairs

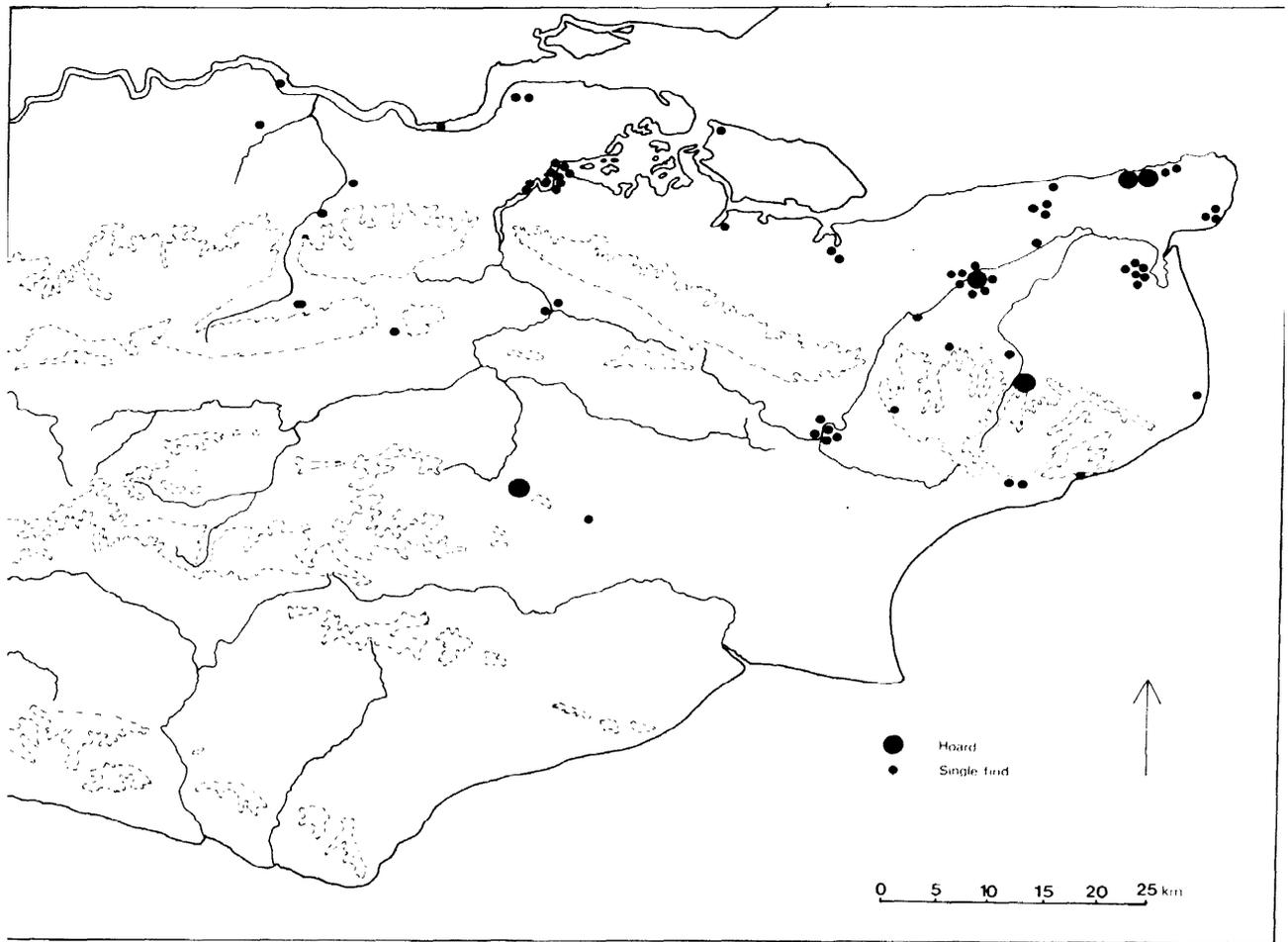


Fig 13 *Distribution of Middle Bronze Age bronzes in Kent*

industry with a characteristically high proportion of tin in its bronze, and dominated by the production of tools, with some ornaments but few weapons. Within this regional tradition there were certain local specializations, and Kent shows a concentration of particular types of palstave. There is also a very individual variation in the style of ornaments preferred; Kent adopted pins and bracelets, for example in the Hollicondane burial mentioned above or the finds of pins from Ramsgate and St Margaret's Bay (Hawkes 1942), in a style more closely akin to those of the continent than of the rest of southern England.

The growing complexity of industrial organization is seen in the patterns of production and distribution. Hoards of finished objects, such as the fourteen palstaves from Birchington (Powell-Cotton & Crawford 1924), become more common, and many may be stock ready for distribution. That this is not the only possible explanation for hoards of this period is suggested by the Goudhurst hoard; eight palstaves were found apparently neatly stacked in four piles of two, an arrangement more likely to have been a ritual deposit (*Archaeo J*, 12 (1855), 193).

Ellison (1980) has shown how the distributions of Middle Bronze Age tools, weapons, and ornaments vary across southern Britain. Ornaments in particular show a tendency to cluster around major social and economic centres, which

in areas further west are marked by large defended hill-top enclosures. This correlation is so clear, and the spacing of the centres sufficiently regular, that it can be suggested that a similar major focus awaits discovery in east Kent. Contemporary ornaments are concentrated on the east coast, especially near Ramsgate, but there is no obvious site yet known in the area.

For the first time, settlements are now known, though few and fragmentary. It has already been suggested that some of the occasional finds of pottery may be from settlements rather than burials, but there are certain sites at Ramsgate (Hawkes 1942, 26) and Hayes Common (Philp 1973, 30-51). The former was only a single pit, which contained a pot and three pins as well as domestic refuse of animal bones. At Hayes Common, the site consisted of short sections of ditch, pits, and postholes, producing artefacts such as flints, pottery, and cylindrical loom-weights.

The distribution of Middle Bronze Age finds poses some interesting problems. The burials, though admittedly few in number, show a greater tendency towards the river valleys and the coastal plain than in the previous period, and this is also true of the find spots of pottery, whether from burials, settlements, hoards, or stray finds. The distribution of metalwork, however (Fig 13), is very widespread; there are obviously many finds from the coastal strip, but others too

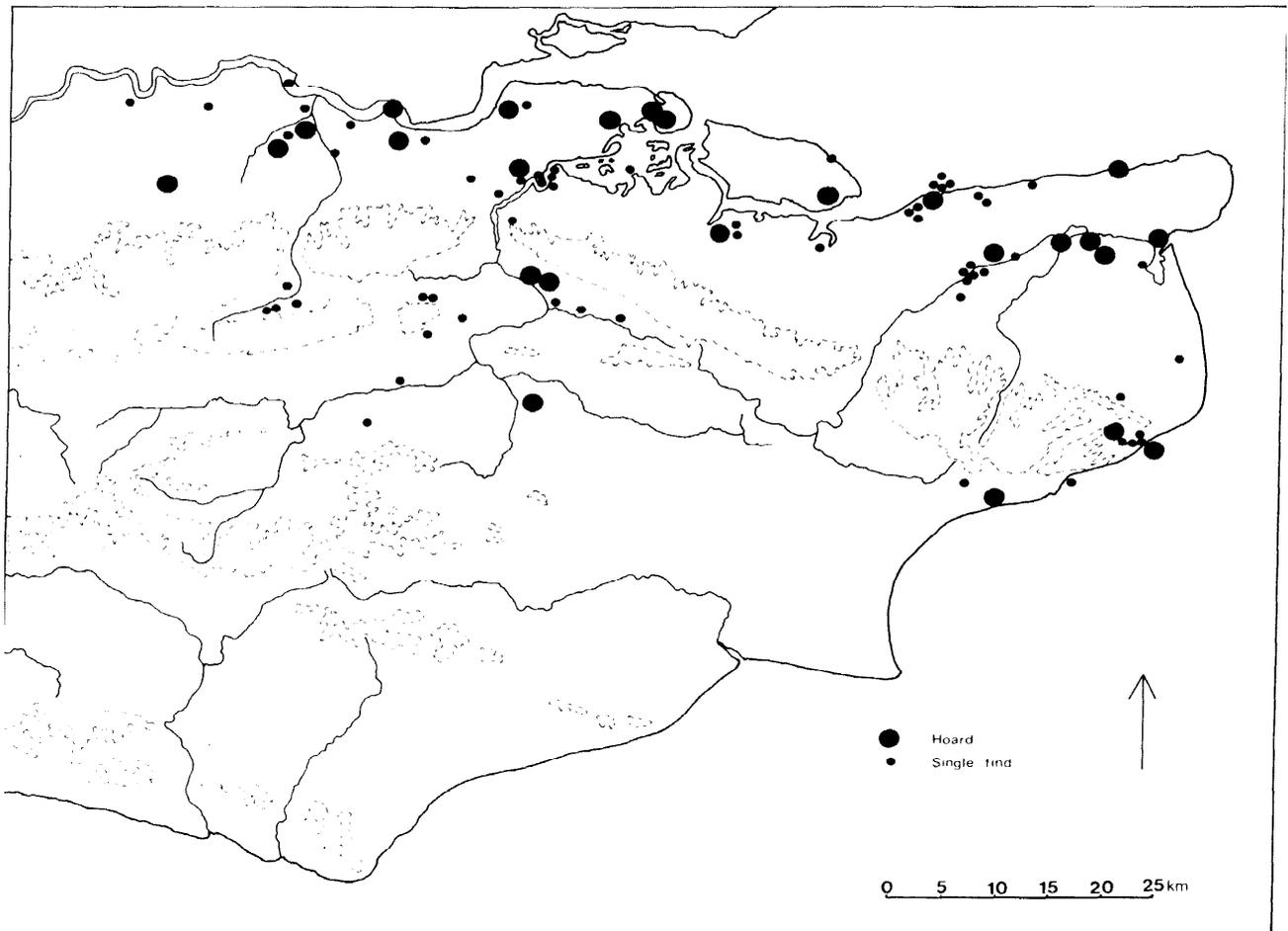


Fig 14 Distribution of Late Bronze Age bronzes in Kent

from the greensand vale and the high chalkland of east Kent and Thanet and from the depths of the Weald. Indeed the spread of man's activity seems to reach its widest extent at this period, with a very great range of soils being exploited. This is exemplified by the location of the two known settlement sites, for while Ramsgate is on the chalk, which had long been a favoured zone, Hayes Common is situated on the Blackheath Pebblebeds, a region of much less attractive acidic soils.

Late Bronze Age

By the opening of the first millennium, the whole fabric of Bronze Age economy and society was being transformed. The old funerary rites were abandoned and for the next millennium whatever mode of burial was used has left no archaeologically recoverable trace. The styles of pottery changed, and the bronze industry developed a still more complex organization. The old centres of wealth, such as Wessex, disappeared completely, and new concentrations emerged, particularly in eastern England and especially in the lower Thames valley. In Britain, and indeed throughout much of western Europe, it was one of the major turning points of prehistory.

North Kent figures prominently in this new centre of importance around the Thames estuary, seen most

markedly in concentrations of bronze metalwork (Fig 14). Not only do the majority of the hoards fall in this area, in a pattern reflected to the north in Essex, but the most complex and prestigious objects, especially the swords, are concentrated there. The Wilburton industry, characteristic of the 10th century in southern and eastern England, and showing the first production of swords and socketed axes in any quantity, is not well represented in Kent, though typical Wilburton objects are found in some hoards, such as the indented socketed axes in the Sturry hoard (Jessup 1943, 55, nos 13-15; 1944). The Broadward complex of hoards dominated by the spearheads, especially of the barbed form, was in some way derived from the Wilburton tradition; it has a particular concentration in the Thames valley, reaching Kent with the hoard dredged up off Broadness (Burgess *et al* 1972, 231, figs 10-14).

The majority of the hoards, however, belong to the succeeding phase of the Ewart Park industry, with a prolific production of weapons, axes, and other tools, and a complex system of collection and recycling of scrap metal. Many of the Kent hoards have an addition of Carp's Tongue complex bronzes, such as those from Minnis Bay (Worsfold 1943, 28 and pl XI), Minster (Payne 1893), Swalecliffe (Worsfold 1927, 230), Stourmouth (Coombs & Bradshaw 1979), and the Allhallows, Hoo, hoards (Wickham 1877). As Coombs has pointed out, these hoards

are concentrated in Thanet and the north coastal plain and in the Hoo peninsular to the west of the Medway. The final phase of the bronze industry, the Hallstatt C industry, is represented by the Bexley Heath hoard (*Inventaria Archaeol GB 53*) with its diagnostic Hallstatt C derived sword.

A further sign of wealth in Kent is the remarkable number of gold objects (Jessup 1930, 111-14). These are again concentrated in the north and in the valleys, especially the middle and lower Medway.

The pottery industry also underwent a transformation. After the disappearance of the Middle Bronze Age styles towards the end of the second millennium BC, there was a short period when the pottery repertoire consisted of little more than simple jars. This was followed from about the 9th century BC by a renewed potting tradition producing a range of bowl and jar forms in tie and coarse ware as well as cups (Barrett 1980). Much of this pottery was until recently thought to be of Iron Age date, and its reassessment is of great importance. One of the largest assemblages of this period, as yet largely unpublished, was found at Mill Hill, Deal (Stebbing 1934; Champion 1980, fig 6). In the 8th and 7th centuries BC the range was further increased and decoration became more common; the pottery from Minnis Bay (Worsfold 1943) should perhaps be assigned to this phase.

The evidence for the settlements, environment, and economy of the Late Bronze Age has been discussed elsewhere (Champion 1980), so may be described briefly here. A possible settlement is known from Richborough (Bushe Fox 1942, 8-11, 133, fig 2, pl XL, no 157), and more certain examples from Minnis Bay (Worsfold 1943) and Mill Hill, Deal (Stebbing 1934). Minnis Bay has long been a difficult site to interpret, but the key to its understanding lies in the reconstruction of the Bronze Age environment. This site was not, as the excavator thought, on the foreshore, but erosion has in fact been so severe that it has removed all but the very bottoms of the features of a dry-land site, as is confirmed by the plant remains found in the pits. It is unfortunately impossible to relate the Carp's Tongue hoard stratigraphically to the other features, but there seems little doubt that the whole site, except the later wooden structures erected on the eroded foreshore, should date to the final stages of the Bronze Age.

The site at Mill Hill, Deal, was excavated in advance of housing development. It was a circular ditched enclosure of 50 m diameter with a single gated entrance, but few traces of internal structures were recovered. As well as the large group of pottery, Stebbing also found a range of artefacts including a small bronze ring and pin, a shale bracelet, and a mould for casting rings (Champion 1980, figs 4-6).

An important recent discovery is the site at Highstead, Chislet, where an enclosure strongly defended by a ditch and a timber-faced bank has been partially excavated (Tatton-Brown 1976, 236-8). It produced a very similar range of pottery and other artefacts, including moulds from a bronze-working area immediately outside the gate.

These four sites are all different and show something of the complexity of the social system which must have existed. The massive defences of Highstead betoken a considerable degree of organized labour, while the circular enclosure of Mill Hill, the ditched enclosures of Richborough, and the apparently small open site of Minnis Bay suggest considerable social and functional variation in settlement.

The distribution of Late Bronze Age metalwork (Fig 14) perhaps gives some indication of the extent of human activity. This is clearly concentrated in the river valleys and

on the northern coastal plain, while certain areas with finds of Middle Bronze Age date are now blank. The greensand vale for instance, from the Medway valley almost to the coast, is now empty, and there are no finds from the chalk uplands of east Kent or Thanet. The bronzes, however, may not reflect the true picture, for at the same time as they are being concentrated towards the Thames, there are signs of massive clearance and agriculture on the chalk. Pollen analyses from Wingham and Frogholt show this renewal of agricultural activity, dated at the latter site to 690 ± 110 bc (Q-349) (Godwin 1962), while a similar pattern is seen in the molluscan evidence at Brook (Kerney *et al* 1964).

Clearly, bronze was circulating more plentifully in the valleys where the wealth was now confined. This concentration of material and of technological skill was based upon the increased exploitation of the agricultural resources of the hinterland. As yet we know little about the agricultural economy of Kent in the first millennium, and there are no parallels to the evidence of land division and intensification by the introduction of new crops and new techniques that have been documented in other parts of southern England.

The evidence for the Bronze Age is not perhaps so limited as might appear at first glance, but there are certain enormous deficiencies. Much of what has been recovered is as yet unassessed and unpublished, if not actually lost, and much could be done simply on already existing material. Thereafter, the greatest need is to document the Bronze Age landscape, to identify the patterns of settlement, land use, and agriculture, and to explore their changes in time. Further excavations of the barrows will certainly be of interest, but other more pressing questions will be more easily answered by carefully designed surveys.

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Iron Age studies in Kent and the immediately adjacent territories have, until comparatively recently, remained in something of a doldrum, especially when compared with advances made elsewhere in Britain. In the late 1930s, however, in the decade when hillforts were being intensively excavated, Kent featured prominently with the excavation of Bigbury in 1933 and 1934, and Oldbury in 1938.¹ After the war work on hillforts continued, under the leadership of Mrs Piercy Fox, at Caesars Camp, Keston in 1956-9, Squerries, Westerham in 1961, and Quarry Wood Camp, Loose 1963-7 (Piercy Fox 1969; 1970; Kelly 1971) while James Money, at High Rocks (Sussex) 1957-61, Castle Hill, Tonbridge 1965 and 1969-71, and more recently at Garden Hill (Sussex), has developed a similar programme of exploration among the forts in the Weald.² If one adds to this the campaign of sampling initiated by Hugh Thompson on the Surrey forts and more recently at Bigbury³ then it can fairly be said that at least hillforts have received systematic attention, albeit on a very limited scale. But apart from this one comparatively bright spot the rest of the picture is, to say the least, murky: except for Aylesford and Swarling our knowledge of cemeteries is extremely limited⁴ while settlement archaeology is totally without an organized body of acceptable data—a situation fortunately being dramatically improved by the work of the Canterbury Archaeological Trust at Highstead (Tatton-Brown 1976) and in Canterbury itself.

Reviewing the archaeological record of Iron Age Kent in relation to that of other parts of the country, it is fair to say that the data base is surprisingly limited (Fig 15). These

limitations necessarily constrain our approach to the subject. There are, however, sufficient hints in the surviving archaeological record to show that Kent is an unusually interesting region with a very considerable potential. The remarks offered below are designed simply to explore that potential and are in no way intended as a full discussion of all the surviving fragments: such an effort would be premature and, at present, unrewarding.

One generalization needs to be made at the outset—cultural as well as in geographical terms Kent belongs to eastern Britain and not to the south. It is essentially part of the larger region, focused on the Thames and the rivers of East Anglia which flow into the North Sea, the natural boundaries of which are the high Weald on the south and the Chiltern ridge on the north and west. This simple geographical truth has influenced the cultural and economic development of the area throughout the prehistoric period and, one suspects, into Roman and Saxon times, though in these later periods regionalization is rendered less evident by a veneer of more unifying cultural factors. The point needs to be made in this context because in Iron Age studies there has been the tendency to try to interpret the developments in Kent in terms of central southern Britain and its South Downs appendage. While this may be understandable in view of the intensity of research in the south, and until very recently the paucity of results from the east, such a bias has distorted the real picture. If Kent and Surrey are considered in their rightful geographical context as part of eastern Britain the differences between the cultural development of this region and that of Sussex and

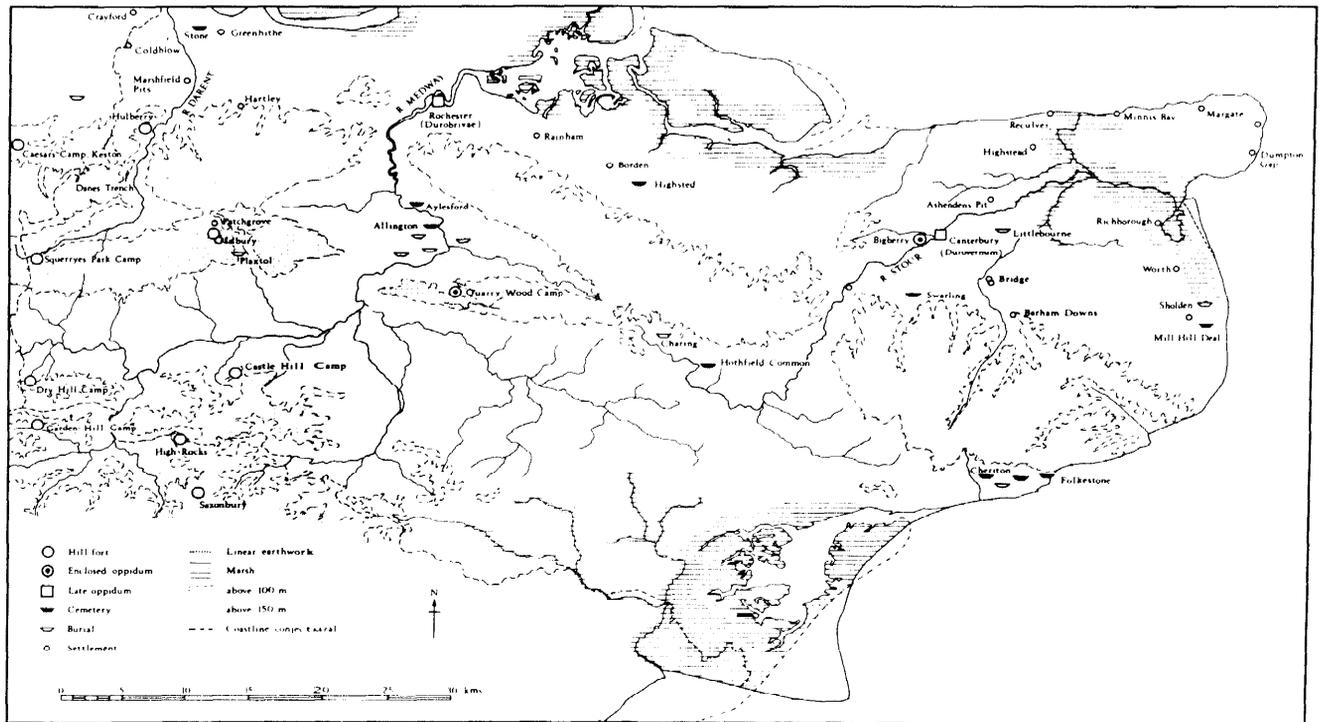


Fig 15 The major Iron Age sites discussed in the text

Hampshire become more significant and revealing than the hitherto overemphasized similarities.

The formative phase c 1000-500 BC

Many aspects of this period, in particular the development of the bronze industry, have already been considered by Dr Champion above. Here it is necessary simply to include a few remarks about the ceramic and settlement evidence.

Sufficient material is at last coming to light to show that distinct similarities exist between the early first millennium pottery of Kent and that of the adjacent continent. Continental Urnfield types of Late Hallstatt A and Hallstatt B date, extensively distributed in the Low Countries and northern France, can be found reflected in several assemblages in east Kent in particular at Highstead and along the Bridge bypass (both recent and unpublished excavations), and in the older collections from Mill Hill, Deal, preserved in the British Museum. Together these sites provide a range of vessel types, closely comparable to continental Urnfield material, including such forms as hemispherical cups, wide plates or lids (*assiettes tronconiques*), small bowls with short everted rims, and the larger biconical jars with everted rim-11 types alien to indigenous ceramic traditions. Continental style decoration is also present in the form of excision (*Kerbschnitt*), incised patterns, and haematite coating. Further discussion must await detailed publication" but we may reasonably say that there is now a sufficient body of material to demonstrate close connection between east Kent and the adjacent continent in the period c 1000-800 BC. One would expect similar ceramic material to occur in Essex and Suffolk but precise published parallels are at present lacking. Further afield at, for example, Kingston Buci and Park Brow (Sussex) and Sandown Park, Runnymede Bridge, and Carshalton (Surrey) the more distant reflections of the new ceramic styles can be recognized.

Of the settlement type belonging to this early period we are at present largely ignorant but two of the sites producing early pottery, St Mary's Hospital, Carshalton (Lowther 1946) and Mill Hill, Deal (Stebbing 1936) are represented by large ditched enclosures of regular circular plan. Similar enclosures, of equally early date, have been excavated recently at Mucking, Essex (Jones 1968) and Thwing, Yorkshire (Manby 1979). The east coast distribution of what would appear to be a new settlement form at this time is of potential interest particularly in the light of sites of similar plan which are fast becoming known from north-eastern France (eg Agache 1978).

The important collection of material from Minnis Bay (Worsfold 1943) would appear to be typologically later than the distinctive Urnfield assemblages mentioned above. If we can accept the bronze hoard found on the site as a contemporary deposit then a date in the 8th century BC is implied. The pottery forms, in particular the sharply moulded bipartite bowls, belong to a widespread ceramic tradition, which might reasonably be dated from the 8th to the 6th centuries BC, and which has a predominantly coastal distribution stretching from Yorkshire to Dorset (Hodson 1960; Cunliffe 1966, 118-19; 1978a, 35-8). It is tempting to suggest that the coastal shipping may have played some part in linking these maritime communities and that it is this contact that we see dimly reflected in the ceramic continuum.

From the brief observations offered here it is clear that the presently available data provided by finds of bronze implements, pottery, and settlement type are too disparate and imprecise to allow elaborate models to be constructed.

Nonetheless it is now evident that the contacts between eastern Britain and the continent were of a more complex nature than had previously been realized. The position of east Kent, in the systems which linked Britain with the continent and maintained a connection between the coastal communities, can now be seen to have been of some significance. A full study of the newly discovered material and a proper consideration of the old and largely unpublished finds will undoubtedly give a far greater precision to our picture of this formative period.

Indigenous developments 600-100 BC

The ceramic tradition

In the present context an understanding of the ceramic development of Kent is of relevance in two ways; it provides a much needed (but still ill refined) relative chronology against which to compare settlement development and it throws some light on the outside influences to which the region was subjected.

In broad terms the pottery of this period can be divided into three general styles. The earliest style is typified by shouldered jars often with finger nail or finger tip decoration on the rim tops or shoulders, fine bowls with well defined shoulders and flaring rims, and plain bucket shaped pots. All three basic types derive from indigenous traditions which developed in the region in the first half of the first millennium and are best, therefore, considered as a local continuum providing a background to the appearance of more distinctive innovations. Dating is notoriously difficult but on present evidence these types would appear to have been in use from before 600 BC and may well have continued even as late as the 3rd century BC. Assemblages of this kind have already been published from Canterbury (Jenkins 1962, fig 1), Richborough (Cunliffe 1968, pl LXIX), and Hulbury (Ward Perkins 1944, fig 18), and scattered material is quite widely known in the area, for example in pre-defence contexts at Bigbury and at Worth. Problems of regional variation and internal stylistic change can only be approached when more well stratified groups become available for study, but it is conventional to regard finger tipped decoration as a technique coming early in the sequence. If so it would imply that Richborough and Hulbury predated Canterbury.

A significant change initiates the next phase. It is marked by the appearance of large onion-shaped urns with pedestal bases and out-curving rims (Fig 16). The surfaces of these vessels are usually sealed by burnishing and rarely the shoulders were decorated with painted geometric designs (eg at Site 1 on the Bridge bypass). The best known assemblage of this kind is from Eastbourne (Sussex) where the vessels were evidently wasters thus demonstrating local production (Budgen 1922). In a detailed consideration of the Eastbourne assemblage Hodson has suggested that the type was a local development inspired by contemporary continental forms and likely to date to the 5th century BC (Hodson 1962). The newly discovered site on the Bridge bypass shows that painted vessels of high quality can be expected from sites in Kent and it would not be surprising if they were to appear in Essex as well.

Once established, the type and its derivatives became widespread in the south-east. Ward Perkins noted its distribution in Kent, Sussex, and Surrey, where he called the range of derivative forms 'foot-ring bowls' (Ward Perkins 1944, fig 6). While the historical interpretations placed on these vessels in the 1930s are now redundant the distributional truth remains with the proviso that recent work has

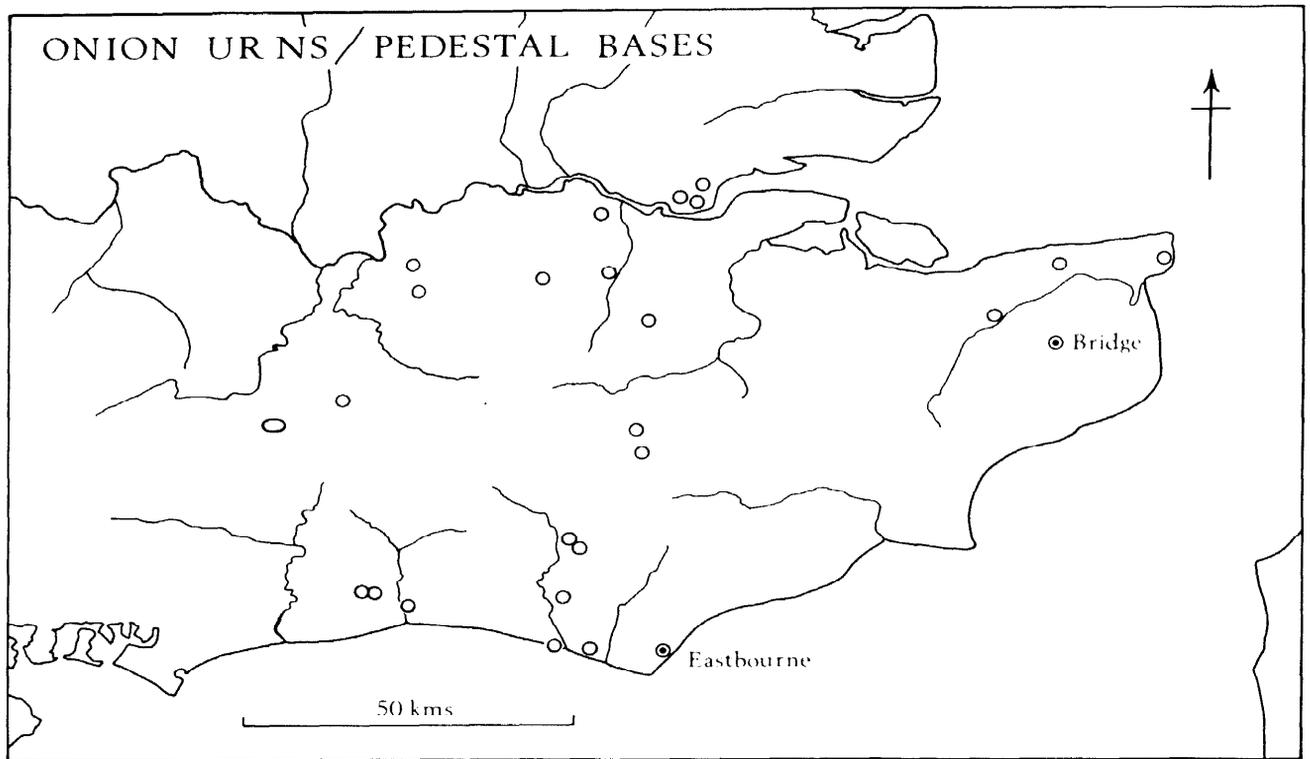


Fig 16 Distribution of onion shaped urns with pedestal bases. Vessels with painted decoration have been found at Eastbourne and Bridge.

shown that vessels of this kind are also widespread in Essex (Drury 1978, 128-9). Drury has further been able to suggest, by reference to fabric analysis, that pots made on the north shore of the Thames were exported to Kent appearing at Oldbury, Holmwood, and Birchington (*ibid.*, fig 71)—an observation which once more reinforces the fact that the lower Thames basin formed a cultural entity.

The impetus given to ceramic development by the appearance of pedestal based onion urns sometime in the 5th century can account for subsequent developments lasting into the 2nd century BC. The distribution of pottery of this kind is in marked contrast to the saucepan-pot continuum of central southern Britain (Cunliffe 1978a, fig 3.6): only in east Sussex is there a significant overlap between the two traditions.

Sometime in the 2nd century BC curvilinear decoration begins to appear around the shoulders of the large ever-ted rimmed jars. Precisely when the fashion arose and the nature of the impetus which caused it remain at present unclear, but a date in the latter part of the 2nd century BC is preferred here though a slightly later date is equally possible. There is nothing to suggest a cause other than local inventiveness. The appearance of the decoration marks a distinctive horizon which elsewhere has been referred to as the 'Mucking-Crayford' style (Cunliffe 1978a, 52 and fig A 24) to distinguish it from the decorative styles which developed in parallel in east Sussex. Once more the distribution map (Fig 17) emphasizes the close cultural similarity of the communities on either side of the Thames estuary and their rather more distant links with those across the Weald in east Sussex. The apparent absence of decorated pottery in east Kent may be little more than an accident of survival.⁷

In summary, then, we can suggest that the basic indigenous ceramic tradition of the early first millennium BC developed partly as the result of late Urnfield stimulus from the continent which lasted without significant change until the 5th century when further influences from the continent led to the development of pedestal-based onion shaped urns. Little further change can be detected until curvilinear decoration came into vogue in the 2nd century. The introduction of wheel-made forms probably sometime in the early 1st century marked a significant break, the implications of which will be further considered below.

Hillforts and settlements

Very little is yet known of the open settlements of the period 600-100 BC since, with the exception of the large scale excavation at Highstead, few systematic investigations have been carried out on a reasonable scale or according to modern standards. Sporadic finds and limited rescue work, however, suggest that Kent, like much of the rest of southern Britain, was densely settled and is unlikely to have differed significantly from the better known parts of Wessex.⁸

We are more fully informed on the matter of hillforts as the result of a number of sample excavations undertaken in the last 50 years or so. Briefly reviewing the evidence several points of some interest emerge, perhaps the most significant being that there is little good evidence for hillfort building in Kent and Surrey before the middle of the 4th century BC. If one excludes from discussion the Urnfield ringworks of Mill Plain and Carshalton the only certain early defensive site is Caesars Camp, Wimbledon (Lowther 1947) where pottery postdating the erection of the rampart

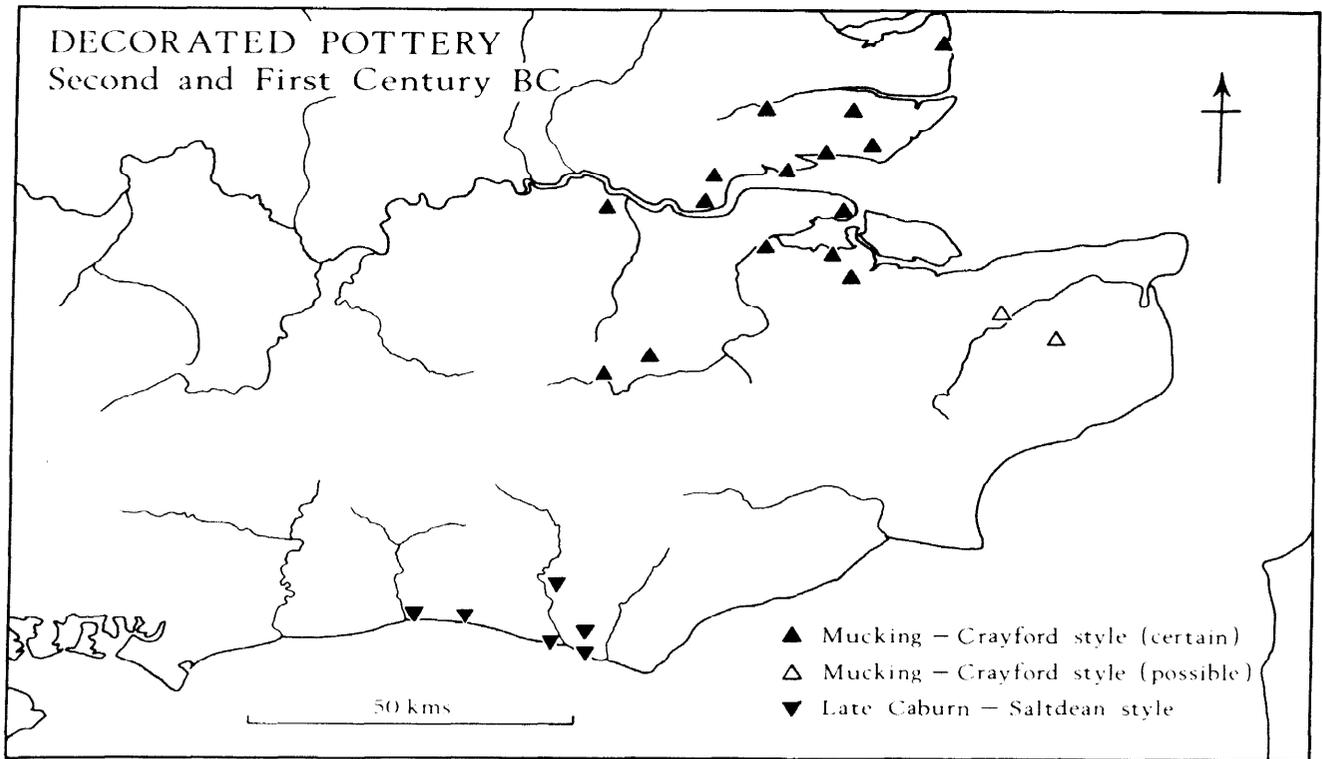


Fig 17 Distribution of selected types of decorated pottery

is comparable to types considered above to date to the 7th-5th centuries. Given the extensive sampling of Kent and Surrey sites the lack of evidence for early defence is significant.

The clearest evidence for late dating comes from the fort(s) on Castle Hill, Tonbridge where samples from old ground surfaces below the ramparts have produced radiocarbon dates of 228 ± 61 (BM-809) and 315 ± 50 (BM-810). Similar dates came from two recently excavated Surrey forts: Holmbury produced an assessment of 310 ± 100 (Birm-591) for a pit in the interior containing the earliest type of pottery discovered on the site, while at Hascombe a sample from below the bank was dated 290 ± 70 (HAR-1968) and one from the core of the entrance works to 170 ± 70 (HAR-1699).⁹ At Caesars Camp, Keston, curvilinear decorated pottery and related types were found under and within the primary rampart. Less distinctive but equally late pottery came from primary positions in relation to the defences at High Rocks and Oldbury while the construction of the ramparts at Bigbury is later than the appearance of wheel-turned wares. At Squerryes Camp, Westerham, dating is less secure but the earthworks, which appear to be of one phase, are characteristically late in form and have produced late pre-wheel-turned pot sherds from the primary fill of the ditch. Finally at Anstiebury (Surrey) the only pottery recovered from the recent excavation belongs to the 2nd or early 1st century BC.

Although individually one might question the significance of these observations, taken together they form an impressive body of data strongly suggesting that hillfort building in Kent and Surrey was confined to the period from the mid 4th century to the mid 1st century and indeed may possibly have taken place in a comparatively restricted period in the

3rd and 2nd centuries. While it is tempting to push the evidence further and to argue either in terms of gradual colonization, or conversely, of a single response to some historical stimulus, the data are too imprecise to support hypotheses of this kind.

The situation in Surrey and Kent appears to contrast to hillfort development in central southern Britain and Sussex where a number of excavations strongly suggest that many of the hillforts, strengthened and occupied in the 3rd and 2nd centuries, were already defended in the earlier period and may indeed have remained in use almost continuously. Thus in Wessex and Sussex it could be argued that the socio-economic system of which the hillfort was a physical manifestation had its roots in the first half of the first millennium BC and reached its peak in the 2nd century (Cunliffe 1976, 136-40) while in Surrey and west Kent the system developed later, not much before the late 4th century.

If an explanation is required the present writer would prefer to seek it in demographic change, seeing the hillfort as a response to a stress situation brought about by a complex of factors including increase in population and decline in soil fertility (Cunliffe 1978b). If so then the development of hillforts would reflect the gradual spread of stress conditions resulting from the population density reaching the holding capacity of the territory. That a number of the forts in our region occupy land not previously intensively farmed (Hascombe, Holmbury, Anstiebury, and Squerryes Park on the greensand bench, Castle Hill, Tonbridge, Garden Hill, High Rocks, and several others in the Weald) could be seen as an indication that land previously considered to be marginal was now being utilized. Clearly this is highly speculative but it does

have the advantage of providing a simple model which could be tested against a programme of environmental work. Already some of the ground work has been laid by Professor Dimbleby's analysis of the buried soils at Squerries Camp, Keston, and High Rocks.¹⁰

One further point, self-evident from the map (Fig 18), deserves emphasis—the absence of hillforts east of the Medway.¹¹ The implication of this pattern must surely be that the river marked the approximate position of a significant divide between two different socio-economic systems and that if the dating proposed above is correct then the distinction had begun to emerge by the 3rd century BC. A further point of some relevance in this context is the date of construction of Oldbury. In his consideration of the pottery associated with the building of the primary rampart, Ward Perkins drew attention to the fact that a significant percentage of the sherds were wheel-turned (Ward Perkins 1944, 143-4). While the chronological significance of this observation is still unclear a reasonable date bracket for the assemblage would be c150-50 BC with a preference for the 1st century BC. In other words, the fort at Oldbury is probably significantly later than the others. If so then the divide between the hillfort dominated territory of west Kent and hillfort-free east Kent could be moved west to the Darent valley. The significance of this suggestion will be further discussed below.

Socio-economic change in the early 1st century BC

The beginning of the 1st century BC saw the comparatively sudden development of long distance trade between southern Britain and the continent—a process which may

well have been given its initial impetus by the Roman take-over of southern France and the creation of Provence in 123 BC. Two separate axes of contact were established: a direct route along the Atlantic coasts of France to central southern Britain, probably using Hengistbury as a port of entry, and a shorter crossing between Belgica and the south-east of Britain focusing on the Thames estuary (Cunliffe 1978a, fig 16.3 and 338-9). It is the latter that concerns us here.

The archaeological evidence for contact is threefold: the rite of urned cremation became established over a wide area; ceramic technology was revolutionized by the introduction of the potter's wheel which encouraged a high degree of commercialization; and the concept of coinage, inspired by imported Gallo-Belgic types, was adopted, leading to the establishment of local mints. The data in total are impressive but their interpretation is fraught with difficulty not least because the situation is further complicated by the famous passage in Caesar's *Gallic Wars* which explicitly states that there was a movement of undefined intensity from Belgica to south-east Britain possibly at about this time. Views on the nature and significance of this folk movement have been frequently expressed (eg Hawkes & Dunning 1931; Hawkes 1968; Hachmann 1976; Rodwell 1976) and no doubt the debate will continue; but without a detailed and meticulous restudy of all the archaeological data, there is unlikely to be any significant advance in knowledge beyond the level of superficial historical speculations.

Whatever the nature and intensity of the 'Belgic' folk movement and the developing contacts between the two sides of the Channel, the effects on the social, political, and economic development of the south-east were far reaching. Until recently it has been difficult to discuss this period of

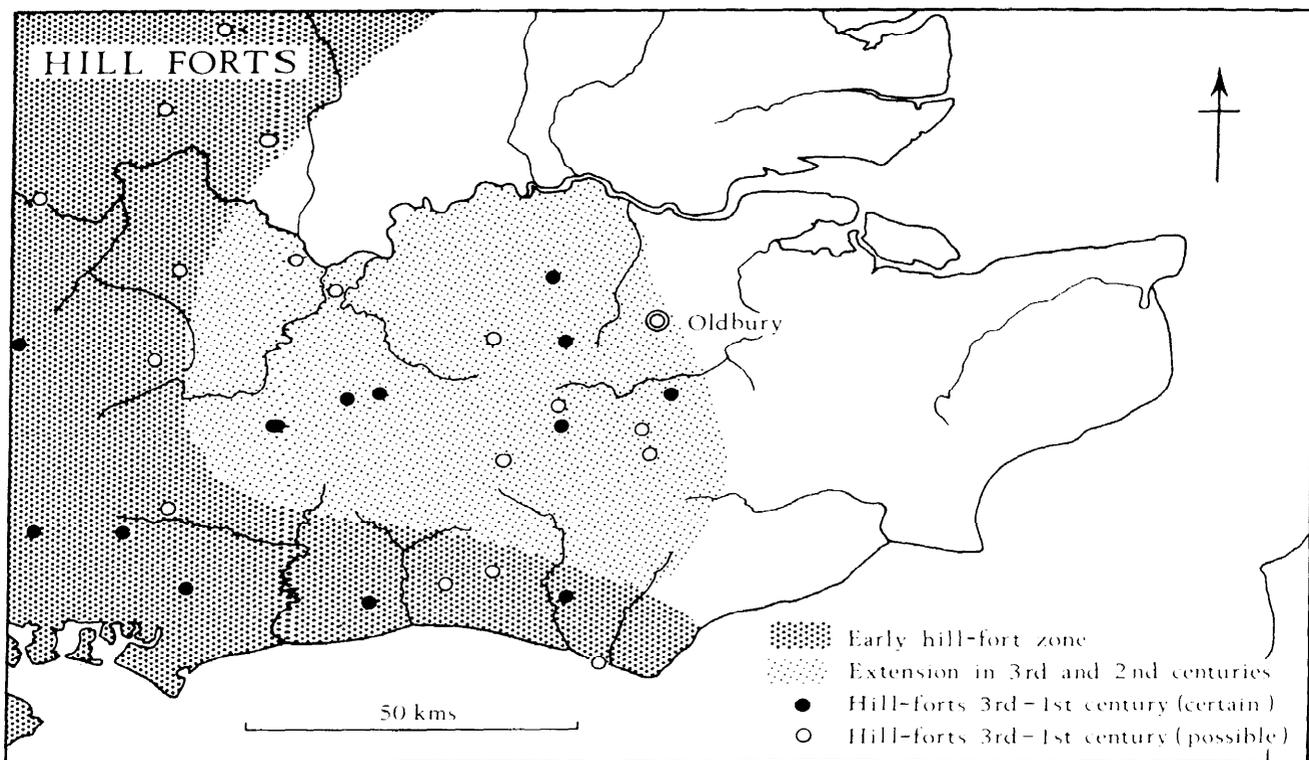


Fig 18 Map showing the suggested expansion of the hillfort dominated zone in the 3rd to 1st centuries

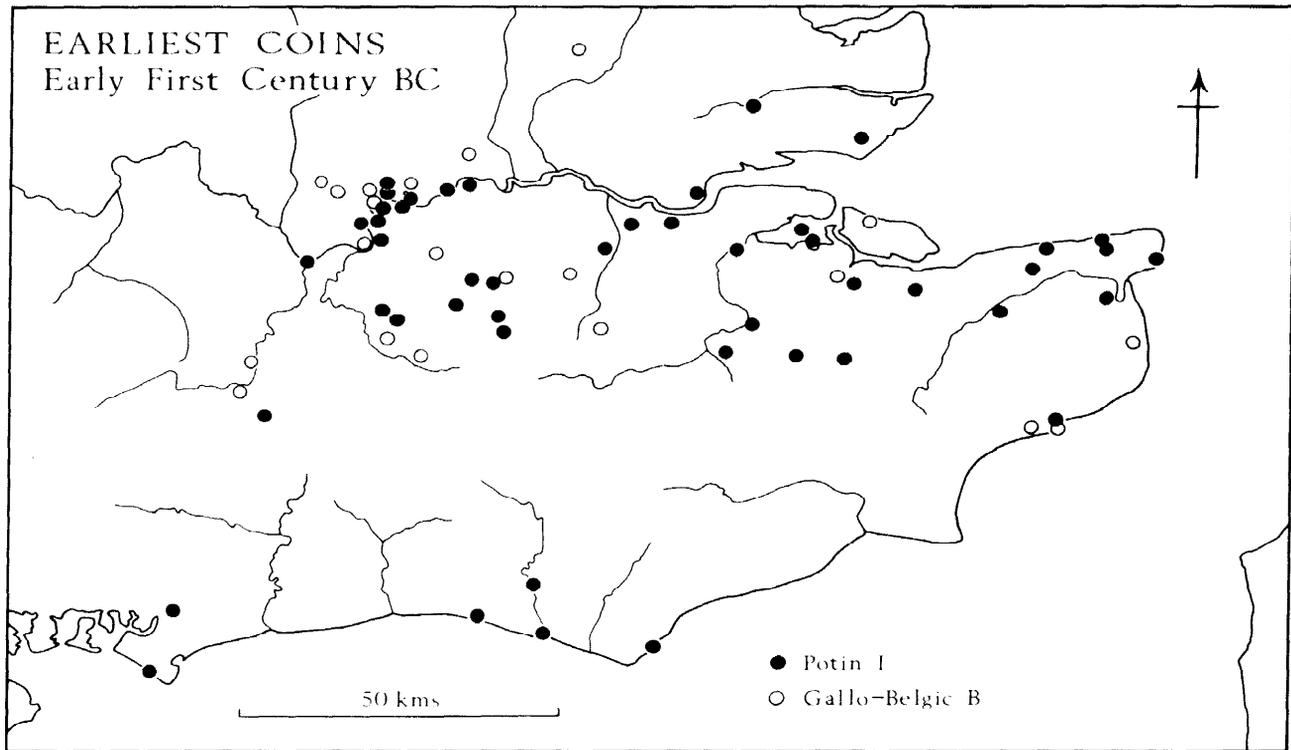


Fig 19 Distribution of the earliest coins, probably pre-Caesarian in date of manufacture

change largely because of the lack of sound dating evidence, but Stead's work on the phasing of grave goods (Stead 1976) and more recent studies on the dating of the early Gallo-Belgic coinage (Scheers 1972; Kent 1978) are at last shedding a glimmer of light on the vexed problems of chronology. Briefly stated the current view is that the earliest Gallo-Belgic coins to reach Britain were Allen's 'Gallo-Belgic B' issues. These are likely to have arrived in the pre-Caesarian period, to be followed at the time of Caesar's wars by Gallo-Belgic A, C, and E. If this is so then the distribution of Gallo-Belgic B is likely to reflect the area of the initial contact with Belgica. Given all the problems inherent in using coin distribution maps, the impression offered by this particular distribution is that the zone of contact was centred on the lower Thames valley with a dense clustering in the area now occupied by London (Fig 19).

Another, potentially pre-Caesarian, coin type of relevance to the present discussion is potin class I, a type classified and discussed in detail by Allen (1971). The dating and economic significance of these issues have been subject to a lively debate (Collis 1971, 76-9; Rodwell 1976, 203-8) but there is sufficient evidence from Hengistbury, Caburn, and Hascombe to demonstrate well stratified associations between class I potins and pottery likely to be of pre-Caesarian date. Thus some, at least, of the class I potins were probably in use alongside Gallo-Belgic B staters and, since they were minted locally in Britain, their presence must imply a degree of sophistication in the economic use of coins. Taking the distribution of Gallo-Belgic B and potin class I together (Fig 19) the impression given is that Kent was the centre of this early development which may well represent the first stages in the evolution of a market economy.

It is relevant at this point to consider whether any significant change can be recognized in the settlement pattern of the area in the early 1st century BC. That there was a major readjustment is clear, but the chronology, unfortunately, is not. Three sites are of relevance here: Bigbury, Quarry Wood Camp, and Oldbury. All three are large defended enclosures, dominating important river crossings, and all can be shown, on reasonable archaeological grounds, to have been constructed in the 1st century BC (Bigbury, Jessup & Cook 1936 and Thompson 1978 and 1979; Quarry Wood, Kelly 1971; Oldbury, Ward Perkins 1944). It is tempting to see these sites as the response to new economic pressures, caused by the development of long distance trade. In such a situation one would expect to find new settlements springing up at route nodes (such as river crossings) to control the movement of goods. Oppida of this kind would become the focus of the coercive power guaranteeing passage and taking tithes and they would inevitably begin to develop service functions such as the manufacturing and redistribution of goods. Quarry Wood and Bigbury meet the criteria of siting but only extensive excavation will show if they performed the other functions anticipated in the model.

Oldbury is somewhat anomalous: its vast size (50 ha) and isolated, strongly defended, position sets it aside from the others. One possibility is that it could have developed as a port-of-trade on the interface between the two different socio-economic zones of east Kent and west Kent (below, p 48). Alternatively it might have been the direct response of the local community to Caesar's campaigns in 55 and 54 BC. That two such diverse speculations are possible serves only to emphasize the weakness of the available data.

In summary, the model tentatively presented in this section

suggests that long distance trade with the continent developed sometime about 100 BC and that Kent played a significant role in it. The effects were twofold: the development of a local coinage, potin class I, to facilitate internal exchange (the Gallo-Belgic gold staters being used for higher level social transactions (Fig 20)) and the growth of oppida at route nodes, on the Stour (Bigbury) and the Medway (Quarry Wood). It is possible that west of the Darent the old hillfort-dominated systems continued for some time. If so Oldbury could have developed as a port-of-trade between the two regions.

From Caesar to Claudius

Caesar's invasions of 55 and 54 BC cannot have failed to have an effect on the communities of Kent. The history and geography of these campaigns have so often been considered that the matter need not concern us in any detail here. Suffice it to say that the identification of Bigbury as the fort which Caesar stormed in 54 is perfectly reasonable and the impression given by the war commentaries, that the tribes of Kent were hostile to Caesar throughout, even to the last when the four kings of Kent mustered their forces against the Roman army, is quite likely to be a fair reflection of the true situation. There was no need for Caesar to have distorted the picture.

The Roman conquest of Gaul and the treaty relations which Caesar established with the British tribes of the south-east created new economic constraints the effects of which should be discernible upon the archaeological record. Perhaps the most dramatic effect was the readjustment of the wine import trade. Peacock's detailed consideration of imported Italian wine amphorae (Peacock 1971) has shown beyond reasonable doubt that the bulk of the pre-

Caesarian trade (typified by Dressel type 1A amphorae) passed through Hengistbury into central southern Britain while most of the post-Caesarian trade was with the tribes of the Essex-Hertfordshire region. More recent work by Rodwell (1976, 301-3) confirms the density of the later Dressel 1B amphorae in this eastern region. Even allowing for the lack of precision in the dating of the two amphorae types, the inescapable conclusion must surely be that some time in the middle of the 1st century BC a major reorientation took place in the exchange systems bringing wine to Britain- That the dislocation was a direct result of Caesar's activities is a not unreasonable supposition.

At the conclusion of his British campaigns Caesar explicitly states that he guaranteed the safety of the Trinovantes while arranging for an annual tribute to be paid to Rome by the Catuvellauni. This bald summary belies the complex treaty agreements which must have been negotiated at the time. One explanation of the reorientation of the wine trade is that as part of the peace terms Caesar established a trading monopoly between the merchants of Roman Gaul and the pro-Roman tribes of eastern Britain among whom the Trinovantes were one (Cunliffe 1978c, 75-80). This would explain both the distribution of the Dressel 1B amphorae and the subsequent aggrandizement of the chieftains of the Chiltern zone and the Camulodunum region.¹²

If we now turn to consider the fortunes of the Kentish tribes, by reference to the surviving archaeological record, it becomes immediately apparent that Kent did not share in the accumulation of wealth which typifies the aristocracy of Essex and Hertfordshire. Two amphorae, possibly from a grave, found in uncertain circumstances near Quarry Wood, and the three famous burials from Aylesford accompanied

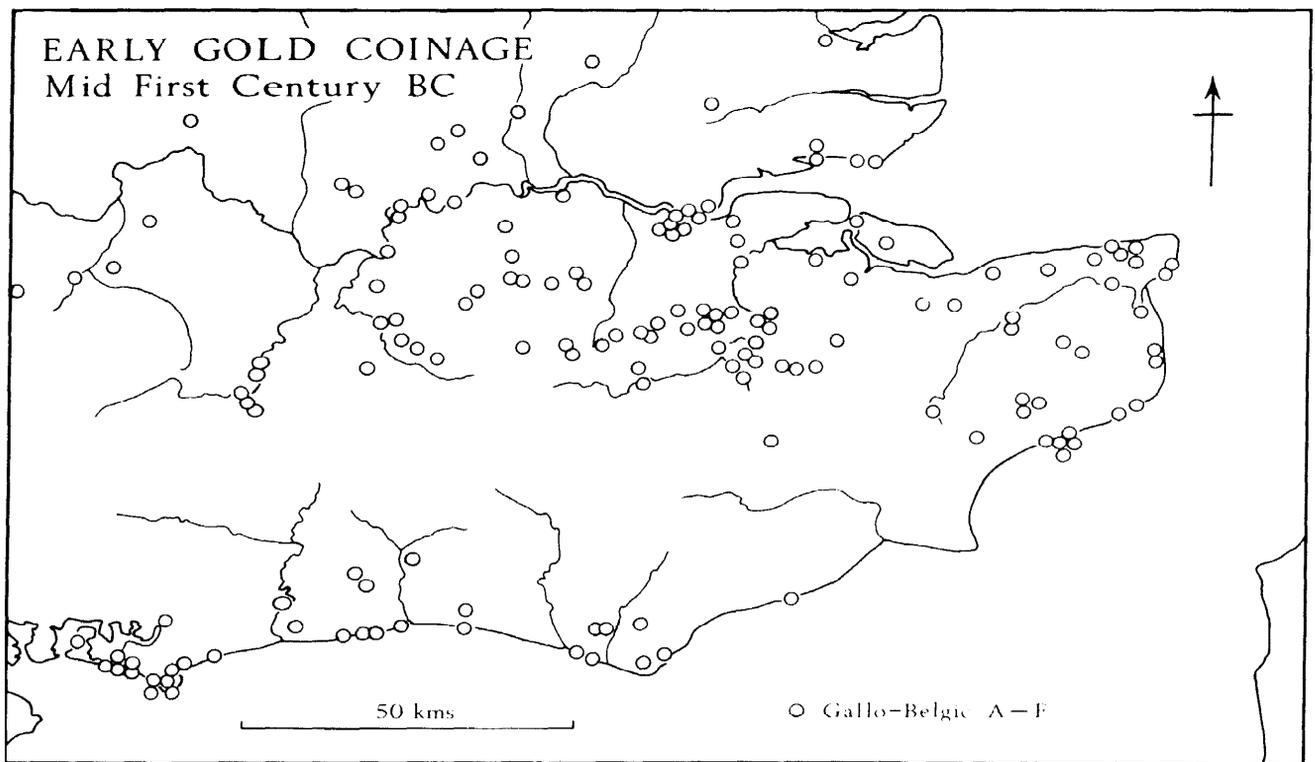


Fig 20 Distribution of gold coinage in use in the mid 1st century BC. The density of the distribution in Kent is notable.

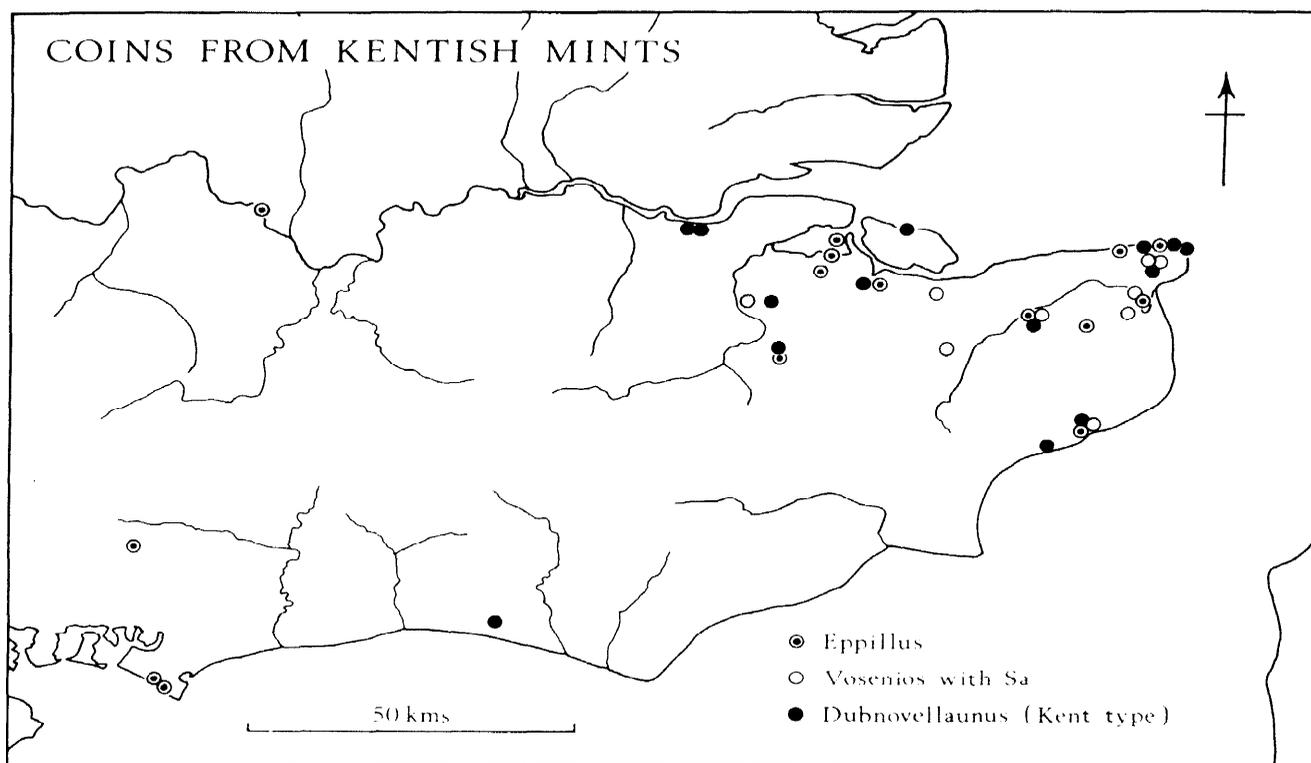


Fig 21 Distribution of coins minted in Kent

by bronze tableware of the late 1st century BC are the only significant displays of status and wealth recorded in the region.¹³ While, of course, the comparative dearth of prestige items may reflect an accident of survival, it is simpler to accept that the aristocracy of Kent failed to aspire to the degrees of opulence enjoyed by their contemporaries north of the Thames. A simple explanation of these observations would be to suggest that, in spite of its rapid economic advance in the 1st century BC, opposition to Caesar and Rome resulted in the tribes of Kent being excluded from favourable economic treaties. A secondary economic role with no direct outlet to the Roman markets would have considerably restricted the wealth threshold of the aristocracy. The hypothesis is, at least, plausible.

The post-Caesarian development of the two oppida at Bigbury and Quarry Wood is of some interest. There is now some evidence, from Hugh Thompson's recent excavation, to suggest that Bigbury may have been abandoned by about 20 BC and it seems quite probable that the shift was associated with the development of the settlement in the valley below on the site of Canterbury where current excavations by the Canterbury Archaeological Trust are exposing extensive pre-Roman levels. The situation on the Medway is more difficult to interpret but a similar shift of focus from Quarry Wood to Rochester is possible. The long overdue publication of the early levels from Rochester may one day allow this problem to be further pursued. At any event the concentration of power on the Stour and the Medway crossings which, we have suggested, began in the early 1st century BC, seems to have continued to be formalized, after 43 AD, by the foundation of the Roman towns of *Durovernum* (Canterbury) and *Durobrivae* (Rochester). In all probability these two foci were the

centres of socio-economic regions which may from time to time have aspired to a degree of political independence.

The significance of Oldbury in the post-Caesarian period is difficult to ascertain. Its second phase of redefence could well have been a response to the Roman invasion of AD 43 as the excavator suggested, but there is little evidence to suggest continuous occupation going back to the original phase of defence construction. The casual finds of coins from the site are particularly interesting. In his comments on the collection Allen (1944, 154-5) noted that all were early gold issues (which we would now accept were types in circulation in the middle of the 1st century). He went on to say, 'It is remarkable that in spite of the continued occupation of the site down to the coming of the Romans no coinage of a late date has been found. The absence of later coins is indeed remarkable if one supposes that the site *was* continuously occupied, but if it had been abandoned in the period of economic readjustment which followed Caesar's campaigns and not redefended until AD 43 the coin sequence could be neatly explained. Although the evidence is weak, some such explanation may well prove to be correct when excavations are one day resumed.

If Oldbury is removed from the discussion there is no other known site west of the Medway which could have served as an oppidum (unless of course there is an oppidum somewhere beneath London), until one reaches Silchester. Either there are oppida still to be discovered (perhaps on the rivers Mole or Wey), or the socio-economic organization of this region remained fragmented as it probably was in the 2nd century BC. The question is one of some interest but further speculation would be unwise.

That some political divide existed in the vicinity of the

Medway valley is suggested by the coin distribution (Fig 21). The coins of the Kentish Dubnovellaunos, for example, cluster east of this line and are absent from the west. If, however, the early silver issues of Tasciovanus are considered it will be seen that the only concentration south of the Thames is between the Medway and the Darent. If one looks at the pottery of the invasion period made in native tradition, a similar east-west division can be discerned: pottery of Patch Grove type is particularly common in the Darent valley and thins out to the west while the Charlton type of bead-rim jar has three principal concentrations, in the valleys of the Medway, the Darent, and the Mole. Although the distribution maps upon which these remarks are based were prepared some years ago (Ward Perkins 1944, figs 9, 10) the general truth still holds good.

What distribution patterns of this kind are reflecting, albeit dimly, are the different socio-economic territories into which the region was divided in the last half century or so of independence. Although precise definition is impossible it is legitimate for us to attempt some formal division. Figure 22 presents a tentative model partly based on the evidence briefly outlined above. It assumes that the river valleys have, by this stage, become the centres rather than the divides of these territories. Of the two western territories, centred respectively on the Bigbury/Canterbury region and the Quarry Wood/Rochester (?) axis there can be little doubt. Taking the site of Oldbury as representing a defunct port-of-trade on the next boundary, the Darent valley may reasonably be considered to be the heart of the neighbouring territory with the fourth tentatively based on the river Mole. That the Wealden communities may have remained isolated to the south of the Medway-Eden valley is a strong possibility. Clearly a model of this kind closely reflects an

underlying geographical truth but this in its turn is likely to have had a strong influence on social, economic, and political groupings.

As the settlement evidence suggests the most significant divide was between the two eastern territories and the rest. The distribution of coins of Dubnovellaunos strongly suggests that his coin type was acceptable in both of these eastern zones and much the same can be said of the coinage of Eppillus, Vosenios, and Sa. . . . (see Fig 21). It is therefore reasonable to accept that these two territories were not only economically highly evolved but were also sharing the same exchange mechanisms. The Wealden and the two western territories were very different. As we have seen they appear to have been without oppida and issued no coinage of their own, being content to accept that of the neighbouring Catuvellauni, Trinovantes, and Atrebates. A degree of economic interdependence is also hinted at by the pottery distribution but, as the Charlton type bead rims indicate, there was interchange on the boundary since this type has also been found in the territory based on the Medway valley.

If we can accept a degree of territoriality in the early 1st century AD then we might reasonably ask how far back it can be traced. Presumably it was very ancient but in Kent it first becomes evident in the distinction between the hillfort and non-hillfort zones (above, p 44) in the 4th or 3rd century while the distribution of Crayford-Mucking style decorated pottery in the late 2nd century is a further indication (42). Nor should we forget, in this context, Caesar's reference to the four kings of Kent.

The patterns are there to be defined. It is our function to recognize them, to attempt to offer some kind of explanation in economic, social, and political terms. Only in

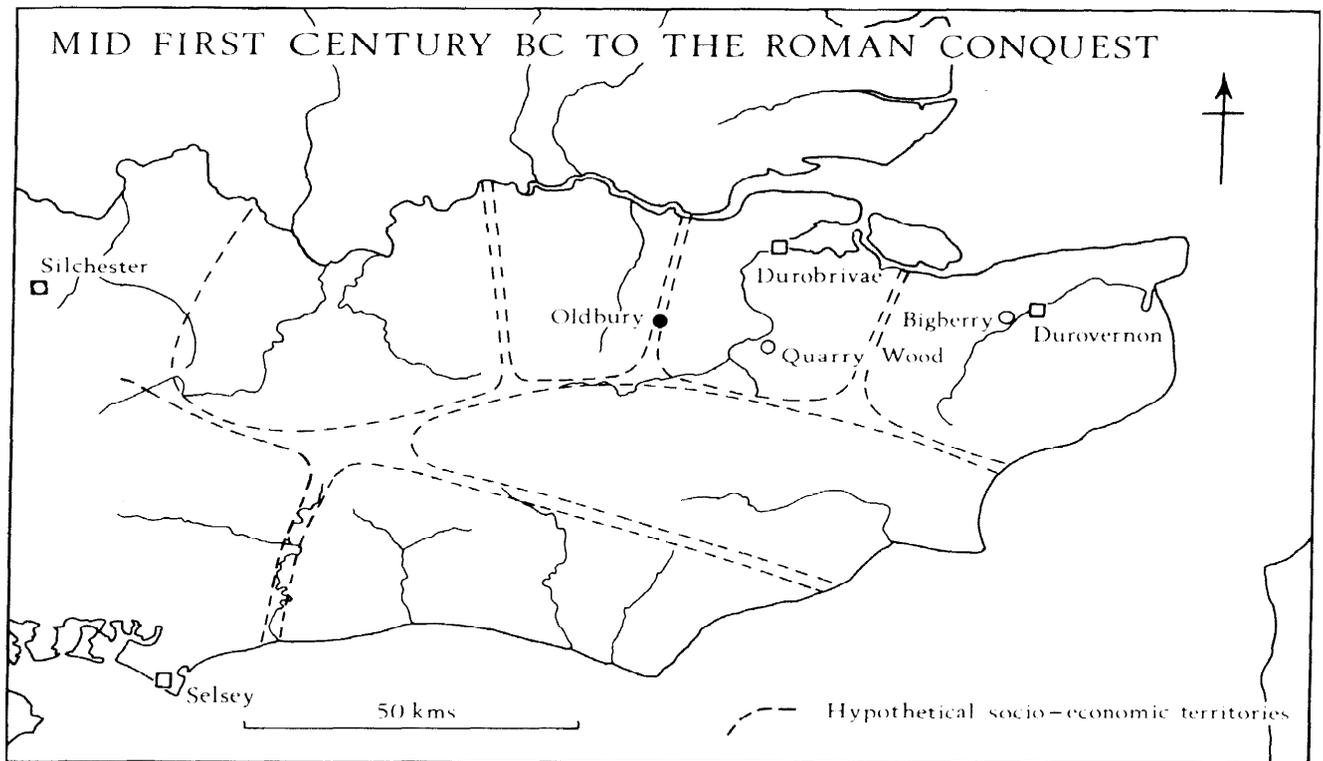


Fig 22 Hypothetical socio-economic territories in south-eastern Britain

pursuing these problems in greater depth, through carefully designed programmes of research and analysis, will we begin to understand the dynamic nature of Iron Age society.

Notes

1 The early discoveries at Bigbury were usefully summarized by Jessup (1933) as a preliminary to the excavations of 1933 and 1934 which were fully published by Jessup and Cook (1936). The excavations at Oldbury were first published in an abridged version (Ward Perkins 1939) and later more fully in Ward Perkins 1944.

2 For High Rocks see Money 1968. Castle Hill, Tonbridge was first excavated by Winbolt (1929); for subsequent work see Money 1976 and 1978 replacing earlier interim accounts. At Garden Hill excavations continue but annual interim reports have been privately issued.

3 Excavations at Anstiebury 1972-3, Holmbury 1974, Hascombe 1975 and 1977, and Bigbury 1978-9. Interim duplicated notes have been prepared by Mr Thompson on each season's work. A final report on the three Surrey sites has been published in *Antiquaries Journal*, 59, 2, 1979. Mr Thompson kindly allowed the author to read a proof of this report in advance of publication.

4 Aylesford was published in detail (Evans 1890) and has subsequently been discussed in Birchall 1963 and 1965, and Stead 1971. Swarling was published by Bushe-Fox (1925). Other cemeteries of interest include burials from around Deal (Ogilvie & Dunning 1967) and Allington (Thompson 1978). A useful discussion of cemetery chronology will be found in Stead 1976.

5 This material will be discussed by the author in a forthcoming report on the Bridge bypass sites prepared by N Macpherson-Grant. It is hoped that a more detailed discussion will follow when the east Kent material from the old collection is prepared for full publication.

6 The two unusual vessels found at Deal and discussed by Smith (1914) are of some exceptional interest. Smith was inclined to consider them to be comparable to French La Tène types, particularly those found in the Marne. This generalization still holds good but we might now broaden the area from which parallels may be quoted to include Burgundy on the one hand and the Low Countries on the other. The present writer would favour an origin in the southern part of the Low Countries and an early La Tène date. Detailed arguments will be given elsewhere in a full publication of the vessels and their implication. Here it is of significance to note that these alien ceramic forms appear to have had little or no influence on local ceramic developments.

7 Hugh Thompson, in a duplicated interim report on the recent excavation at Bigbury in 1979, notes the discovery of five S-profile rims and one sherd decorated with curvilinear dotted ornament. Shallow tooled curvilinear decoration also appears on a sherd found along the line of the Bridge bypass.

8 Among the principal open settlements of this period may be listed Canterbury (Jenkins 1962), Richborough (Cunliffe 1968), Worth (Klein 1928), Bridge bypass (Macpherson-Grant forthcoming), Highstead (unpublished), Dumpton Gap (unpublished), Hulbury (Ward Perkins 1944, 171), Greenhithe (Detsicas 1967).

9 The radiocarbon dates from the Surrey sites are discussed in some detail in Thompson 1980.

10 Dimpleby's reports in Money 1968, Piercy Fox 1969, and Piercy Fox 1970 suggest that the pre-hillfort vegetation varied from one area to the other. On the Downs at Keston the suggestion is of dense oak forest with bracken becoming abundant whereas further into the Weald at High Rocks

and Squerryes Park the impression given is of cultivation in clearings in woodland. Two pollen sequences are available from east Kent, from Wingham on the Little Stour and from Asholt Wood, both with radiocarbon dates (Godwin & Willis 1960). The sequence from Wingham showed that from c 1600 BC to Roman times the Chalk Downs in this region were open and deforested being given over to arable and pasture land. At Asholt Wood deposits going back to c 1000 BC gave similar results. Thus by the beginning of the Iron Age the Downs had probably been agriculturally exploited for many hundreds of years and may well have begun to show signs of exhaustion.

11 The defences of Bigbury can be shown to have been erected some time in the 1st century BC. Hugh Thompson's recent (1979) excavation has however demonstrated the existence of a linear earthwork crossing the ridge of slightly earlier date. The suggestion that there was a hillfort beneath Dover Castle (Colvin 1959) is best regarded as unproven.

12 The processes do not concern us here but require us to postulate concentric zones of production and transportation, the rich burials representing those communities which lay on significant interfaces of exchange. These matters will be discussed in more detail elsewhere.

13 To this list may possibly be added the bronze escutcheon found at Canterbury. It comes from a bronze vessel of Campanian origin dating to the first half of the 1st century AD. It could however have been imported after the Roman conquest (Hawkes 1975).

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It is now nearly half a century since the first detailed account of Kent during the Roman period, begun by Haverfield and revised and completed by Mortimer Wheeler, was published in the *Victoria County History* (VCH Kent, 3, 1932). Dr Frank Jenkins' survey of Roman Kent has since provided a summary of the many archaeological discoveries made during the following years (Jenkins 1966). While, inevitably, any coherent account of Romano-British Kent is bound to cover a certain amount of the same ground, it has been my main intention, in this paper, to review the additional knowledge which has come from subsequently published excavations and research, as well as to highlight those aspects of the archaeology of this part of Britain which are distinctive features within the context of the Roman province as a whole.

When, in AD 43, the forces of the emperor Claudius sailed to invade Britain, one advantage which their leader, Aulus Plautius, had over Julius Caesar a century before was evidently a much better informed intelligence about suitable landing places on the Kent coast. At the safe anchorage of Richborough, Claudian defensive ditches beneath the granaries of a stores base which is probably also of Claudian date (Cunliffe 1968, 4, 6) almost certainly provide archaeological testimony of the invasion. It is not absolutely necessary to infer from Cassius Dio's account of a landing in three divisions that these were at separate places, rather than in successive stages at the same place, and there is no clear archaeological indication that such a strategically hazardous division of forces was made. A pair of ditches with mid 1st century pottery at Reculver, identified as those of a small Claudian fort (*Britannia*, 1 (1970), 304), seems to indicate a measure to protect the Wantsum channel and the Stour shortly after the conquest. The roads from Dover and Lympne to Canterbury are not demonstrably as early as the date of the conquest, and were presumably laid down when naval bases were later established at the coastal sites.

Further inland, there is equally little trace of the passage of Plautius' army. Patrick Thornhill (1976) has recently suggested that it crossed the Medway at Chatham and forded the Thames between Higham and East Tilbury. Dio referred to the general's placing of a detachment of troops, implying a fort, shortly before his advance to the Medway. Fiere conjectured (1974, 80) that it might have been near Harbledown, to guard the crossing of the Stour, and that another fort might be expected by the Medway near Rochester. Two lengths of V-profiled ditch have now been found on the Castle site at Canterbury, associated with a metalled road, and might represent one such fort. They were filled in quickly in the 60s with rampart material, a dead horse, and remains of human skeletons with sword cuts: a violent incident about the time of Boudica's rebellion may be suspected (Tatton-Brown 1977, 213-15). The hoard of 34 gold coins found at Bredgar, representing the equivalent of about three months' pay for a centurion, could have been deposited as the army advanced: the latest coins are issues of AD 41. Finds of military metalwork are, however, rare. In contrast, therefore, with the chain of forts built in the wake of Vespasian's legion in Dorset, and along the Fosse Way frontier zone, there is little evidence that the inhabitants of Cantium were thought to need such repressive supervision.

Consequently, one might expect the area to have been one of the first to have been constituted a self-administering

civitas based on the pre-existing tribal structure. Precisely how this was arranged presents a minor problem, since Caesar, while describing Cantium as a geographical entity, refers to it as being ruled by four kings whom he names, implying as many tribal units, though he does not say so specifically. At all events, it is as *Duroaverno Cantiacorum* that Canterbury is named in the Ravenna Cosmography, and may thus be identified as *Durovernum*, the chief town of the *civitas*.

Although its choice as such follows from its having been an important pre-Roman centre, it had not been the only one in Kent; but its position as a meeting point of road and, with the Stour, river communications presumably determined the preference it acquired over Rochester, for example, which, with its evidence for the minting of Iron Age coinage, is also accepted as having been an important settlement, one which also developed into a Roman township. Otherwise, the pattern of major Roman settlements is not evidently conditioned by the presence of previous centres of population, but either by that of military stations and harbours along the coast or, as in the case of Ospringe and Springhead, by the course of Watling Street.

Roman Canterbury

The planning of a Romano-British town involved, initially, the laying out of its grid of streets and, if it was to serve as the administrative centre of a community, the building of its forum and basilica. The provision of other buildings—baths, temples, theatres, amphitheatres—though commonly associated with towns of that administrative status, are also indices of the extent to which its inhabitants embraced the ethos of Mediterranean urban culture. If, as has been argued, Canterbury was constituted a *civitas* capital in the mid 1st century, contemporary with the foundation of the *colonia* of legionary veterans at Colchester and of Verulamium (Wacher 1975, 179-80), a generation elapsed before work began on public buildings appropriate to its status, as was also the case at Verulamium. The earliest Roman buildings are timber-framed houses with walls of clay or wattle-and-daub, and earth floors. The theatre and the baths in St Margaret's Street both belong in their initial stages to the later Flavian period, the last two decades of the 1st century, and recent excavations have shown that the side street next to the baths is Flavian or later in date (Blockley & Day 1979).

The alignment of these buildings, at an angle to what had been plotted as the Roman street grid in this area of the town, was supposed to have been related to an original street layout, subsequently realigned (cf Frere 1965, 10; 1970, fig 1). Excavations by the Canterbury Archaeological Trust on sites adjoining Castle Street and St Margaret's Street have shown that in fact the alignment of streets and buildings there was the same throughout the Roman period (Fig 23); earlier conjectural restorations of the street plan must now be revised (Tatton-Brown 1976, 238). These excavations have increased the known area of what are generally accepted as the public baths, the area explored being their south-east end, and revealed part of the stone-lined drain which flanked the side street to their south-west, on the opposite side of which were timber buildings. The baths themselves underwent substantial alterations towards the end of the 2nd century, somewhat before the theatre was rebuilt.

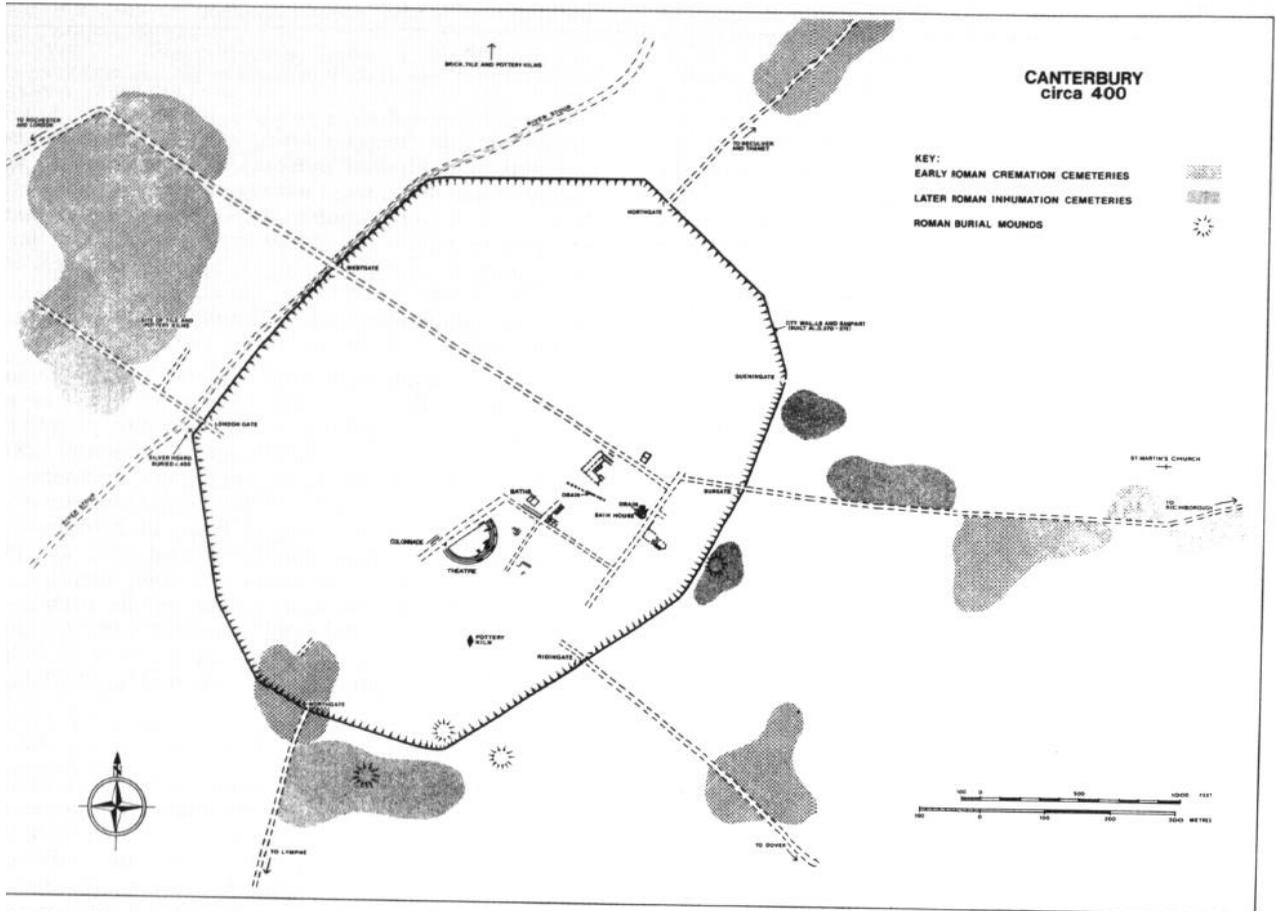


Fig 23 Canterbury, c 400 AD (from the Canterbury Archaeological Trust's series)

The Flavian theatre at Canterbury had its seating supported on a gravel bank which was retained by a perimeter wall 1.2 m thick, and reinforced internally with radial walls. Although the remains of this earlier structure are very fragmentary, and consequently difficult to restore with certainty, it seems that the curvature of the orchestra is not concentric with that of the perimeter wall, and was probably elliptical (Frere 1970, 85; Wachter 1975, 181). Although theatres of this form are known from Gaul an alternative possibility is that the original building was an amphitheatre.

The new and considerably enlarged construction of the early 3rd century followed the conventional semicircular plan of the classical Roman theatre. It was enclosed by two concentric walls with an ambulatory 2.7 m wide between them, giving an estimated overall diameter of 71 m. The structure of the earlier theatre appears to have provided partial support for the seating, supplemented by additional radial walls. No evidence was found for a vaulted substructure, though presumably the ambulatory was roofed in that way, nor with certainty for stairways giving access to the seating, though two of the radial walls have been interpreted as supports for one (Wachter 1975, 184). Remains of structures on the north-west side of St Margaret's Street have so far been too fragmentary to tell us much about the form of any stage building.

In Gaul, the association between theatres and temples is commonplace, particularly in the rural sanctuaries of native

cults. In Britain, the theatre at the Gosbecks temple site and the juxtaposition of that at Verulamium to the maid temple of the town, conform with this pattern. Both temples are Romano-Celtic in plan. It thus seems likely that, in the Celtic provinces, the theatre did not merely provide dramatic entertainment, but was used for mass gatherings on the occasion of religious festivals. Thus, its specific purpose was more intimately connected with indigenous traditions, though expressed in Roman architectural form; a distinctive feature, that is, of provincial Roman culture.

In the light of these general statements one may attempt to elucidate the nature of the site on the opposite side of the street to the north-west of the theatre. Excavations since 1976 of various sites in the block delimited by Castle Street, Beer Cart Lane, and Stour Street (Fig 24) have produced evidence for a gravelled precinct of considerable extent resurfaced on six occasions between the late 1st and the 3rd centuries (Bennett 1978b). This was divided from the street in front of the theatre by a wall of masonry 0.80 m thick, within which was the stylobate wall and drain of a colonnade c 3 m wide. The precinct appears to have been laid out late in the 1st century, at about the same time as the baths and the first theatre were constructed. It appears to have been in disrepair and the colonnade to have been partially robbed in the 4th century or shortly afterwards. Among the debris have been found over 1000 pieces of marble mouldings and veneers, Corinthian column capitals and a fluted column shaft 700 mm in diameter. It seems reasonable to assume that they came from a building contained within the precinct, rather than, say, that they

somehow found their way there from the theatre, much of which seems to have stood until the 11th century. The fluted column is too large to have stood on the stylobate of the colonnade.

It is unlikely that this was the forum, which would normally have been surrounded by a range of rooms with internal and also external colonnades. The precinct of a temple is the alternative most likely on architectural grounds. In Britain, fluted columns seem to have been reserved for external use, and Corinthian capitals were not used on temples of Romano-Celtic plan. Both these factors would favour a temple of classical form, though possibly, as in the temple of Sulis Minerva at Bath, housing a deity of Celtic origin. The size both of the precinct and, to judge from the column, of the building, and the sumptuous decoration with imported marble, combine with the theatre to bear witness to Canterbury's architectural distinction in that period. No remains of the building's foundations have been discovered in the area so far available for excavation, though what appears to have been part of a fountain basin lined with *opus signinum*, suggestively placed in line with the central axis of the theatre, was found on the site of 3 Beer Cart Lane in 1979 (Bennett 1979).

These discoveries, however, have not simplified the problem of where the forum of the town stood. This has been thought to have been south-west of the present High Street (Frere 1965, 11). The evidence includes an area of rammed gravel recorded below the cellars of the County Hotel in 1954-5, extending under Stour Street; walls and a wide range of imported marble veneers found in excavation of the yard of the then Fleur de Lys Hotel in 1955; and earlier records of columns and cornice fragments found in

the High Street opposite the hotel in 1861. If these were all from the same precinct as that attributed to the temple, it would have been exceptionally large. It is conceivable that Canterbury might have possessed a forum which contained a temple at the opposite end from the basilica (albeit not continuously surrounded by shops), the traditional arrangement in central Italy, though one which would be unique in Britain.

Alternatively, it may be that temple precinct and forum stood in adjoining insulae. A further possibility, which can be canvassed in the light of Dr Urry's note on a supposed circular temple in Canterbury, perhaps more plausibly to be interpreted as the laconicum of a bath building (Urry 1978, n 1), is that the baths, of which the south end has been excavated on St Margaret's Street? extended westwards to the findspots just mentioned. This interpretation, suggested to me by Tim Tatton-Brown, would have the advantage of accounting for the stokehole of a hypocaust noted near the Fleur-de-Lys which has been something of an embarrassment to the forum hypothesis. The rammed gravel would be explicable as the surfacing of a palaestra, and the lavish architectural decoration would not be out of place. Acceptance of this interpretation involves, of course, the sacrifice of all hints about where the forum actually was.

It is perhaps not surprising that it should have taken some years after the laying out of the street grid to accumulate the necessary funds for the considerable investment represented by these late 1st century buildings. This can be seen as part of a wider programme of urban development, being contemporary with that of such towns as Verulamium, Silchester, and Cirencester. Although Tacitus described the governor Agricola in AD 79 as encouraging

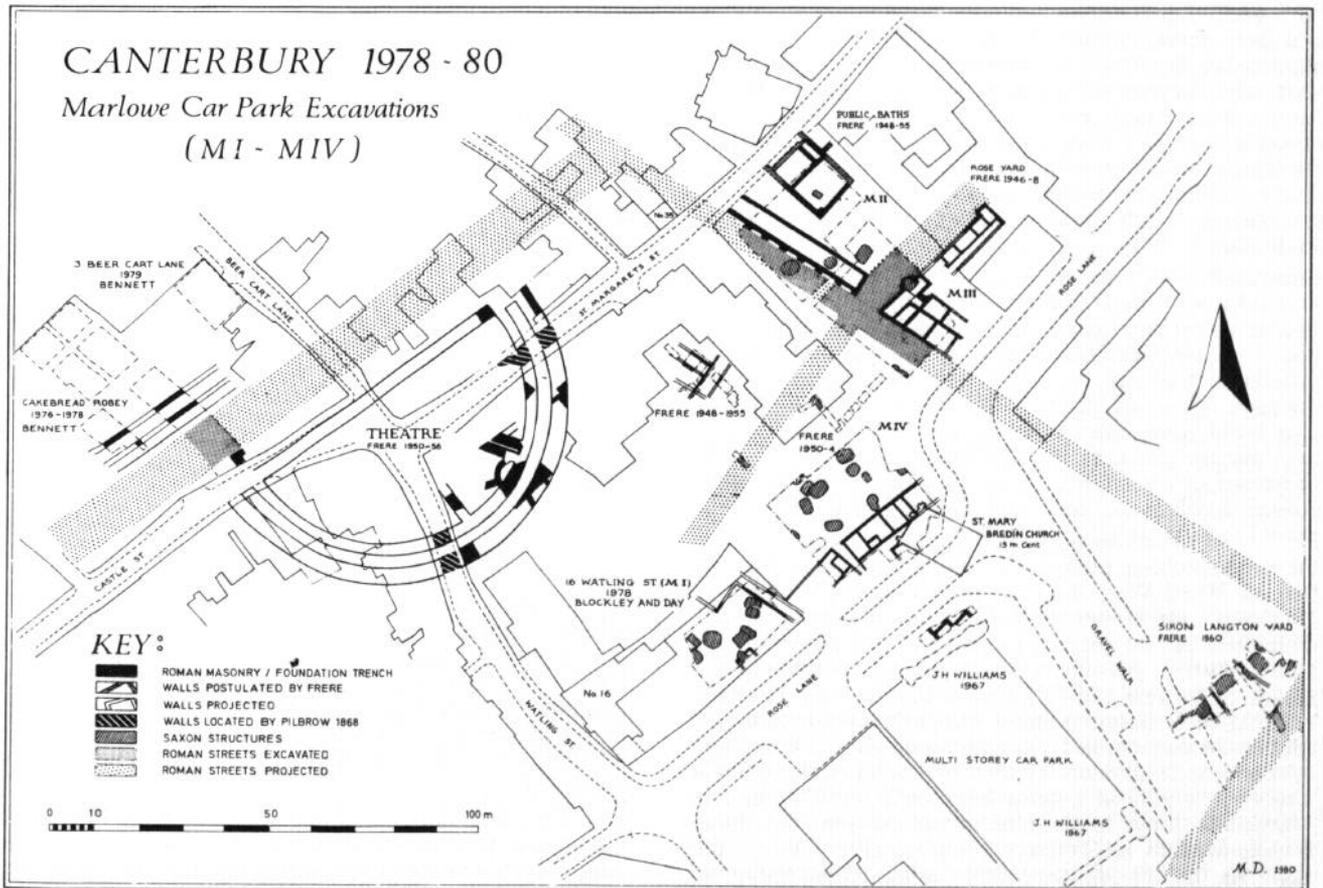


Fig 24 The central area of Roman Canterbury (drawn by Marion Blockley for the Canterbury Archaeological Trust)

individuals and assisting communities to build temples, forums, and houses, there can be little doubt that the *noblesse oblige* of civic benefaction in the Mediterranean tradition made its principal demands on the Romano-British propertied class.

Official contacts may have secured the services of stonemasons from the continent. It was at this time that their techniques became firmly established in lowland Britain, attested for example by the introduction of a north-east Gaulish type of Corinthian capital which became standard, and of which that from Canterbury mentioned above is among the earlier examples (Blagg 1980, 31). Another possible source of expertise, particularly for the carving of marble mouldings and veneers in Canterbury's buildings, was what was almost certainly an imperial building project, the building of the Quadrifrons Arch at Richborough between 80 and 90 AD, shortly after the death of the emperor Vespasian, who had himself commanded one of the legions in the invasion force. It may be seen as commemorating *Britannia perdomita*, the culmination under Agricola's governorship of the conquest initiated at Richborough, as well as a symbolic gateway to the province. Its cladding with marble pilasters and veneers would have required the skills of craftsmen from southern Gaul or Italy who were accustomed to working that material (Strong 1968, 72-3).

On the north-west side of Canterbury, the street grid extends beyond the line taken by the late 3rd century town walls. The defences therefore might represent a contraction in the area of the town on that side, though it is not clear to what extent the laying out of the streets had resulted in occupation of any density in that quarter. The evidence so far is no more than a crossroads with Watling Street and 2nd and 3rd century pottery kilns, which one would have expected to lie outside the residential area. On the south-west side, however, the area of settlement does seem to have spread, since excavations within the walls have revealed a pottery kiln in the garden of the Municipal Buildings near Dane John and cremation burials near the Castle, both of which would normally have been sited outside the town (*Archaeol Cantiana*, 51 (1939), 210-11; *VCH Kent* 3, 70-1).

Compared with some Romano-British towns, relatively little is known in detail about private housing in Canterbury. We do not yet have the complete plan of a single major town house, though numerous remains of walls and mosaic and tessellated floors have been recovered, notably during town drainage operations in the 1860s. Intensive medieval and later building has taken its destructive toll, though one may note that the greater depth of sediments on the west side of the town, adjoining the Stour, and the waterlogging of Roman levels there, may well conceal much better preserved remains, as yet little explored.

Of what has been excavated, for the most part since the Second World War, the most extensive is the house on Butchery Lane, where the earliest masonry structure was built in the late 1st century, and early in the 2nd a wing was added in which, possibly in the 3rd century, tessellated and mosaic floors were laid (Williams & Frere 1948). The bath building on St George's Street was probably that of a substantial town house, and was extensively altered in the mid 4th century. Excavations by the Canterbury Archaeological Trust in 1979-80 of a house between Rose Lane and St Margaret's Street have added considerably to the information obtained in Professor Frere's earlier work on the site. As in the contemporary urban foundations of Verulamium and, given the inadequate archaeological dating for its houses, Silchester, priority was given to public

building. Funds were not available for private houses of any quality much before the beginning of the 2nd century. Thereafter, the richer inhabitants of Canterbury seem to have enjoyed prosperous surroundings for the rest of the Roman period. Their urbanity should be recalled when we come to consider the evidence for rural settlement in east Kent.

In the late 2nd century, most Roman towns in Britain were provided with defences in the form of an earth bank and ditch. It seems that Canterbury avoided this necessity and its expense unless one assumes that it had such defences on a different alignment from that subsequently adopted; its fortification, a coursed flint wall 2.3 m thick, without the tile bonding courses typical of such contemporary defensive works as Richborough, but backed by an earth rampart, was not undertaken until AD 270-90. This enclosure of about 50 ha has since served as the basis of the medieval city walls, but rebuilding and refacing has obscured almost all the Roman work; part of the jambs and brick arch of a Roman gateway survive near the Queningate. Of its companions, excavations have revealed the guard-chambers of the south-east (Riding) Gate (*Britannia*, 3 (1972), 351), and the single portal 2.4 m wide of the London Gate which provided a curiously unimpressive passage for Watling Street towards the provincial capital. The Worth Gate, which gave access to Lympe, now destroyed but illustrated in the 18th century (*VCH Kent* 3, pl xi), also had a single portal, possibly recessed from the face of the wall (Jenkins 1968).

Other towns and ports

At Rochester (*Durobrivae*) an earth rampart and ditch have been sectioned on the south and east sides of the town, and shown to have been constructed not earlier than AD 150-70. A flint wall was added to the front of this some time after 17-90, and perhaps appreciably later in the 3rd century (Harrison & Flight 1968, 75-6). These defences, which enclosed an area of 2½ acres (9.5 ha), form the basis for the Norman circuit, though partially removed on the west side by the construction of the castle. Relatively little is known about the Roman town apart from its defences, but a notable recent addition has been provided by excavations outside the east wall of the castle in 1976 (Flight & Harrison 1978, 34). A coursed flint wall 0.6 m wide continuing for at least 16 m formed a T-junction with a second wall which had the slot for a wooden cill running down the middle of it. Nearly 400 identifiable coins from the associated humus-rich occupation layer show continuous activity from the late 3rd until the end of the 4th century at least. The high rate of loss of predominantly small denominations suggests proximity to a market area. Earlier features included six small ovens or kilns, possibly domestic.

Fairly extensive areas of settlement are indicated by the plotting of building remains, burials, and other scattered finds at Maidstone and Crayford (Webster 1975, 59, figs 7, 8), though no evidence for any defences there has yet been recorded. Whether the former site should, however, be interpreted as a *vicus* is uncertain. The latter may be identified as the *Noviomagus* of the Antonine Itinerary and the Peutinger Table, following Rivet's explanations for the minor discrepancies between actual and recorded intermediate distances along those routes and others (Rivet 1970, 44).

The identification of Springhead (Fig 25) with *Vagniacae*, mentioned only in the Antonine Itinerary, depends on admission of a scribal error adding ten miles to its distance from Crayford (*ibid*). Here, excavations by W S Penn, continued after his death under the direction of Syd

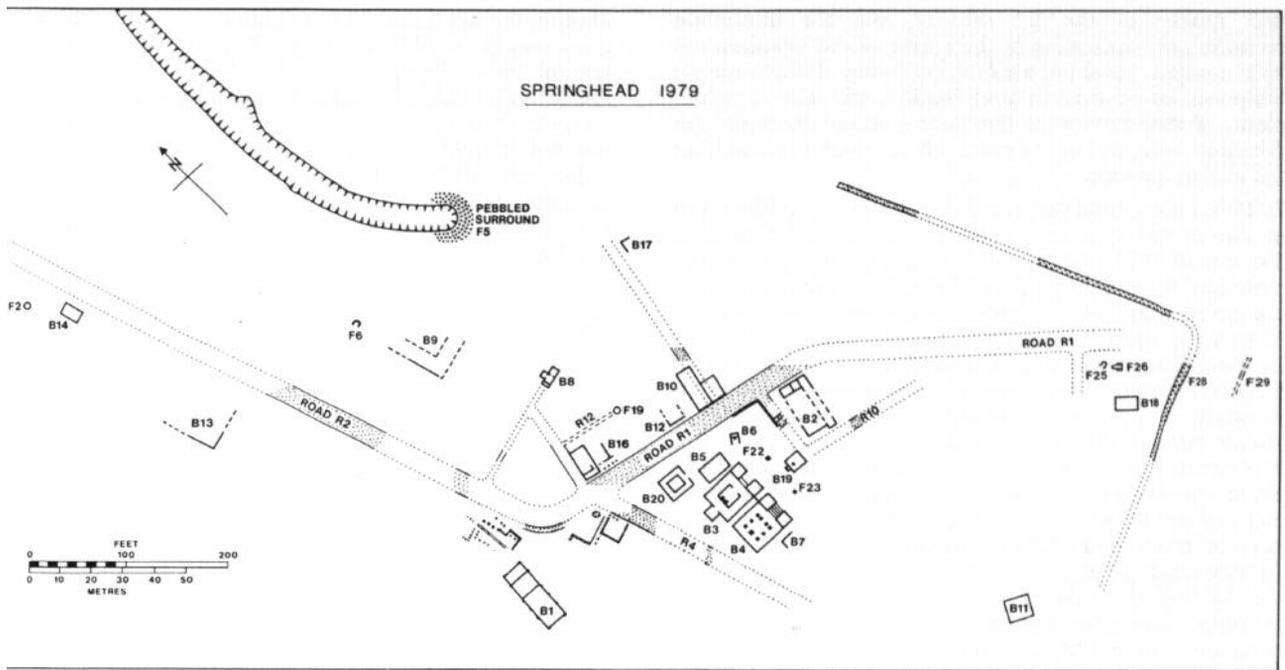


Fig 25 The Roman settlement at Springhead: revised plan, 1979 (drawn by S R Harker)

Harker, have revealed an important temple complex. The richly-furnished walled cemetery nearby (Jessup 1959, 29-30) adds to the evidence for a community with some prosperous inhabitants. An irregular street layout, a number of domestic buildings, and evidence for industrial workings have also been excavated (Penn 1965).

Although little is known of the harbour at Richborough, there is evidence for a flourishing settlement there in the early part of the 2nd century. The timber buildings of the Claudian stores base were demolished about AD 85. Late Flavian timber-framed buildings which succeeded them in *insula* V and VI were apparently destroyed by fire within a few years; those in *insula* V were replaced in masonry. A masonry house in *insula* IV, possibly a *mansio*, was constructed in the first part of the 2nd century, it is thought, replacing a similar building, and stood until demolished in the course of construction of the Saxon Shore fort. By then the settlement had long been in decline. Limited excavation outside that fort, supplemented by air photography, shows roads and remains of other buildings to the south and west, in addition to two Romano-Celtic temples, a cemetery, and an amphitheatre. Coin evidence from the latter suggests that it may have been contemporary with the fort (for a summary of the evidence from the site as a whole, see Cunliffe 1968, 231).

It is possible that, as Cunliffe has suggested, Richborough's apparent early prosperity as a port suffered from the competition of Dover, where a late 1st or 2nd century quayside and jetty have been excavated (Rahtz 1958, 112-17), and where we now know that the fort of the Classis Britannica was established in the first half of the 2nd century. The extensive civilian settlement to the north of the fort included a large bath building, in addition to the celebrated Painted House, as well as clay-walled buildings and a shrine whose dedication by a *strator consularis* is recorded on an altar he erected (*Britannia*, 8 (1977), 424 and 426).

Forts

The presence of a base of the Roman fleet at Dover had

long been suspected from finds of its tiles with the stamp **CL BR**. The rescue excavation and preservation from destruction of a large part of it have been one of the major contributions to the military archaeology of Roman Britain in the last decade, and have revealed barracks, at least two granaries, and its defensive circuit (Philp 1981). At Lympne there was also occupation connected with the Classis Britannica. Roach Smith (1852, 25) found **CL BR** stamped tiles and an altar dedicated by L Aufidius Pantera, a mid 2nd century prefect of the fleet, with other stones reused in the Saxon Shore fort, but structural evidence *in situ* has not yet been found. The fleet's cross-channel base at Boulogne and its role in the iron-workings of the Weald have also been the subject of detailed investigation in the past few years, and Cleere (in Johnston 1977, 16-19) has recently reviewed the greatly increased knowledge of the Classis Britannica and its activities.

During the 3rd century the naval arm of Roman military forces in Britain was reorganized in a way which is still obscure. The title of the Classis Britannica disappears from the record, and the Dover fort was largely abandoned by the early years of the century (Philp 1981, 94-9). Mainly during the 3rd century, but with additions and subtractions in the 4th, there was developed a series of coastal forts from north Norfolk to the Solent, known from the title of the 4th century Counts under whose command they were listed in the *Notitia Dignitatum* as the forts of the Saxon Shore.

Our knowledge of all four of the Kentish Saxon Shore forts has advanced considerably. The work of the Reculver Excavation Group at the fort of the *Cohors Prima Baetasiorum*, a garrison attested both in the *Notitia* and by tile stamps, has established *Regulbium* as typologically one of the earliest of the series, in company with Brancaster (Philp, nd). The fort wall with its rounded corners, the east and south gates, the headquarters building, two barrack blocks, and one or possibly two internal bathhouses follow the layout normal in 2nd century forts, contrasting with later Saxon Shore forts which reflect 3rd century developments in Roman military architecture on the continent. Coins and pottery have suggested a construction date in the

first quarter of the 3rd century, but the inscription recording the dedication of the shrine of the headquarters by a consular governor with the *cognomen* Rufinus can no longer safely be used in confirmation, still less in refinement, of this, in view of Dr Mann's recent discussion (in Johnston 1977, 15) of the problems involved in identifying the man in question.

In 1970 a substantial part was found of the Saxon Shore fort at Dover which, although its ruins were visible to Celia Fiennes in 1697 (Morris 1949, 128) and its location predicted by Wheeler in *VCH* in 1932, had eluded discovery to the point where its existence was doubted. Its south and west wall, with four external towers with tile bonding courses, cut through the north-east corner of the derelict Classis Britannica fort and its extra-mural settlement, ironically preserving substantial remains of the Painted House beneath the rampart (Philp in Johnston 1977, 21). For detailed evidence for the dates of its construction and abandonment, we must await the definitive report but late 3rd century terracing and a sequence of timber buildings have been recorded within the south-west corner of the fort (*Britannica*, 7 (1976), 376). The nature of the stonework of the lighthouse at Dover, with its small blocks and tile levelling courses, suggests that it, and presumably then its companion on the heights west of the harbour, might be regarded as contemporary with the shore fort. Leland's observation of Roman tiles and Stukeley's of Roman coins as commonly found on the promontory of the Bayle at Folkestone have led Rigold (1972, 36) to suggest the possibility of a Roman lighthouse or signal station there also.

The position of Reculver guarding the north end of the Wantsum channel was later complemented by the building of a new fort at Richborough at the south end. Johnson's critical reconsideration of the construction sequence and the relation to it of the series of coins from pit 26, the latest of which is datable to AD 273, has demonstrated that the fort had in all probability been built before the appointment of Carausius to the coastal command in 285, and not by him, as was previously supposed (Johnson 1970). This best preserved of the Kentish shore forts was preceded some time about the mid 3rd century by an earth bank and triple ditch fortification around the by then dilapidated Quadrifrons Arch, the latter possibly serving as a look-out post. The monument was demolished when the fort was constructed, and its foundation was used for a masonry building identifiable as the headquarters.

Two rectangular porched buildings of uncertain function erected between it and the west gate, and a small bath building in the north-east corner, are the only other masonry buildings. Most of the others must have been of timber, as in the slightly later fort at Portchester, but the only recorded evidence for them, enigmatic at that, is near the bathhouse (Cunliffe 1968). The construction of the walls, with rectangular corners, external towers for artillery, and, in addition to the west gate, a small angled postern on the north side, the only two gates now surviving, is typical of the increasingly defensive attitude towards fort design in the late 3rd century. The *petit-appareil* masonry with tile levelling courses is also typical of fortifications of that date in Gaul and elsewhere in Britain. Still used as a harbour, notably for the disembarkation of Count Theodosius and his relief army in 369, Richborough remained one of the latest occupied military sites in southern Roman Britain, as is attested by finds of late military metalwork and the abnormally high number of coins of the House of Theodosius.

If Richborough is the best preserved of the Saxon Shore forts, Lympne has the appearance of being the worst, if one

excepts the presumed fort at Walton in Essex, which has been washed totally away by the sea. Land slips on a clay subsoil have played havoc with the site, but in 1976 Cunliffe's re-excavation of the east gate was successful in reconstituting its plan, as well as suggesting a date in the late 3rd or early 4th century for its construction. There are indications that the internal stratigraphy is better preserved than one might have expected, and one may therefore hope for further information about its structure to add to the known bathhouse and *principia* (Cunliffe 1980).

Rural settlement

It is generally accepted that the basis of the wealth of the Roman economy was land: and it is therefore in the exploitation of Kent's agricultural resources that we should look for the primary explanation of the prosperity of such towns as Canterbury and of most individual villa occupiers. It has frequently been thought strange that so few villas have been found in east Kent (Fig 26). It is true that in September 1978 a simple winged corridor villa, saved by the vigilance of Mr Burch from the progress of the Sandwich bypass, increased the known or suspected total by 16.66% (Bennett 1978a). The contrast with the density both of prehistoric and of pagan Saxon settlement suggests that the explanation of the relative scarcity is cultural rather than economic: ie that the landowners of east Kent preferred to live in Canterbury. Since, as I have already said, there is little detailed evidence so far for private houses in Canterbury, the proposition is difficult to test. But the evidence from such towns as Silchester and Cirencester has shown that large town houses there had barns, corn-drying ovens, and other features which in the countryside are associated with villas; in other words, they operated as working farms exploiting the territory in the immediate vicinity of the town.

One would not expect the tenants, peasants, or slaves who actually laboured on the land to have lived so far from their work as Canterbury. The distribution of pottery, coins, and burials shows that certainly they ate, lost money, and died over most of east Kent, but there is as yet little published evidence for the settlements where they lived. The map of Kent published in *VCH* 3 gives some indication of the distribution, though is in need of the addition of further evidence for occupation and field-systems, of the kind recently noted from Barham (Philp & Philp 1974) and Chislet (Tatton-Brown 1976, 236-8).

The picture is very different in the Medway, Darent, and Cray valleys and off the line of Watling Street from Ospringe westwards. Philp has discussed the background of 1st century farmstead sites in west Kent, some of which continue in occupation alongside the villas (Philp 1963; 1973, 55-118). Such sites as Faversham mirror the type of development we see at early villa sites elsewhere in south-east Britain, like Lockleys and Park Street in the territory of the Catuvellauni. The basic plan, to which Collingwood and Richmond give the somewhat misleading epithet 'cottage house' consisted of a range of five or six rooms, two of them a pair each occupying half the width of the house. The narrow corridor, as at Ditchley, is also a common feature. The Faversham villa was probably constructed in the last quarter of the 1st century, with its final period dated to c 225. It was built next to a late Iron Age ditched enclosure, which the excavator suggested was domestic, on the basis of the pottery, for no evidence of structures was found (Philp 1968, 62-85). The model is plausible: there must be many sites where native proprietors remained in occupation of their land after the conquest, enabled gradually to

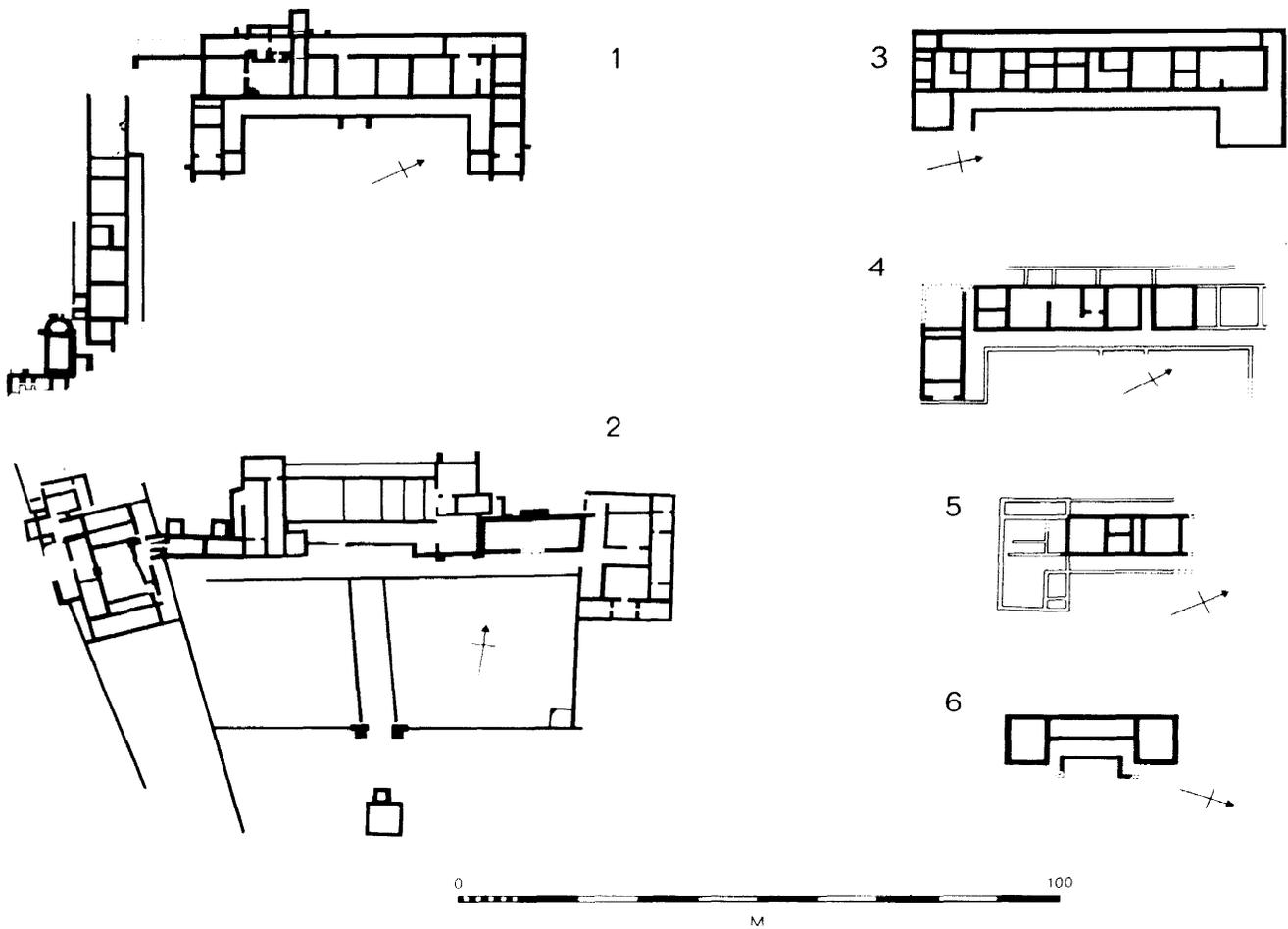


Fig 26 Roman villas in Kent: 1 Folkestone; 2 Darenth; 3 Boxted (all after VCH 1932); 4 Farningham II (after Meates 1973); 5 Faversham, phases I and IV (after Philp 1968); 6 Sandwich (after Bennett 1978a). The parts added in later phases of 4 and 5 are drawn in outline.

accumulate capital under the peacetime conditions which were probably the most significant way in which Roman rule altered the balance of rural life, and investing it in the improvement of their property.

In other cases of late 1st century villas, such as, for example, Eccles and Farningham II, the initial layout was more elaborate. Farningham II, one of at least three villas within less than a mile of one another, complemented by a number of possible farmsteads (Philp 1973, 112-17), is of particular structural interest. Its wall footings were of mortared flint, about 0.60-0.75 m high, with at intervals spaces (filled in a later reconstruction) for substantial timber uprights. These served as a skeleton framework supporting the roof, and were infilled with clay. The whole wall was then rendered in plaster and painted (Meates 1973).

Another structural feature of some Kentish rural sites worth mentioning is the cellar. A building at Chalk, near Gravesend, contained a sunken room with five niches cut in the east wall. It had an upper floor which, with painted plaster walls and glazed windows in its first phase, was probably residential. By about AD 300 when, in its final phase, it was burned down it was used as a store room. The debris contained the iron bindings of a wooden chest, a hunting spear, billhooks and other tools, and storage jars which had contained wheat, barley, and crab apples. An

unusual find from the site was a terracotta ventilator or chimney pot (Johnston 1972; Lowther 1976). Similar cellars are known from South Street and from Burham, the latter at one time mistakenly thought to have been a Mithraeum (Jenkins 1966, 7-8).

The interpretation of the development of villa sites and of the nature of their owners is, in the absence of documentary evidence, a matter of some hazard. In 1976 J T Smith, in a paper given to a conference on Romano-British villas, called attention to a feature in the planning of many of them which they share with villas in other Celtic provinces, and which he named the unit system (J T Smith 1978). This describes a villa which can be seen, not as a single residence, but as a complex of two or more houses linked into an architectural whole by corridors or porticoes. He interpreted this feature in relation to its distribution in the Celtic provinces, as an adaptation of native social structure to Roman material culture. Associating these units with factors of land tenure, he saw them as reflecting a joint proprietorship by families linked, presumably, through some system of partible inheritance.

Thus at Darenth, just downstream from Farningham, he interpreted the plan as a main house and two subsidiary houses. Another frequent feature of these villas, as of their continental counterparts, is a work hall, often with a series

of rooms leading from it, such as we see in the east wing at Darenth. A third is a fountain building, perhaps a shrine, placed axially. The purely agricultural functions of the villa were provided by separate buildings, like the aisled hall which was added to our knowledge of the Darenth villa in 1969 (Philp 1973, 119-54).

As Smith has further pointed out, even within less ambitious structures the recurrence of similar combinations of rooms may serve the same function as separate houses, as at Boxted and in the early phases of Farningham II and Eccles (J T Smith 1978, 160-2).

The idea is not new that, in spite of the stricture that 'you can dig up a villa, but you cannot dig up its land tenure', social relations of native origin can be traced within the archaeology of Romano-British villas. C E Stevens, the author of that remark, had it quoted back at him following a paper in which, *inter alia*, he had canvassed the survival in south-east Britain of what the Welsh call *tir gwelyawg*, or partible inheritance. Indeed, it was in that context that he happily described the site at Eccles as 'having more bath space than is good for a normal villa' (Stevens 1966, 123), and some sort of multi-family land-holding might provide an explanation for it, and perhaps for such other isolated bath-houses as that at Baston Manor, Hayes (Philp 1973, 80-93).

Even so, there are other villas which call for other explanations, and some may throw doubt on the theory. The villa at Folkestone may be seen as one of Smith's unit system houses. The finding there of CL BR stamped tiles, however, has long been thought to suggest that it was connected with the Classis Britannica as some sort of official residence, conveniently or perhaps inconveniently situated half-way between Dover and Lympne (Winbolt 1925; *VCH Kent*, 3, 114). In this instance Peacock (1977, 246) has provided a neat escape route from the dilemma by suggesting that, in view of the small number of stamped tiles and their difference in fabric from others at the site, they were among material reused from elsewhere. Other villas, however, such as Lullingstone which, in the 2nd century, to judge from the marble busts which provide us with one of our few glimpses of the family, if not the villa owner (Meates 1979), was evidently the property of someone with Mediterranean connections and perhaps an official position in London, remind us that in any one case special circumstances may operate against the pattern of generalization.

Building materials

Apart from agriculture, probably the major single way in which the natural resources of Kent were exploited was in the form of building materials. As the Farningham II villa shows, this included large quantities of timber for wall frames and roofs, and also clay, both for use as such, or to daub wattle. It is of stone, however, that I am particularly thinking.

The evidence for the Roman building materials used in the south-east has been assembled in an article by Williams (1971). Chalk was used as building stone in the Classis Britannica fort at Dover and in internal walls at Eccles, for example, but was exploited more for the limekilns, which were presumably the destination of the chalk from the Roman quarry outside Canterbury. Tufa was employed for the period I walls at Folkestone, as well as at Cobham, Eccles, and in the lighthouse and Classis Britannica fort at Dover. For fine architectural detail none of the native stones was really suitable. When oolitic limestone was brought in for the purpose, which was rarely, this generally

meant the commissioning of stonemasons from elsewhere to work it, since there was insufficient demand to maintain a local school of craftsmen of the required skill.

The column bases from Richborough, for example, and those from Eccles and Farningham, are not only typologically different from one another, but can each be related specifically to types found predominantly in the south-west. The Corinthian capitals from Canterbury and Springhead, already discussed, are likewise the products of masons from elsewhere. Occasionally, greensand was employed for architectural features, as for the architrave from Richborough (Strong 1968, 62-3). Flint and the ragstone from the Hythe beds of the Lower Greensand were, however, the most important of the Kentish building materials. The carriage of the latter was probably by sea, as for example to Richborough and Reculver, for the temple of Claudius at Camulodunum, and for a number of buildings in London; the ragstone in the Blackfriars boat (Marsden 1966, 36) is one example of what must have been a regular coastal traffic.

With regard to ceramic industries in Kent, the production and marketing of pottery is discussed in a separate paper by Pollard below. There has been little study of the production of tiles in the area. The roller-stamped box-tiles from Plaxtol are of particular interest in that they carry a Latin inscription, *parietalem Cabriabanus fabricavi* (I, Cabriabanus, made this wall tile) (*VCH Kent*, 3, pl xxvi). One with the same inscription, though from a slightly different roller, was found in 1969 at Darenth (Philp 1973, 140, 153-4). Roller-stamped tiles of various types are distributed fairly widely in the south-east, but manufacture of this type may be thought on present evidence to be associated with the Plaxtol villa, though petrological analysis is highly desirable. That of the Classis Britannica tiles by Peacock (1977) has identified two fabrics, one produced at Boulogne, the other made from the Fairlight clay of the Hastings Beds.

That aspect, therefore, of the Classis Britannica's activities is clearly associated with the Wealden ironworkings. Although these did involve some sites within the county of Kent, discussion of them in this paper would be redundant as well as derivative, since the industry has been fully treated by Cleere (1978) at a similar symposium to this in Sussex. One might remark, however, that Margary's routes 13 and 130, leading down from Rochester and Canterbury respectively to Bodiam on the then Rother estuary, were presumably used to carry some of the products into Kent, as their slag metalling in the area round Benenden would indicate.

Funerary monuments

One indication of the wealth of some of the families of Roman Kent is provided by their funeral monuments. Two of the more elaborate types, walled cemeteries and barrows, both relatively uncommon in Britain as a whole, are well represented in the county.

The distribution of walled cemeteries in Britain is confined to Cambridgeshire, Essex, Hertfordshire, and Kent. Kent has eight of the thirteen examples listed by Ronald Jessup in his basic study (1959) and they occur mainly along Watling Street and in the central Medway valley. One was at Springhead, and those at East Barming, Keston, and Plaxtol are close to villas; presumably the other rural examples had similar associations. The Keston cemetery included a circular building of flint 9 m in diameter with six buttresses, which was plastered red on the outside and decorated with painted plaster on the inside also. A small square building

adjoined it in which a stone coffin was found, and other burials are recorded within the enclosure. The cemetery at Langley contained tombs in the form of a square tower of dressed ragstone, and a circular tower, also of ragstone, decorated externally with painted plaster, with a square upper stage including red-painted pilasters with blue bases against a green background. Remains of the funeral pyres were recorded at Langley and at Sutton Valence.

Barrows, which occur predominantly south-east of a line from the Wash to the Severn estuary? have been linked specifically with Gallia Belgica (Dunning & Jessup 1936, 42; Jessup 1959, 8). Ten sites in Kent with one or more barrow of Roman date, either established by excavation or inferred from their form or geographical position, are listed in Dunning and Jessup's comprehensive review of the material in 1936. Of the four barrows known at Canterbury, two have produced Roman material, which permits the inference that Dane John may legitimately be accepted as one of the four, though it has also been interpreted as a motte, or even as both, one over the other. If indeed Roman, its position within the town walls would be additional evidence for the southern part of the town enclosed within the circuit being a later extension.

The site of Holborough Knob also featured a prehistoric barrow and a 7th to early 8th century Saxon cemetery. The Roman barrow there was fully by Ronald Jessup in 1954 (Jessup 1955). The primary cremation of man of about forty provided interesting insights into funeral ritual. He was apparently cremated seated on, or at any rate accompanied by, a bronze-mounted folding stool with a metal-fringed cushion, with meat including a fowl, and glass vessels, fused by the heat of a pyre which had been nailed together. Nearby, five Mediterranean amphorae had been smashed in a welter of resinated wine. He seems to have gone out in style, in the first quarter of the 3rd century to judge from the pottery, providing, as one of the latest Roman cremations in Britain, an appropriate final flourish for the rite.

The barrow also had inserted in it a secondary burial of a child in a lead coffin. This has been by Toynbee as the most interesting lead sarcophagus found on a Romano-British site (Toynbee 1964, 350). Its decoration with scallop shells and Dionysiac figures, symbolic representations of the after-life in Roman Mediterranean art, makes it a document of the greatest interest in assessing the extent to which the Romano-British gentry had embraced classical culture. Although many of the individual decorative features find their best parallels in Syria and Palestine, Toynbee, in the general discussion of coffins of this type to which she was prompted by the Holborough discovery, has argued that the motifs reached Britain through a copy-book (Toynbee 1964, 352). For it would seem that the British examples were made in the province, to judge both from the overall schemes of decoration and from a number of the technical features, which have been studied by Toller (1977). The richly furnished burial in the temple-mausoleum at Lullingstone provides another example of a lead coffin of this type. Although Colchester surpasses any single site in this respect, the 27 lead coffins from Kent provide the greatest number from any county in Britain. Thirteen of them were decorated.

Religious cults

The use of Dionysiac figures as symbols of the after-life was widespread in the late Roman world, and cannot be used necessarily to imply that the Holborough family was particularly devoted to the worship of that god. It is rarely,

in fact, that we can associate a funerary ritual with a religious cult, or thereby identify the beliefs of any individual. One interesting case where we may do so is a grave from the cemetery at St Dunstan's in Canterbury, which contained a pipeclay figurine of a Dea Nutrix. Jenkins, who has made Romano-British terracotta figurines his special study, has argued that this was a cult introduced from Gaul, where figurines of this type have been found both in graves and at temples and shrines. In Britain they occur mainly in the south-east, with several examples from Canterbury and the heads of others from Richborough and Reculver (Jenkins 1957). A more widespread cult with similar Gaulish connections is that represented by figurines of a naked or half-dressed female whom Jenkins has named the pseudo-Venus (Jenkins 1958). Again, Canterbury and Richborough have produced several examples, and Springhead is among the other Kentish sites where they have been found. The Deae Nutrices and the naked pseudo-Venus figurines were made in the area of the central Gaulish samian workshops, and the semi-draped type in Cologne. We thus have both an element of trade and, in the presence of the devotions, one of cultural contact.

Another aspect of the Springhead religious site reveals the same types of connection. This is the votive column which stood in the temple precinct. It was surmounted by a Corinthian capital of a type otherwise unknown in Britain, but closely paralleled in eastern Gaul in the late 2nd and early 3rd centuries, strongly suggesting that it was the work of a stonemason from that region. I have argued elsewhere (Blagg 1979) that it should be associated with fragments of the shaft of a column with overlapping leaves (misinterpreted in the published report as also being of a Corinthian capital), standing on the pedestal which was excavated in front of temple II. This type of free-standing column with Corinthian capital and overlapping leaves on its shaft, supporting statuary in the form of Jupiter enthroned or riding down a giant, has its main distribution concentrated in north-east Gaul (Walter 1970). In the absence of statuary or of appropriate epigraphic evidence from Springhead, however, it would be going too far to identify its example specifically as a Jupiter column.

The Springhead precinct had two temples of Romano-Celtic type, with projecting chambers, and a number of other rectangular shrines. The earliest temples (Springhead I and VII) appear to date from the late 1st century, but since I am told by Harker, the present excavator, and Detsicas that the published pottery dating is rather too early, it would be out of place for me to comment on the chronology of the site at this stage, save to say that the latest temples continued in use until the mid 4th century. The most recently discovered temple VII appears, however, to have ended a short life in the early 2nd century (*Britannia*, 3 (1972), 351).

Apart from those at Richborough mentioned above, two other Roman temples are known for certain, both of Romano-Celtic type. That at Worth has produced two life-size stone hands holding a spear and a shield, presumably part of the cult statue of a war-god (Klein 1928). Votive model shields found in an Iron Age context below the temple suggest a continuation of pre-Roman cults. The other temple, excavated at Boxted, south-east of Upchurch, produced mid 2nd century pottery (*Britannia*, 4 (1973), 321-2).

Two Kentish sites have added notably to our knowledge of Christianity in 4th century Roman Britain. The wall-paintings at Lullingstone, with their Chi-Rho symbols and richly-dressed figures in attitudes of prayer, are well enough known not to need discussion here. The rooms in

which they were painted were arranged so as to be separately accessible from outside the villa, and so continued in use after the residential part ceased to be lived in late in the 4th century. Within the house, one of the subjects of the mosaic floor of the triclinium, the Greek myth of Bellerophon on his winged horse Pegasus killing the Chimera, can also be identified as having Christian associations. Its occurrence on mosaic floors at Frampton and at Hinton St Mary in Dorset, also recognizable as house-churches by the presence of the Chi-Rho motif in their mosaics, is surely no coincidence (D J Smith 1969). The idea lives on in the representations of St George and the Dragon, and these mosaics thus provide an interesting example of the development of early Christian iconography through the selective reinterpretation of classical artistic subjects.

At Richborough, the presence of Christians is attested by a ring with the Chi-Rho on the bezel between an inverted Alpha and Omega, with the inscription *Iustine vivas in Deo* on the band (Cunliffe 1968, 98 and pl xlii, no 160). A Chi-Rho has also recently been spotted on the side of a red colour-coated bowl from the site (*Britannia*, 8 (1977), 442-3). Furthermore, Brown (1971) has, by analogy with continental examples, convincingly identified as a font the plaster-lined basin with six concave sides excavated by Bushe-Fox in the north-west corner of the fort. This has permitted him to reinterpret two lines of stone blocks nearby as part of the structure of an associated basilican church, only the second to be identified with any certainty from the whole of Roman Britain.

The hoard of late Roman silver found in Westgate gardens, Canterbury included a spoon and a ligula each with a Chi-Rho monogram (*J Roman Stud*, 53 (1963), 159, 162). The questions of the building referred to by Bede (*Hist Ecc*, 33) as a church built by Roman believers, and also of St Martin's church, and how accurate we can consider the traditions were which identified them as such in Bede's day, depend to a large extent on what view we take of post-Roman Canterbury; the evidence for this is discussed in a separate paper in this volume by Tatton-Brown.

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A gazetteer of kiln sites in the London area, including north Kent, has recently been published (Tyers & Marsh 1978, 544-6 and fig 231, with references). This reveals three major groups in Kent, indicated by kilns or wasters: Canterbury, the Upchurch Marshes, and the western Cliffe Peninsula¹. Other sites may be outliers of these nucleations, for example Springhead and Swanscombe, small-scale general producers for an immediate population, as at Preston and New Ash Green (E P Connell, pers comm), or concerned with specialized manufacture—two-handled jugs at Otford, Claudian flagons, beakes, mortaria, and plates at Eccles. Joyden's Wood appears to have supplied both a small local market² and, in association with the Cliffe Peninsula, the northern frontier (Williams 1977).

Pottery production sites of the immediate pre-conquest period are difficult to isolate. Kilns on the Upchurch Marshes, and a concentration of a distinctive minor form/fabric group at Cooling,³ provide the only relatively clear-cut sites. The 'Belgic-Roman' kilns across the Thames at Mucking, although producing pottery similar to that of west Kent (shell-tempered, lid-seated jars; see Fig 27, no 3), do not, on the basis of distribution of graffiti (Jones 1972), appear to supply Kent to any great extent. The widespread occurrences of suitable potting clays in Kent render production site prediction on geological grounds virtually worthless.

Two major ceramic zones are apparent in the 1st century AD, with the Medway providing a convenient boundary. To the east, the 'Belgic' tradition is characterized by grog-tempered furrowed jars (Fig 27, nos 1, 2); the smaller jars are also produced in flint-tempered ware on the Upchurch Marshes, achieving a localized distribution along the Swale and the Medway estuary. In west Kent, grog-tempered and shell-tempered wares occur side by side; furrowing is absent, in part substituted by horizontal combing. The lid-seated jar is typical (Fig 27, no 3). 'Patch Grove' ware may have its origins in pre-conquest west Kent grogged wares, but does not achieve a distinctive style until the later 1st century; the large jars with finger-tip decoration may have been manufactured as late as the third or final quarter of the 2nd century (Ward-Perkins 1944, for form and spatial distribution). Finer 'Belgic' forms such as the pedestal urn are found right across Kent (*ibid*, fig 11).

The earliest certain post-conquest kilns are at Canterbury⁴, and Eccles (Detsicas 1977), both Claudian. The Canterbury wares (Fig 27, nos 4, 5 are examples) are sand-tempered and wheel-thrown to a standard equivalent to that of later 1st and 2nd century output, and would appear to have supplied the military base at Richborough as well as Canterbury itself. The role of the Eccles production is uncertain. By the end of the 1st century Canterbury was supplying coarse sandy wares to most of Kent east of the Forest of Blean, alongside the grogged wares, which were probably not manufactured beyond the 1st century; Canterbury wares, including flagons, mortaria (notably Hull 1963, form 497), jars such as Figure 27, no 6, and bowls such as no 7, continued to be supplied to this area throughout the 2nd century.

Fine black wares were being produced at the Upchurch Marshes by the late 1st century; the nearest town, Rochester, is eight miles from the main production area, but

the early villa at Hartlip and a scatter of rich burials attest to considerable wealth in the Upchurch-Miltonarea in the 1st century AD (VCH 1932). The hypothesis of some form of local patronage is attractive, with water transport clearly providing the potential for widespread trading along the Kent coast and up the Thames towards London. Wares of this type form a predominant proportion of fine ware assemblages of 1st to late 3rd century date across the whole of Kent; red-burnished and white-slipped wares may also have been produced in this area, although confirmatory evidence is lacking.

Another 1st century ware possibly produced in Kent is represented by a range of cream mortaria with potters' stamps, which are found throughout the province (Hartley 1977). Brockley Hill provided a second major source for early mortaria for the Kent market; although Brockley Hill flagons are confined to west Kent, mortaria are distributed throughout the county.

Kilns producing sand-tempered wheel-thrown wares are first attested in west Kent in the first half of the 2nd century, at Otford, New Ash Green, and Chalk. The distribution of reduced bead-rim jars in these wares is restricted in the main to the western zone and the Medway estuary (Fig 27, no 8). Second century BB2 jars share this distribution, with the addition of Dover, where they supplant Canterbury-type wares in the latter part of the century. BB2 dishes, on the other hand, are found throughout the county from the early 2nd century onwards, in large numbers. Williams (1977) has provided possible evidence for manufacture of dishes within east Kent from an early 2nd century date; jars and dishes are produced in north-west Kent from the same period onwards, and Colchester has been demonstrated by Williams to have been trading in Kent in BB2. The relative degrees of importance of these various industries in the 2nd and 3rd centuries is uncertain.

By the early 3rd century attested pottery production at Canterbury had ceased, and that of the BB2 industry of Cliffe-Mucking had apparently expanded, achieving complete domination of the west and mid Kent market for both burnished and plain wares. BB2 and its associated plain wares (such as Fig 27, no 9), including jars, took a greater share of the east Kent market; BB1, from Dorset and possibly elsewhere, occurs in small amounts right across the county. Third century pottery production in east Kent is strongly suggested by the distribution of a new hard grey grog-tempered ware, and of oxidized mortaria, both exhibiting an eastern bias, particularly in the former case. The ceramic zones of the first two centuries have to some extent broken down; however, certain burnished ware forms produced alongside BB2 in the Cliffe-Mucking industries (for example, Fig 27, nos 10, 11) occur with some frequency only in the west and Medway areas as far as Kent is concerned. Cliffe-Mucking flanged dishes are quite common in Canterbury as well as the west, indicating some definite west-east trade.⁵ Hand-made grog-tempered ware, coarser than the aforementioned grey ware, first occurs in 3rd century groups in east Kent, but is virtually absent from the west until the collapse of the Cliffe Peninsula BB2 industry in the late 3rd-early 4th century.

The Upchurch Marshes fine wares, and oxidized mortaria, also ceased to be produced before or during the early 4th

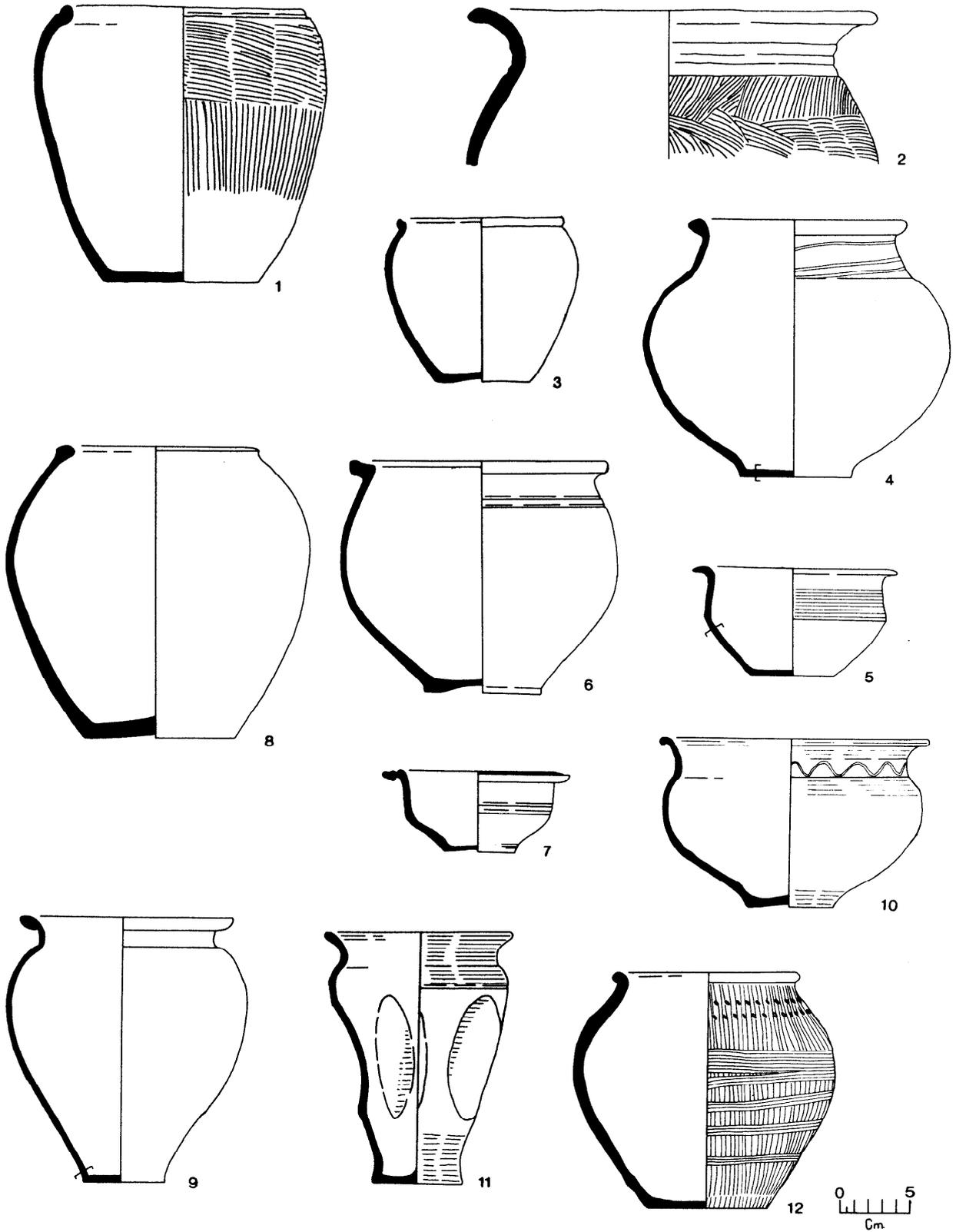


Fig 27 Selected pottery from Kent and Essex: 1 & 4 7 Richborough; 2 Canterbury; 3 Muching; 8 Osprints; 9-10 Upcharch Marshes; 11 Lullingstone; 12 Dover

century, leaving only the grog-tempered wares as certain products of Kent potters. A number of undesignated reduced sand-tempered wares, individually of minor importance but collectively quite significant, are an enigmatic feature of 4th century assemblages⁶. Alice Holt and to a lesser extent 'Portchester D' wares are widespread, particularly in the west, throughout the 4th century; the latter fabric is probably of later introduction (Lyne & Jefferies 1979). Mayen ware (Fulford & Bird 1975), a rare but widespread import from the Rhineland of 4th century date, is significantly the first continental coarse ware to achieve a broad distribution even in the south-east of the province. Earlier imports are restricted to very occasional finds on the larger urban and military sites such as Dover (Fig 27, no 12) and Richborough, and even rarer finds elsewhere.

The Colchester and Kent mortaria suppliers of the 2nd century were supplemented during the 3rd by Nene Valley ware, particularly in east Kent, and by Oxfordshire colour-coated and white wares; the latter source monopolized the market in the 4th century.

During the first three centuries AD, imported fine wares exhibit no regionality in Kent that corresponds to those of the coarse wares. Pre-Flavian imports concentrate in the large settlements and early villas along Watling Street, particularly Canterbury and Richborough; Highgate-type fine sandy grey wares are restricted primarily to the extreme north-west⁷. Flavian and later imported wares, including samian, are distributed throughout Kent. In the 4th century, Oxfordshire colour-coated ware virtually monopolized the whole market, with Hadham ware taking a small share in the north-west, and Argonne ware a thin overall distribution with a possible eastern bias. Nene Valley bulbous beakers and flanged dishes, and possibly Colchester beakers, occur not infrequently in 3rd-4th century deposits; the pre-existing trade contacts between these industries and the Kent market may have enabled them to compete successfully against Oxfordshire beakers up to the earlier 4th century; Oxfordshire wares first became common in Kent during the late 3rd century. Other imports of this period, such as Pevensy, New Forest, and Eponge wares, are all extremely rare finds.

Notes

1 Catherall and Pollard (forthcoming) discuss a BB2 kilnsite at Higham, found since this gazetteer was compiled.

- 2 Tester and Caiger (1954) no 20, has been found only on this ?kilnsite by the author.
- 3 Pollard (forthcoming), fabric 1
- 4 Reed Ave (info F Jenkins) and St Stephens kiln II (Jenkins 1956)
- 5 Jones & Rodwell 1973, type C; Catherall & Pollard forthcoming, type 5
- 6 An interim statement on 4th century coarse wares is included in Bradshaw & Pollard forthcoming.
- 7 Poppyhead beakers are occasionally found outside this area, other forms more rarely.

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Introduction and summary

The Anglo-Saxon settlement of Kent began during the first half of the 5th century. After only a few decades of conflict at the expense of the British it was sufficiently well consolidated for an independent Germanic kingdom to emerge, apparently before AD 500. Kent appears unique amongst the kingdoms of the English in possessing a stable royal dynasty and a recognizable kingdom structure from such an early date. During the 6th century its people exploited their unrivalled geographical advantages both to maintain contact with their south Scandinavian homelands and to forge new mercantile and dynastic links with the Merovingian Franks across the Channel. In fact they seem to have acquired a trading monopoly, as a result of which Kent became the most cosmopolitan, prosperous, and influential of the English kingdoms (Fig 28). Therefore, towards the end of the 6th century, when its veteran king Ethelbert became overlord of the southern English, Kent was chosen as the most suitable place, for the Roman missionaries under St Augustine, from which to begin the conversion of the English to Christianity. From c 600, nominally at least, Kent was a Christian kingdom, divided into two dioceses based on Canterbury and Rochester. As a result of Ethelbert's position and the travels of the Christian missionaries, there was now more contact between Kent and the rest of England, particularly at the royal and aristocratic levels of society, and this shows in the archaeology. In the 7th century the distribution of luxury goods

becomes more widespread, perhaps as a result of diplomatic gifts and marriages, perhaps also because of the gradual breaking down of Kent's trade monopoly. But this was not finally smashed until the end of the 7th century, first by Wessex, which proceeded to establish its own port at Southampton, and then, in the 8th century, by Mercia, which seized control of London and the Kentish ports. With the death in 725 of Wihtried, Kent's last strong king, Kentish independence was at an end. The same period saw the final victory of Christianity over the lingering pagan custom of burial with grave-goods, and thus a great falling off in the evidence from archaeology. To redress the balance, more must be done to excavate Kent's towns, ports, monasteries, and habitation sites generally, and correspondingly greater weight will rest on the evidence of place-names. The logical stopping place for this short essay, however, is the early 8th century.

The coming of the English

The events which led to the overthrow of British authority in the 5th century, and the establishment of English dominion over the eastern and south-eastern parts of what had been the late Roman diocese of Britannia, are not so well documented nowadays as we used to think. In fact, such has been the rigour of historical source criticism in recent years, we are left with practically no valid dates at all for events in the 5th century. On the other hand, we still have our traditional material and we have an increasing

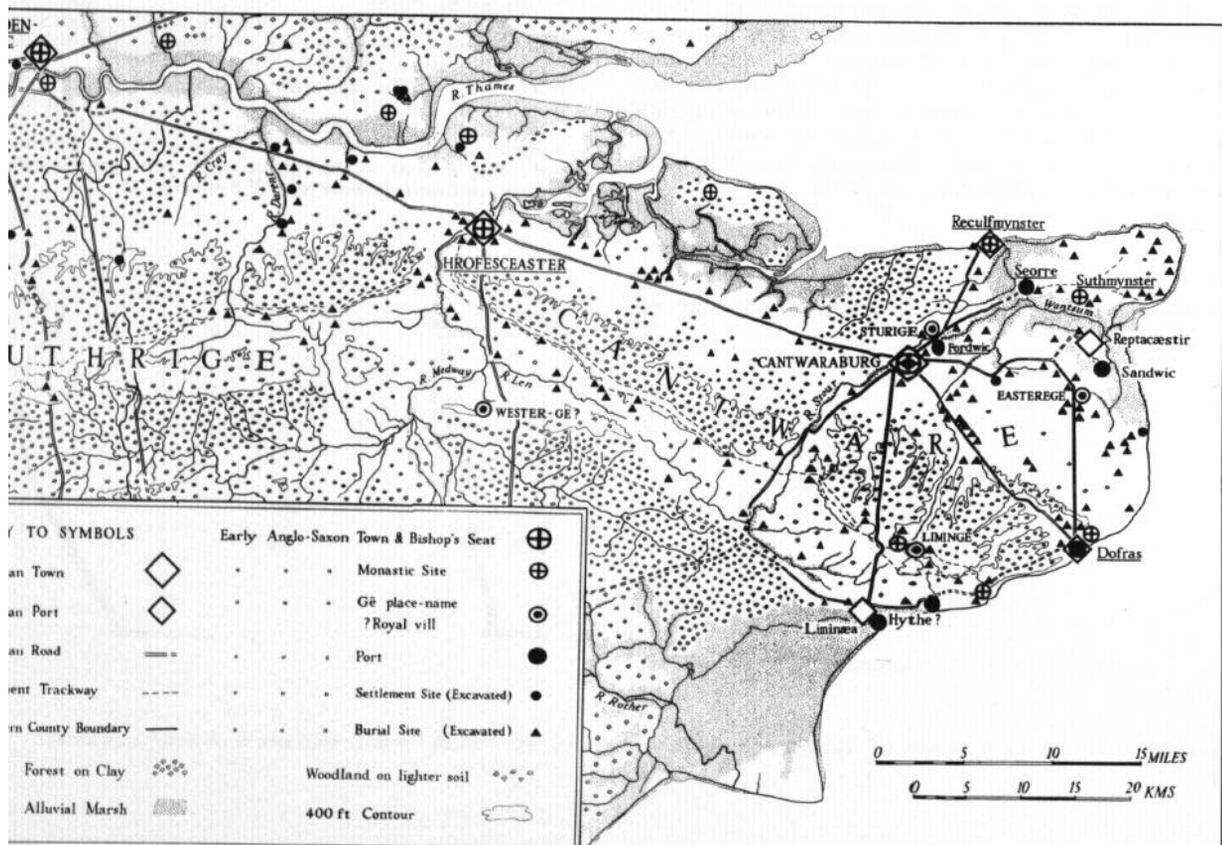


Fig 28 Map of Anglo-Saxon Kent to c 700

body of archaeological evidence to deploy. To discuss all this fully would take all and more than the space allotted me. What follows, therefore, is performe very summary.

In AD 407 the newly elected British Emperor Constantine III embarked from the fort of Richborough in Kent to deal with the threat to Britain created by the invasion of Gaul by hosts of Vandals, Alans, and Suevi, who were advancing on the Channel ports. Britain had been so denuded of troops, by Magnus Maximus in 383 and Stilicho in 401, that Constantine must have virtually stripped the island of its last official defenders. The result, while he was occupied abroad, was that Britain was overrun by 'barbarians from beyond the Rhine' (Zosimus, vi.5.2 f). The so-called Gailic Chronicler of 452 identifies them: 'Britain was devastated by an incursion of Saxons'. This chronicle, once thought to be a contemporary document of 5th century events, has now been shown to be at best an 'edition' written in the 9th or 10th centuries (Miller 1978). Until we understand it better, however, it would be premature to dismiss all the information it contains; and this British entry is not taken from any known late source such as Bede's *Historia Ecclesiastica*. Moreover, a north German invasion in the years immediately after 407 is just what is required to explain the archaeological evidence for the appearance of cremating peoples, from continental Angeln and Saxony, in parts of eastern and midland England during the early years of the century (Myres 1969; 1977). The earlier date for the beginnings of this settlement, postulated by Myres (Myres & Green 1973, 13 ff), is ruled out by the lack in England of any of the brooch types common in north Germany during the 4th century (Böhme 1974; S C Hawkes 1974, 412 ff, 1975, 333 ff; 1978; Evison 1977).

In the crisis caused by these barbarians, Zosimus goes on to say, the Britons expelled the last Roman officials, established a sovereign constitution of their own, and, taking up arms on their own behalf, freed the cities from the barbarians who were pressing upon them. Brave doings indeed! But if we have identified the barbarians rightly, then the Britons appear to have been faced not with a repetition of the piratic raiding that had been so disastrous in the 4th century, but with the arrival of 'boat people', whole families and communities uprooted by, and fleeing from, the ruin created by the peak of the marine transgression which was flooding their fields and rendering their homelands uninhabitable. During the course of the 5th century, as excavation has shown, nearly all previously inhabited sites along the Frisian and north German coasts had to be abandoned, and the emigrants seem to have come to Britain. Faced with a refugee problem on this scale, the British authorities, however successfully they coped initially, can have had little alternative but to settle the survivors down wherever there was room for them—West Stow in Suffolk appears to represent just such a settlement (West 1978; Johnson 1980, 129 ff)—and hope to contain them by treaty arrangements. Probably the majority, without powerful leadership, were only too glad to be given land to cultivate in return for promises of peaceful coexistence and military cooperation. In Roman terms they would be *laeti* rather than the more prestigious *foederati*. But to the Anglo-Saxon incomers this would doubtless have been academic. For here was good land to settle, and as Roman control dwindled in the course of the 5th century, more and more of their kinsmen were able to join them. By the middle of the century large tracts of eastern and midland England had been taken over by the English (S C Hawkes 1978).

Our remaining external sources seem oblivious of what was taking place in eastern England, but their content is

extremely slight. Zosimus tells us that the Emperor Honorius wrote to the cities of Britain in 410, telling them to defend themselves, and Procopius states, with benefit of hindsight, that after the death of Constantine III in 411, 'The Romans were no longer able to recover Britain, but it remained from that time under tyrants' (BV i.2.38). Finally, in the *Vita Germani* of Constantius, we hear how Germanus, bishop of Auxerre, visited Britain in 429 and again in the 440s to preach against the Pelagian heresy, which was rife among the Christian British at this time (Myres 1960). He is said to have fought against Saxons and Picts but we are not told where. His itineraries are not described, though clearly they avoided areas occupied by Saxons, and the only place mentioned is St Albans, where we know from archaeology that Roman civic life continued in the 5th century and that Saxons did not settle nearby until the 7th (Frere 1966, 97 ff). Most interesting in the present context is the description of the wealth and status of the Pelagian leaders. They are not named, but in the 9th century compilation known as the *Historia Brittonum*, which embodies much earlier tradition from Kentish sources, the leader of the Pelagian party is called Vortigern.

Vortigern, of course, has come down to us as a central figure in the Kentish invasion legend, in which Hengest was the chief protagonist. Fragments of the Kentish story including him were incorporated in Bede's early 8th century *Historia Ecclesiastica* and the *Anglo-Saxon Chronicle*, compiled in the 9th century, while the *Historia Brittonum* contains a lengthy narrative which may have a basis in fact. Doubts have been cast on the historicity of Hengest (OE = stallion or gelding) because his 'brother' Horsa (OE = horse) turns him into one of a pair of horse deities (Turville-Petre 1956-7); but it is more practical to regard Horsa as a later accretion and keep Hengest in his familiar all-too-human role as a faithless leader of federates. Much has been written about Vortigern and the traditions that became attached to him (Chadwick 1954; Kirby 1968; Ward 1972), and modern fiction has been piled upon ancient. Current research is more stringent, but the very ancient name-forms, Celtic 'Vertigernus' and Anglo-Saxon 'Uurtigernus', which Bede had amongst his sources (Chadwick 1954, 26; Miller 1956b, 252 ff), suggest most strongly that he really did exist. 'His legend was known in England and in Wales at a very early date. Therefore I do not think we can dismiss him, even though it is perhaps difficult to visualize the nature of his role in 5th century Britain... He is perhaps best seen as an overlord of some sort, who had general control over military matters for the territories of a group of southern *civitates*' (Dumville 1977, 185).

The earliest record of him is in the *De Excidio et Conquestu Btianniae*, which the British cleric Gildas 'published' probably between 545 and 549 (Miller 1975a), and which now exists in a modern translation (Winterbottom 1978). This and historical criticism have done much to validate the coherence and intelligibility of the Gildasian narrative of events in the late 4th and 5th centuries (Stevens 1941; Miller 1975b; Thompson 1979), but his seamless narrative, without absolute dates and place-names and with few personal names, presents many problems still. Gildas based the history of Britain after the death of Maximus in 388 on a Triad of Appeals from the Britons to Rome for help against their northern enemies the Picts. The two first were answered by Roman military expeditions (the second in terms that suggest Gildas knew of Honorius's letters), but the third, to Agitius *ter consul*, was ignored. Despite a famine and a civil war, the British succeeded in driving off the northern barbarians, who

thereafter raided only sporadically. A time of unexampled prosperity ensued, but it was marred by the rise and fall of kings (tyrann)-confirming Procopius—and by vice and corruption amongst laity and clergy alike (? vague memories of the Pelagian heresy). Meanwhile (*interea*) there was the rumour of another attack impending from their old enemies, and this, combined with the crippling actuality of a deadly plague, led the Council (? of British *civitates*: Frere 1974, 411 ff), and the 'proud tyrant' Vortigern, to commit what Gildas castigates as the ultimate folly of inviting in Saxons as mercenaries. The first three shiploads were established with the status of *foederati* somewhere in the east of England, and seem to have done their job effectively, for Picts are not mentioned again. They were followed by a larger contingent of reinforcements who were also accepted as *foederati*, all of them expecting their hosts (*hospites*) to provide them with food supplies, ie *epimonia*, monthly rations, *annona*, supply of corn. After some time, *multos annos*, they complained of insufficient rations and, making good their threat of treaty-breaking (*rupto foedere*), they overran and pillaged the British territory to the west of them, besieging and sacking towns, and carrying the fire of destruction to the western ocean. Many Britons were killed, including magnates and priests, others were driven overseas or into hiding under wretched conditions, and yet others were enslaved. After a time the Saxons returned to their own territory and the Britons rallied under the leadership of Ambrosius Aurelianus, who was able to defeat the barbarians. And from that first one side then the other was victorious, down to the siege of *Mons Badonicus*, when the Britons won a notable victory which brought them a long interval of peace. This still endured at the time Gildas was writing. In a difficult passage Gildas tells us that the battle of Badon was fought in the year he was born, which was the 44th before his 'publication' of the *De Excidio*. This backward computation apparently baffled Bede, who interpreted the text, in a manner that betrayed his own chief preoccupation, as meaning 44 years after the *Adventus Saxonum*, but this we may dismiss (Miller 1975a, 171-3). The two versions have given rise to lengthy debates about the date of *Mons Badonicus*, but on internal textual evidence it seems that we may place it between 502 and 506 (Miller 1975a, 173-4).

If the early 6th century saw the end of Gildas' account of Anglo-Saxon settlement history, when did it begin? And where? For Bede, having no other fixed dates, it began, perforce, after the letter to *Agitius ter consul*, whom he identified, rightly in the opinion of most modern scholars, with Aetius, who began his third consulship in 446. But as a *terminus post quem* for the whole sequence of events it hopelessly constricted the timetable, as Bede himself was unhappily aware. In her brilliant study, Miller (1975b) shows his mind at work, and how he silently amended Gildas' text to reduce to a minimum the interval between the letter and the invitation to the Saxons. His dates for their coming, variously 445, 446/7, 449, 450-55, are his own computations and, when analysed, appear completely artificial. But such was his reputation as an historian that Bede's interpretation not only influenced later Anglo-Saxon historiography, notably the *Anglo-Saxon Chronicle*, but remained largely unchallenged, by historians and archaeologists alike, until very recently indeed.

Now, however, alternative commentaries on Gildas are beginning to proliferate. In the latest, Thompson (1979) proposes that Gildas lived and wrote in north-west Britain that his historical narrative was confined to events in the north, and that Saxon federates he knew of were employed in what was to become Deira. Archaeologically this is not

an attractive hypothesis, because, of all the areas settled by Anglo-Saxons in the 5th century, Northumbria was perhaps the least populous and successful (Faull 1977; Eagles 1979). Further, Thompson outdoes Bede in playing down the interval between the letter to Aetius and the invitation to the Saxons, and in his eagerness to convince us that the British tyrant learned the technicalities of federate employment from Aetius, almost persuades us to forget that Aetius never intervened in Britain.

Thompson is not the first person to remark on Gildas' correct use of the late Roman terminology associated with *foederatio*. Stevens (1941, 369) wrote: '*Annona* and *hospites* are technical terms correctly used, and *epimonia*, though not elsewhere found, looks like another.' *Foedus*, itself, is of course another. What is astonishing is that no-one seems to have considered how Gildas acquired this specialized vocabulary, which is not the kind of thing that would survive in oral tradition. Clearly he was using a written source. The implications are startling. For his story of the invitation to the Saxons and the federate revolt Gildas was not relying on vague oral transmission; he had a written account at his elbow! According to his own testimony (*De Excidio*, ed Winterbottom, 4, 4), this can only have been (ex) the *transmurina retatione*, the 'narrative from overseas', which with all its imperfections was all he had in the way of historical source material, since all insular accounts had either been destroyed or carried away by the Britons who went into exile. The reference here presumably, is to the Britons whom he later describes as sailing away, lamenting, to lands beyond the seas, after the federate revolt in the previous century. They mostly went to Gaul, to be settled mainly in Brittany, and it is from here, surely, that Gildas' source, with its written information about federate Saxons in 5th century Britain, must have come. Archaeology has made it clear that it was not the north of Britain which bore the chief brunt of the Anglo-Saxon invasions, but the east midlands, Past Anglia, the Upper Thames region, and the south-east. The majority of British refugees are likely to have come from the southern part of Britain, therefore, and the story of the Saxon federates is statistically much more likely to have originated in the south. Most writers have never doubted this.

In another recent commentary on Gildas, Miller (1975b) resolves the chronological problem by proposing that his narrative falls into two sections; a northern story about the Pictish wars which ends with the appeal to Aetius, and a southern story about Vortigern and the Saxon federates, which, beginning *Interea* (meanwhile), may overlap with it and thus not be controlled by the third consulship of Aetius between 446 and 452. This would leave us free to place the coming of the Saxons more or less where we liked. Earlier critics, seeking to relieve the chronological strain in what seemed a continuous narrative of events, preferred to assume that Gildas had misplaced the letter to Aetius, having confused it with the tradition of an appeal in the early 5th century, for example to Honorius (Stevens 1941; Myres 1951; C F C Hawkes 1956). They were thus able to contain the Pictish wars within the late 4th century and early 5th centuries and introduce the Saxons well before the middle of the 5th. On the whole this still seems a good solution. It enables us to place the letter to Aetius, from which Gildas was actually able to quote (doubtless thanks to his fragmentary British history)-'To Aetius thrice consul: the groans of the British... The barbarians push us back to the sea, the sea pushes us back to the barbarians; between these two kinds of death we are either drowned or slaughtered.' This vivid evocation of the dual disaster (parts

of Britain were being flooded too (C F C Hawkes 1956, 94) has always seemed best placed in the context of the Saxon revolt. When one had reached this point in the argument, it used to be normal to quote the entry in the Gallic Chronicle of 452, which states that in the eighteenth and nineteenth years of the Emperor Valentinian, in the early 440s, 'The provinces of Britain, long troubled by various happenings and disasters, are brought into the dominion of the Saxons.' Once our sole contemporary independent reference to the Saxon takeover of southern Britain, this entry is now regarded as perhaps dependent on Bede (Miller 1978) and thus of doubtful integrity. However, we have plenty of external evidence that by the 460s very great numbers of British had fled to Gaul, and this can only have been the outcome of the success of an Anglo-Saxon takeover in the middle of the century, during which the British had failed to obtain help from Aetius. With this general framework we must be content: none of our other dates for Anglo-Saxon comings and goings in the 5th century, whether in the *Anglo-Saxon Chronicle* (Harrison 1976) or the *Historia Brittonum* (Dumville 1974), can be other than retrospective computations of doubtful accuracy.

Kentish traditions

Looking back over the older literature on the so-called *Adventus Saxonum*, it is amazing to recall how few people questioned the equation of the successful federates with Hengest and his people in Kent. So far as we know, the equation was first made by Bede under what Miller calls 'Kentish dynastic propaganda.' It is however thoroughly necessary to emphasize that there is no evidence of the conflation of Gildas' narrative with the Kentish foundation-legend until after 725, and that Bede still had reservations about it (*perhibentur*) in 731. There is thus no guarantee that Gildas' settlement *in orientali parte* intended Kent rather than, for example, East Anglia' (Miller 1975b, 254-5). Indeed not! In fact the archaeological evidence is opening up various possibilities. For example, on both sides of the Thames, which is both the principal route of entry into central England and a major frontier between north and south, we find the burials of distinctive groups of Germanic peoples who differ from those in eastern England in several important respects. They did not cremate, but inhumed their dead in the Roman manner, and, though from their women's brooches they seem to have been mainly Saxons, the menfolk were buried with early 5th century versions of late Roman military belt equipment. Such people have been found very close to the Roman town of Dorchester, at a major crossing of the Upper Thames; at Croydon south of London; at Mucking, on an eminence overlooking the Thames estuary; and, in Kent, at Chatham and Milton Regis, both sites of strategic importance on the south bank of the river (S C Hawkes & Dunning 1961; Evison 1968; *Curr Archaeol*, 50 (1975), 73 ff, S C Hawkes 1978, 77 ff). They are very reminiscent of, perhaps related to, the Germanic troops who served as *comkatenses* and *foederati* in northern Gaul and the Rhineland during the later 4th and early 5th centuries (Böhme 1974). Certainly their burial customs and their equipment speak for an established relationship with the late Roman Empire. They are just the sort of people, archaeologically familiar already across the Channel, whom the magnates of Britain would have sought to recruit to their own defence, against hostile north Germans as well as Picts, after 407. From their distribution, the territory they were protecting will have been southern and south-western Britain, against the Midlands, the north, and ingress up the Thames. The equipment in their graves, typologically later than the latest

coin-dated forms on the Continent, buried c 410, suggests that these 'official' Saxons were recruited in the second decade of the 5th century. They may well have been the very federates whose employment in terms of *hospites*, *annona*, and *epimenia* was correctly recorded in Gildas' source. But we shall never know their political history: unlike the Jutes of Kent they left no traditions.

The reason why Bede can have conflated Gildas' federates with the federates of the Kentish founder-legend is not far to seek. He probably had no alternative choice. Of all the English kingdoms existing in Bede's day, only Kent and Sussex had royal dynasties with origins securely rooted in the 5th century, and therefore only they preserved traditions, however garbled or fragmentary, from that early period. The *Anglo-Saxon Chronicle* preserves snippets of invasion legends for Kent, Sussex, and southern Wessex; but of the three, Kent became much the most influential in the 6th and 7th centuries, with the result that its founder legends seem to have been disseminated more widely. For example, the deeds of Hengest before he came to Kent are celebrated in no less than two of our rare surviving Old English heroic poems, the *Finnsburg Fragment* and the Finn episode in the poem *Beowulf*. His must have been a famous story, of conflicting loyalties, which continued to be sung and embellished long after his time. As to the tale of his doings in Kent, this must also have been well known: our fullest account of it is written for us by a Welshman in the early 9th century, who is retelling legends from English sources (Dumville 1977, 185). Until we have Dumville's full critical edition of the *Historia Brittonum*, however, it would be rash to speculate about the details of the transmission.

The bare bones of the story, the arrival in three ships, the reinforcements, the dispute over rations (*HB* also mentions clothing), are similar to that of Gildas, but there are significant differences, notably the omission of the late Roman technical terms discussed above, and additions which must derive from an authentic Kentish source. Hengest is said to have come to Vortigern as an exile, to have received Thanet for his maintenance, and later to have exacted the whole of east Kent, ousting from Canterbury its British ruler or governor Guoyrancgorn. The battles he fought against the British, recorded in the *HB* and the *ASC* have recognizable Kentish place-names, Aylesford and Dareth or Crayford, as does the landing place in the *ASC*, at Ebbsfleet. In the outcome, in the *ASC* and the *HB*, the Britons fled from Kent, and in the *HB* Hengest is also reported as having been ceded Essex and Sussex by Vortigern. The *ASC* has no mention of Essex, but does report Anglo-Saxon invasion legends for Sussex immediately after those for Kent. We thus have a certain amount of quite credible detail in the *HB*'s and *ASC*'s section on 5th century Kent.

It has usually been assumed that nothing was written down in Kent before the arrival of St Augustine* and the Roman mission, and the conversion of Ethelbert to Christianity at the very end of the 6th century. But Harrison (1976, 121 ff) has recently reminded us that Bertha, the Merovingian princess whom Ethelbert married c 560, came from a literate family, was literate herself, and had at least one literate member of her household, namely bishop Liudhard, who accompanied her to Kent as her chaplain to sustain her in her Christian faith. 'The presence in Kent, from about 560 onwards, of people able to read and write' makes it possible to envisage that items of interest might have been written down from the very beginning of Ethelbert's reign. 'The Kentish traditions were obviously committed to writing in part at least at an early date, and it

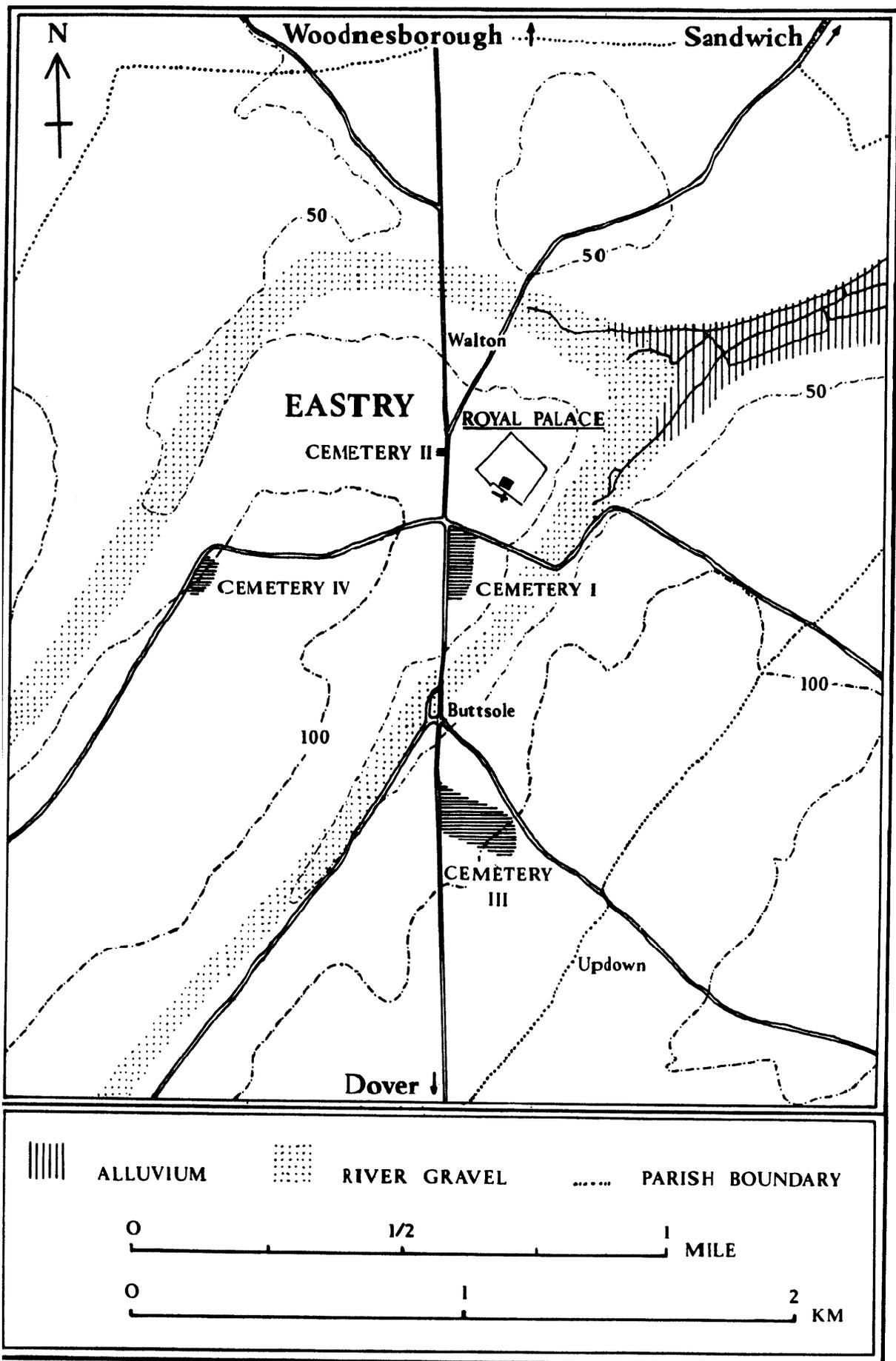


Fig 29 Eastry in early Anglo-Saxon times: a topographical sketch based on archaeological and place-name evidence

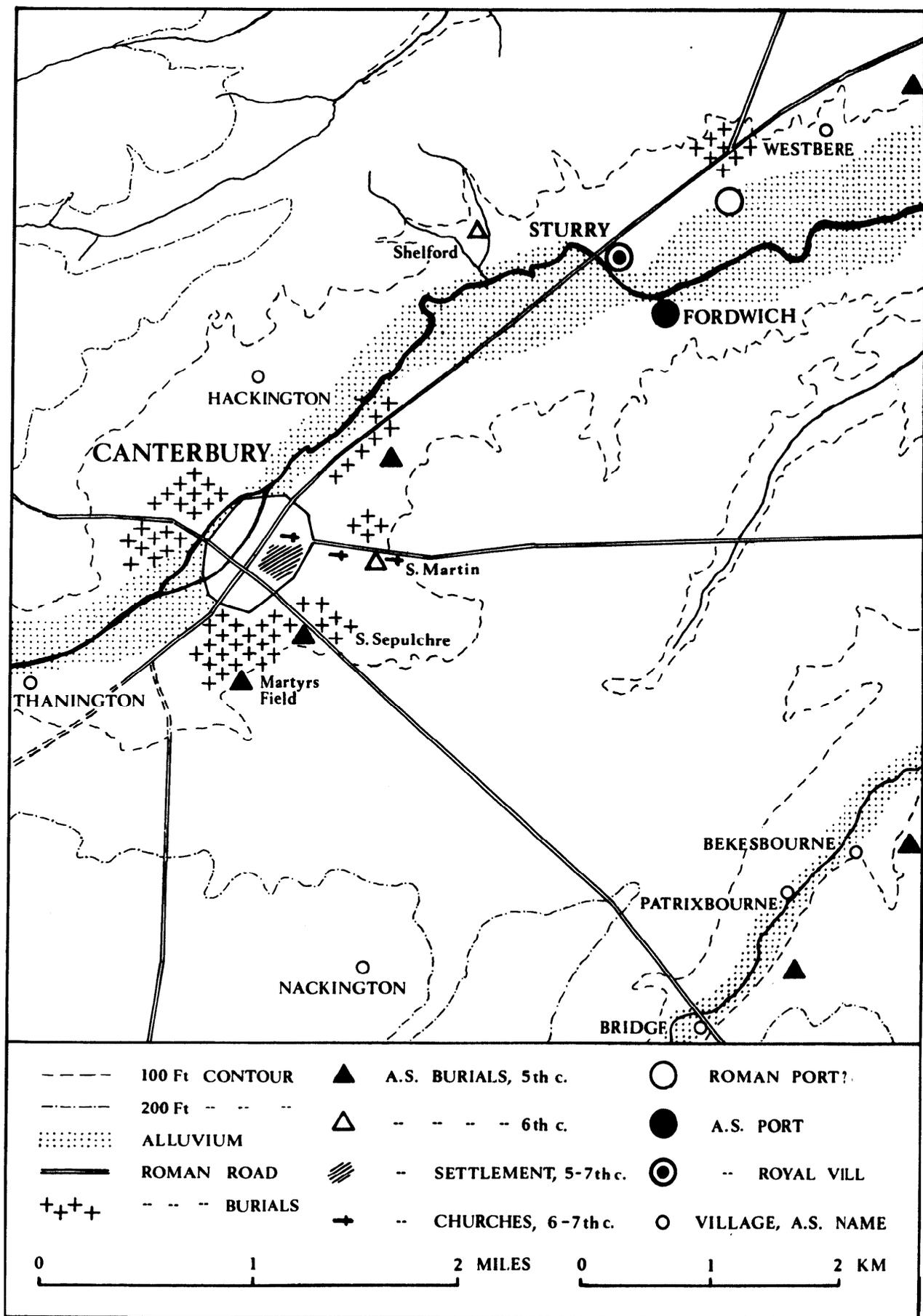


Fig 30 Map of Canterbury and district in Anglo-Saxon times

is of great importance that behind our earliest literary materials for the conquest of Kent lie not only Kentish oral tradition but ancient written records deriving probably from the late 6th or early 7th century' (Kirby 1968, 48). The primitive Anglo-Saxon form 'Uurtigernus', which Bede used in the *Historia Ecclesiastica* in 731, can only have been derived from some such ancient written source. Bede's spelling of the name Oisc (later Aesc) is another archaism. One item that was almost certainly committed to writing early is the genealogy of Ethelbert, which Bede obtained from his Kentish informants (*HE* ii, 5). 'Now Aethelberht was the son of Eormenric, the son of Octa, the son of Oeric whose surname was Oisc, whence the kings of Kent were known as *Oiscingas*. *Oisc's* father was Hengest who with his son Oisc first entered Britain at the invitation of Vortigern...' Ethelbert's long reign of 56 years was exceptional: if we allow his predecessors the normal average of 25, we can take the accession of Oisc back to the last quarter of the 5th century. In fact the *ASC* tells us that he reigned 24 years and places his accession in 488, a date which may easily have been quite accurately calculated, by use of a king-list which included lengths of kings' reigns. 'Unfortunately neither Bede nor the Chronicler, from their differing points of view, had any interest in Octa and Eormenric' (Harrison 1976, 124), who, as we shall see, reigned during a very critical half century of Kentish history.

Before Oisc, the eponymous ancestor of the Kentish royal house, we have the problem of Hengest. His name does not alliterate and there is a possible generation gap. Quite probably he was not himself the founder of the Kentish dynasty, but, as hero of the invasion legend, he was adopted into the dynasty retrospectively, to lend it the prestige of his name and well remembered exploits.

Ethnic origins

The Hengest of the heroic sagas was a Jutish or Danish warleader, with Danish royal connections, who found himself involved in a blood feud while on a visit to the Frisian royal court. According to Bede (*HE* i, 15), 'The people of Kent and the inhabitants of the Isle of Wight are of Jutish origin...'. The archaeology of 5th century Kent confirms these traditions. From the aristocrats downwards, the first Germanic settlers seem to have come from Jutland but also to have had connections with Frisia, which was, after all, on the coastal migration route.

From the evidence that survives, the first comers seem to have cremated their dead, but such is the severity of the plough destruction on Kentish downland cemetery sites that most cremation urns must now have been destroyed, perhaps to survive only as broken sherds in later inhumation burials (S C Hawkes & Hogarth 1974, 73). The 5th century is probably greatly under-represented in the burial record. However, a small selection of early pottery has survived, from sites such as Bifrons and Howletts in the Little Stour valley a few miles from Canterbury, from Westbere, near the royal vill at Sturry, from the cemetery of the royal vill at Eastry (Fig 29), from Sarre and Ozingell on Thanet, and from domestic sites in Canterbury itself (Fig 30) and the Roman villa at Wingham (S C Hawkes 1969, 187). Some at least may represent the federates of Hengest, and their reinforcements. Myres has made a convincing case that this pottery is best paralleled in Jutland and, to a lesser extent, Frisia (Myres 1969, 48 ff, 95 ff, map 7, fig 4C; Myres 1970, 28 ff, fig 7). Similarly pottery occurs elsewhere in England but nowhere in such a concentration as in Kent east of the Medway.

As to the Isle of Wight, only a very few pots have survived from 19th century excavations, but again they are distinctively Jutish (excepting one wheel-made 5th century Frankish vessel (Evison 1965, fig 9f)), so Kent and Wight would seem to have been ethnically linked from the beginnings of their respective settlement histories. Cultural connections, at a high social level, continued into at least the 6th century, as shown by the finds from Chessell Down.

Returning to Kent, other 5th century artefacts attesting Jutish origins are the early cruciform brooches from such sites as Bekesbourne, Howletts, Bifrons, and Sarre (Aberg 1926, 29 ff, S C Hawkes & Pollard 1981, 322-4), the earliest of which were probably brought over in the middle of the 5th century, though some were not buried until the 6th. Then, belonging to the aristocratic level of Jutish society, we have six surviving silver-gilt relief brooches of south Scandinavian manufacture. The earliest of them, with semicircular headplate and decoration in the Nydam Style, probably dates from c 450, while the others, with rectangular headplates and Salin's Style I ornament, were made during the last decades of the 5th century and the very beginning of the 6th (Bakka 1958; Chadwick (Hawkes) 1958; S C Hawkes & Pollard 1981; Haseloff 1974; 1981). These will have been worn, as cloak fasteners, by the womenfolk of the leading Jutish families, and may indicate either a continuing immigration, at least of brides, from the northern homeland, or Kent's continuing dependence on Jutland and Denmark for the supply of quality goods requiring craftsmanship in precious metals. The cemeteries which have yielded these are Bifrons, Gilton, Goldstone, Finglesham, and the Martyrs' Field outside Canterbury.

Finally, there are some 21 imported gold bracteates, all but one of the Jutlandic D-types (Leeds 1946; S C Hawkes & Pollard 1981). These are prestige objects, comparable in status with the great silver-gilt relief brooches, and came into Kent during the same period. Primarily amuletic objects which were worn by rich ladies as pendants, there is some evidence that bracteates may have been imported also for the sake of their limited value as bullion. Gold was otherwise in very short supply in England at this time. The majority of the surviving bracteates came from the cemeteries of Bifrons, Sarre, and Finglesham, places mentioned already in connection with other Jutish imports. There can be little doubt that these were the burial places of some of Kent's ancient Jutlandic families, who had come over in the 5th century and kept up their northern connections at a high social level for several generations. There seem to have been west-Scandinavian colonists in other parts of eastern England from the end of the 5th century, but with nothing like the wealth and prestige which we meet in Kent. The distribution of the D-bracteates, for example, is a good illustration of both the direction and the exclusiveness of Kent's Scandinavian contacts (Fig 31). It seems very possible that Hengest and the Kentish kings were not merely Jutes or Danes but, more specifically, 'Woden-born' royal Jutes or Danes, with a considerable following of their kindred (Miller 1975b, 254 ff). This would explain much about Kent's rapid rise to pre-eminence amongst the English kingdoms.

While east Kent was being settled by Jutes, the rest of southern England, except the Isle of Wight, was being colonized by Saxons. Essex, across the Thames estuary, may have been more mixed, but west Kent and Surrey received a predominantly Saxon population, as did the Upper Thames from very early in the 5th century. Around the middle of the century the Saxons on the Upper Thames were reinforced by some upper-class Franks (Evison 1965, 31 ff), and during the whole 5th century the Thames must

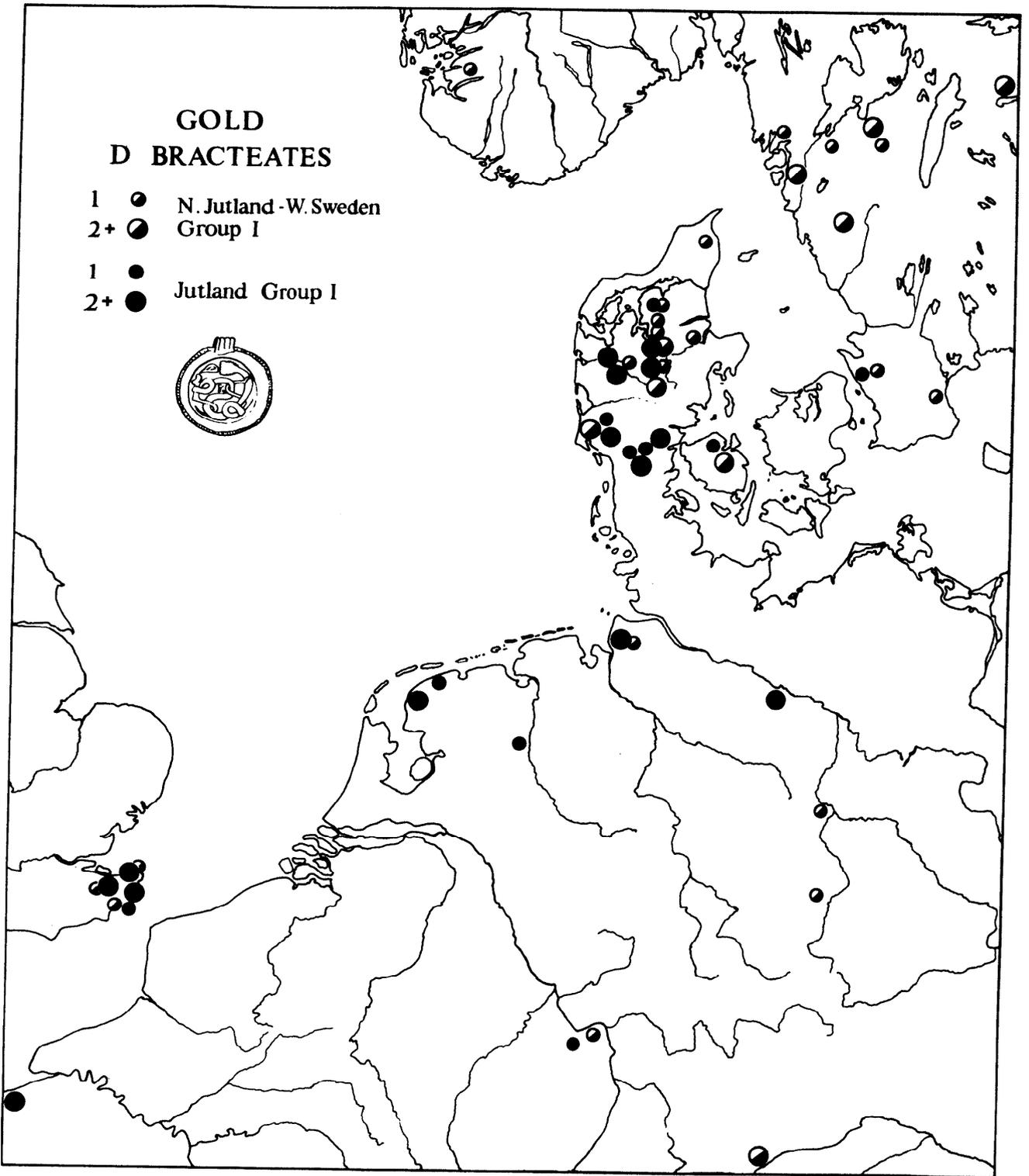


Fig 31 Distribution of gold bracteates in northern Europe

have carried innumerable boatloads of colonists, from north Germany and from across the Channel, to their new homeland. Saxons and Franks together pioneered the settlement of Sussex in the middle of the century. Saxons and Franks had been closely connected on the Continent in the late 4th and early 5th centuries (Böhme 1974) and their continuing alliance in the 5th appears to have been one of the more dynamic features of southern English settlement history. These Saxo-Frankish settlement groups would seem, from archaeological evidence, to have maintained contact with each other during the later 5th and 6th centuries. The Jutes of Kent, therefore, were virtually islanded by them, and the ethnic difference may be one of the factors contributing to Kentish separation in the 6th century.

The 'Frankish phase'

But geographically east Kent is more or less an island anyway, and, with its short sea crossings, closer to the Continent than to the rest of England. This is the corner which the Romans had developed for the passage of their armies and their trade, and, once the initial turmoil of the southern English settlements was over, and the Saxon peoples had settled down, the new overlords of Kent re-established the old links with the nearer parts of the Continent. Kent seems not to have received Frankish settlers during the 5th century, but in the period *c* 500 we find evidence of affluent incomers wearing the characteristic glass- and garnet-set belt fittings of the Frankish menfolk. Examples have been found in a well furnished man's grave at Finglesham and in several graves at Lyminge, in a cemetery close to the site of a royal vill. This was the period of the expansion of the Merovingian dominions under Clovis and it seems very possible that some of the Frankish notables may have found it expedient to seek service overseas with the king of Kent. During the next two generations there seems to have been a wealth of cross-Channel contacts of one kind and another. In the outstandingly rich women's graves in such cemeteries as Bifrons, Finglesham, and Lyminge, for example, we find imported glass and bronze bowls, and Frankish brooches of all kinds; garnet-set disc and rosette brooches, bird brooches, radiate brooches and other types, and in the very richest graves, especially at Bifrons, we have many examples of the Frankish fashion of the gold-brocaded *vitta* or headband (Crowfoot & Hawkes 1967). Quite often these new-fashioned Frankish objects were buried alongside the old outworn Jutish brooches and Scandinavian gold bracteates, as pictured in the Bifrons 29 group (Fig 32). The cosmopolitan appearance of these assemblages, which are unique not only in England but also in the whole of Europe, makes any simplistic solution, such as a further mass immigration of Franks, quite inappropriate. The situation was obviously much more complex.

To quote myself (S C Hawkes 1969, 191), 'It is against this background that we must see the first historically recorded event in Kent's 6th century history, the marriage in about 560 between the young Ethelbert and the Frankish princess Bertha, daughter of Charibert king of Paris (Gregory, *HF*, iv.6 and ix; Bede *HE*, 1.25). We know nothing about the underlying motives, nor even whether the match was the first of its kind: we know more about its consequences, in the blood tie, renewed during the 7th century, which was for some generations to link the Kentish and Merovingian dynasties, and, Bertha and her family being Christian, the smoothing of the path for the Augustinian mission nearly 40 years later. Yet there must have been strong reasons for the king of so great a power as Neustria in the middle 6th century to enter into an alliance

with a kingdom apparently so small and unimportant. Those who prefer to see the flow of Kentish goods into the hands of the Kentish nobility simply as the legacy of diplomatic gifts, or of marriage with Frankish brides, merely increase the perplexity without explaining what made the connection so desirable. The obvious answer is trade. I think we have to judge that, already from the early 6th century, this little kingdom had begun to exploit its unique geographical proximity to the continent, and was making itself the leading commercial power amongst the English.' Indeed, from the fact that its rich and cosmopolitan culture is unique to Kent, and that very few foreign goods found their way to other kingdoms, it begins to look as if Kent had created for itself a monopoly in trade relations between England and the Continent. It is surely significant that the embryonic kingdoms of Essex and Sussex, though not ill placed to trade on their own account overseas, did not apparently do so. Can it be that Kent, with the help of its strategically placed colony on the Isle of Wight, forcibly prevented these Saxon kingdoms from participating? If so, it can only have been by means of following Roman precedent in keeping up some sort of naval patrol in the Channel. This would imply a royal control over trade, which is perhaps where Kent scored over these clearly less developed kingdoms in the first half of the 6th century.

Archaeological evidence tells us that Kent's overseas interests, during the reign of Ethelbert's father and grandfather, were very extensive. They reached to the Charente in south-west Gaul on the one hand, and on the other from Normandy to the Rhineland, Frisia, Thuringia, and, of course, southern Scandinavia. The nature of the evidence also suggests that perhaps the trading ventures were carried out by families, with good coastal establishments in Kent, striking up private arrangements with comparably placed families abroad. To make the 'deals' stick, it would be necessary to cement them by intermarriage and this surely must be the explanation of so many items of Frankish female dress, even occasional Thuringian pieces, as at Bifrons, in the cemeteries of Kent's ancient Jutish aristocracy. The evidence of exogamy is not one-sided: there was much jewellery of Kentish and Isle of Wight origin in the south-west French cemetery at Herpes (Leeds 1936, 56 ff), and much more is coming to light in newly excavated cemeteries in coastal northern France. All this appears to date, however, from *before* the reign of Ethelbert. During the later 6th and 7th centuries it is remarkable how little Frankish personal jewellery found its way to Kent. The few exceptions, the rare sets of inlaid iron belt fittings, such as have lately come to light at Finglesham and Updown (Hawkes 1981), are men's gear. We do not know how the kings of Kent extracted their tolls from the proceeds of trade in the earlier 6th century, but the abrupt cessation of any evidence of exogamy, from a time coinciding with the accession of Ethelbert, strongly suggests that he suppressed the hitherto vigorous element of private enterprise. Possibly the royal alliance between Neustria and Kent *c* 560 was designed to seal some agreement introducing strict royal monopoly of the organization of trade. I will return to this subject later.

Meanwhile, though we do not know what were the staple goods that Kent was exporting (cloth, hides, furs, slaves, hunting dogs?), nor to what extent they 'bought them in' from other English provinces, by the time of Ethelbert Kent had prospered greatly. Some of the imported luxury goods have been mentioned already, but there is also the vast quantity of silver that must have been at the disposal of Kentish jewellers from at least the second quarter of the 6th century. People have usually assumed that silver in early

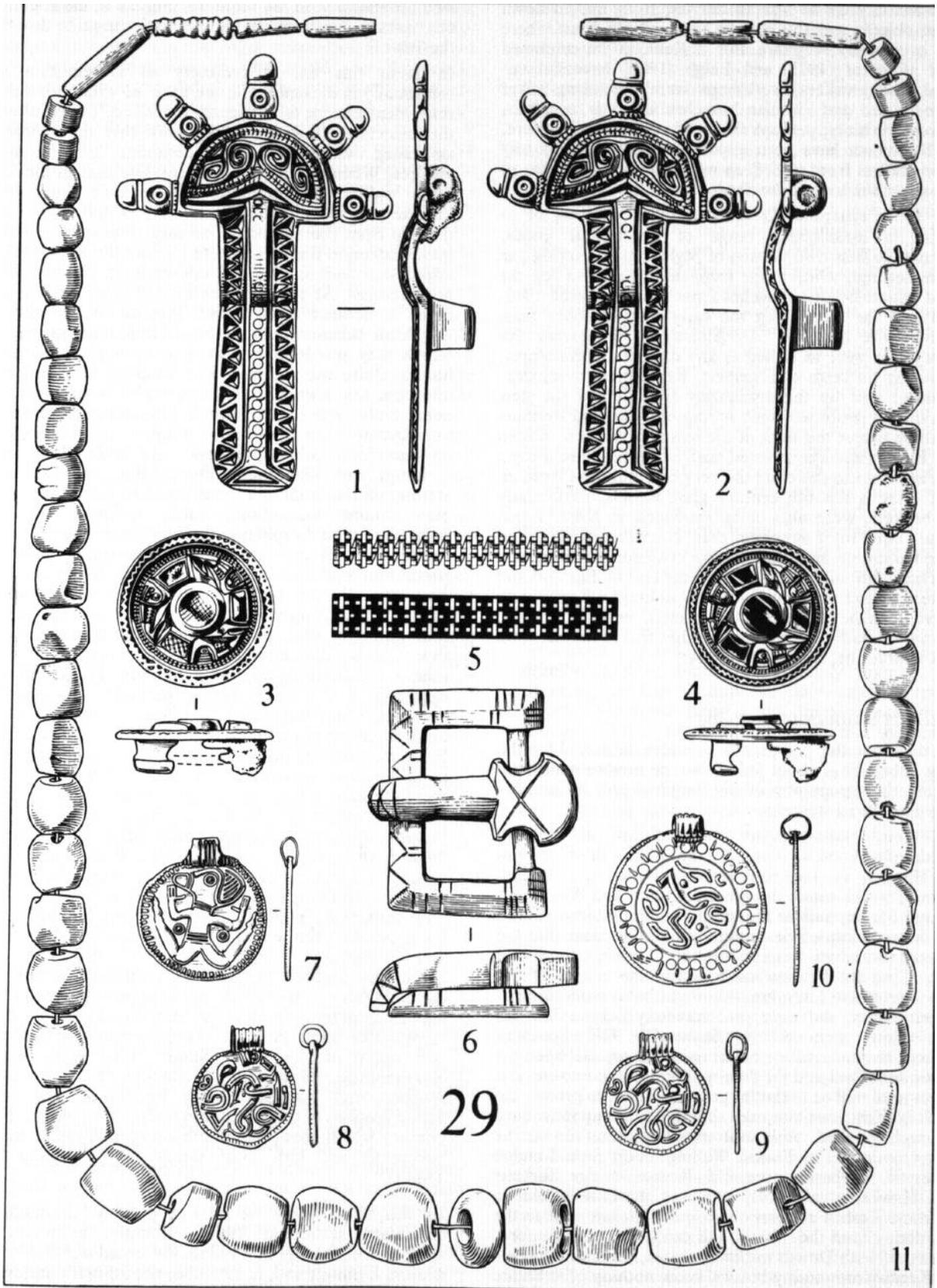


Fig 32 Bifrons, Kent, grave 29 (scale 1/1)

Anglo-Saxon England was all derived from melted-down Roman objects, and this may be true outside Kent where silver is generally very rare. But in Kent, as the combined works of Avent (1975) and Leigh (1980) have demonstrated, the jewellers' workshops were producing silver square-headed and circular brooches in great numbers, hundreds certainly, perhaps thousands. It looks, therefore, as if Kent must have been importing silver (analysis may perhaps tell us from where) as well as lesser quantities of the garnets which were also needed.

With these materials Kentish jewellers had begun to produce a considerable range of ornamental goods, decorated in their own version of Style I, with varying use of gem-settings, which range from the superlative (eg the trio of square-headed brooches from Milton (Leeds 1949, pl S3)) to the seemly (eg the early disc brooches from Bifrons grave 29) (Fig 32). Already in the earlier 6th century they were as skilled as any continental craftsmen, and during the reign of Ethelbert, Kentish craftsmanship, stimulated now by the availability of gold and the new techniques it permitted (such as filigree), excelled anything in Europe except the work of the master jeweller at Sutton Hoo. But it should be stressed that we do not have a royal grave in Kent and therefore the very best is hidden from us. From early in the 6th century glass vessels, particularly claw-beakers, were also being produced in Kent. Again they are equal to, if not better than, counterparts produced on the Continent, and there is some evidence that Kent was exporting some of its glass both to the rest of England and overseas. In fact the only major skill lacking in Kent seems to have been the ability to produce metal vessels; for some reason these had to be imported, either from Frankia, from Celtic sources, or, later, from Egypt.

Ethelbert's kingdom (Fig 28)

This then was the prosperous economy inherited by the young Ethelbert in about 560. It is time now to pause and examine the topography of his kingdom and its administrative and social structure.

First, then, it was compact and small and, as we have seen already, almost an island. To the north is the estuary of the Thames, to the east and south-east the English Channel, to the south the great forest of the Weald and Romney Marsh, and to the west the river Medway. The finds from the cemeteries make it absolutely clear that the Medway formed its western frontier. The settlers of west Kent, along the Thames shore and in the valleys of the rivers Darent and Cray, are indistinguishable from those of modern Surrey, and were predominantly Saxons. We can thus include them in the *Suther-Ge* (OE = Southern District), the ancient form of the name Surrey. Between the *Cantware* of Kent and the Surrey folk there was no cultural contact until well on in the 7th century. Thus, to protect the wealth of Kent, one supposes that the Medway must have been well guarded, with well armed communities at the major crossings. The Roman Watling Street from London crosses at Rochester, the old Roman bridge fortress (S C Hawkes *et al* 1979), and here there is indeed an important Kentish cemetery beside the Roman road to the east, dating from the 5th and 6th centuries. At Aylesford, where the North Downs trackway passes, there was another rich Kentish community but we know nothing of it before the early 7th century. Like far too many of our Kentish Anglo-Saxon cemeteries, it was not properly excavated. On present evidence, the Medway valley generally does not seem to have been settled early: as a frontier zone it was probably dangerous territory until Ethelbert became over-

lord (*Bretwalda*) of the southern English at the end of the 6th century. At all events, its cemeteries seem to date from the 7th.

In Kent this use of cemetery as an equation with community is inevitable, for we have no excavated sites of settlement except on urban sites. Indeed, the situation of the cemeteries makes it very likely that the habitations associated with them are underneath the present-day villages. When one studies patterns like that in the Little Stour valley, for example, where each Anglo-Saxon cemetery is just up the hill from a village with a name derived from Old English it becomes clear that we shall be lucky indeed to find a 'failed site', where the settlement was abandoned and left for the convenience of the modern archaeologist. At present it seems that Kent differed from other settlement areas of the English in that the first Germanic incomers were not forced to accept marginal land which they would later wish to exchange for something better. Quite the contrary. The Jutes were able to seize upon the best land, the well watered loam soils which had been under cultivation already throughout Roman and pre-Roman times, apparently without interference from any surviving British population. In some places, as at Lyminge and Folkestone (Dover Hill), we find them settling on the lands of known Roman villas. Although we may assume from later charter evidence that they from the outset exploited the coastal marshes and the forests of Blean and the Weald for pasture and timber, permanent settlement there at this date is totally absent. The map (Fig 28) shows the densest occupation area to have been north-east Kent, where there was a noticeable preference for sites near harbours along the coast and the shores of the Wantsum Channel, now a marsh, but at that time a considerable waterway dividing Thanet from the mainland (S C Hawkes 1968). Similarly, the cemeteries between Canterbury and Rochester show a marked tendency to cluster around creeks leading into the Thames. For a still maritime people the advantages of supplementing an agricultural economy by the profits of trading ventures and fishing must have been a prime motive in the choice of land for settlement. Doubtless proximity to the major Roman roads was a further consideration. But paramount must have been the quality of the land, and it is no coincidence that this north coastal area, where the dip-slope of the North Downs is covered by deposits of Thanet Sand and brickearth, is also amongst the best farming land in Kent. Another fertile area is the well watered Lower Chalk and Greensand country between Folkestone and Maidstone, and here too there was settlement, at least from the early 6th century, which would appear more impressive had its cemeteries been more fully excavated. Finally we must notice particularly the concentration of settlement in the valley of the Little Stour: 'Here such sites as Bekesbourne, Howletts, and Bifrons, along its middle reaches, and Lyminge at its headwater, are famous burial grounds of communities established already in the 5th century which show, by the 6th century, signs of material prosperity and high social status' (S C Hawkes 1969, 188-9).

In this same valley we have a possible illustration of secondary settlement. Above Bifrons the valley has narrowed on its way down from the broad and fertile basin around Lyminge and, in between, the known cemeteries at Bishopsbourne, Kingston, and Barham do not come into use before the early 7th century. But we must be cautious here. In this valley, which may well have been a royal estate, the pagan burial grounds were abandoned at the time of the Conversion, it seems, and new proto-Christian sites

established at a little distance (Meaney & Hawkes 1970, 55). At Kingston and elsewhere, therefore, it may be that we have just not found the pagan cemeteries. However, the 7th century cemeteries at Sibertswold and Barfreston, nearby but up in the chalk highlands, must surely represent the establishment of new settlements, and so perhaps do some of the 7th century cemeteries on the upper reaches of the Great Stour around Wye. We have already seen that the Medway valley was probably colonized late. Certainly, as we can see from fully excavated Finglesham, there was a considerable expansion of population in the 7th century, which must have resulted in an expansion of settlement area. As we know, the process continued and by the end of the Saxon period had taken in the Weald; but long before then the well dated cemeteries fail us, and the story has to be pieced together from place-names and written sources.

The map shows that, in the areas colonized in the 5th, 6th, and 7th centuries, settlement was dense, with an early Anglo-Saxon equivalent to nearly every medieval village and hamlet. When we try and estimate the size of the communities, however, we are baulked by the fact that only one cemetery, Finglesham, has so far been excavated completely. This was a small community, apparently just one extended family, but other partially excavated sites suggest that there must have been considerable variety in the size, character, and social structure of the individual units that made up the early Kentish kingdom. This is hardly surprising when we consider Kent's very early political and economic development and its highly stratified society.

The early date of the Conversion, beginning in 597, was most fortunate for early Kentish history because the Roman missionaries introduced, or at least extended, literacy and the written record, probably of annals, and certainly of royal charters and law-codes. For the composition of Kentish society in our period the Laws of Ethelbert, which reflect the situation in the 6th century, and the later 7th century Laws of Hlothere and Wihtréd, are most precious documents. 'They define a complex society legally stratified into *wergild* classes: at the top the king; next the *Eorlcýnd* or *Gesithcýnd*, the high nobility; next the *Ceorl* or free landholder of lesser degree; next several grades of half-free *Laet*; and last several classes of the wholly servile.'

Ethelbert and Bertha were buried in Christian fashion in the mortuary church of SS Peter and Paul, the earliest part of St Augustine's Abbey, outside the walls of Canterbury (Taylor 1969a). If they were provided with grave-goods, as Christian Merovingian royalty continued to be in the 7th century, we shall never know: the medieval monks will have removed them. To all intents and purposes, therefore, we have no royal burials in Kent. But all the remaining social orders must be present in our cemeteries, and, since grave-goods varied in quantity and quality, apparently by legal right of possession, according to the status of the dead person, it should be possible to distinguish the various ranks. Potentially the cemeteries are an important index to society, illustrating and supplementing the laws. Actually this kind of social analysis is in its infancy in this country and we anyway need many more cemeteries to be totally examined, with detailed attention to the skeletal remains as well as the grave-goods, before we can advance beyond a mere beginning. There is placename as well as archaeological evidence for suggesting that Finglesham may have been a burial place of a branch of the royal kindred (S C Hawkes 1977), and I believe Bifrons to have been another; but without excavation of more control sites it is not going to be possible to fill out the picture with confidence.

Anglo-Saxon Kent is genuinely under-excavated. For

example, we know from place-name and documentary evidence the sites of a number of early *villae regales*. Like medieval kings after them, Anglo-Saxon kings did not administer their kingdoms from a single centre, but were constantly on the move, with their officers and households, around their various estates. In this way they were able to administer the law in the furthest corners of their kingdoms, get to know their land and people, and, most important, live off their food-rents. Some of these royal estates functioned as regional capitals, and in Kent became Lathe capitals. We are fortunate that several survive with such archaic name-forms that we can be sure they existed at least as early as the reign of Ethelbert, and were probably older still. They are Sturry, OE *Stur-ge*, the 'Stour district capital', a few miles downstream from Canterbury, opposite the port of Fordwich; Eastry, OE *Easter-ge*, 'the eastern district capital', beside the Roman road a few miles from Dover; Lyminge, OE *Limen-ge*, 'the Limen district capital'; and Wester Linton near Maidstone, possibly the 'western district capital' (Smith 1956, 82; Reaney 1961, 59; S C Hawkes 1969, 189). I have recently demonstrated that the site of the royal palace at Eastry, with its surrounding complex of cemeteries (Fig 29), is both obvious and crying out for excavation (S C Hawkes 1979). At Sturry, likewise, it should be possible to pinpoint the palace-site; and Lyminge, with its Roman villa, Anglo-Saxon palace, monastery, and church, would be fascinating to explore. Yet to date, these sites have been largely ignored. Other Lathe capitals, notably Milton Regis (Hawkes & Grove 1963; Rigold & Webster 1970), with its proliferation of cemeteries, Faversham, well known for the exceedingly rich cemetery in the King's Field, and perhaps Wye, named for a heathen temple, may have functioned as royal villas in Ethelbert's time. Faversham certainly deserves modern attention, not least because the place-name incorporates a British loan-word from Latin *faber*, meaning 'smith' (Dodgson 1973, 30), which indicates that this may have been a workshop site. The vast quantity of exquisite jewellery from the cemetery, much of it made of gold, certainly suggests that there was a jewellers' establishment here, working under royal patronage, in the 6th and 7th centuries. And the place-name hints at possible continuity from Roman times.

The Jutes took over Kent very early, as we have seen, in full working condition. There must have been much continuity, from the takeover of whole estates, as appears to have happened at Lyminge, to the preservation of the whole system of communications. Roman Watling Street still runs on its original line from London to Dover, and most of the other roads within the kingdom still survive and must have been kept up. Only the roads through the Weald seem to have been neglected. What then of the towns and ports? Recent urban excavation has begun to reveal that some towns were occupied by the Anglo-Saxons in the 5th century, and from this beginning it has been suggested that some form of semi-urban life continued through into the Late Saxon period, when there was a major urban replanning (Biddle 1976). Canterbury is one of the towns which has excited most interest. Professor Frere found definite evidence of Jutish domestic occupation in the 5th century, and there are also a number of 5th century Jutish finds, suggesting burials, from the Roman extra-mural cemeteries (Fig 30), but neither the scale nor the nature of this occupation is clear. It has always seemed to me unlikely that Anglo-Saxons would have wished to take up residence in crumbling Roman towns, which they were not equipped to repair, and that their kings would only have resorted to towns when their new continental bishops demanded urban sees. 'If there is no evidence that pagan Anglo-Saxon kings

sought the shelter of Roman walls, there is every reason why the men who came from abroad to convert them should have preferred Canterbury to Eastry or York to Goodmanham (though their condition may have come as a shock): on the Continent urban sees were the rule; anything less would have been unthinkable. Once his bishop was established in town, for practical reasons the king too must have a town residence' (S C Hawkes 1975, 336). Tatton-Brown's new discoveries in Canterbury appear to be confirming this view: the 5th century settlement was perhaps only during the federate phase, and the town was only reoccupied in the 7th century. Ethelbert established Augustine as his Bishop in Canterbury in 602, and secular reoccupation of the town doubtless followed very quickly after. As to Rochester, despite its strategic importance, the little excavation which has been possible in the town has produced no evidence of Jutish occupation before Ethelbert built the church of St Andrew there for Bishop Mellitus in 604 (S C Hawkes *et al* 1979).

Of the organization of trade in Kent during the reigns of Ethelbert and his successors down to Wihtried we know nothing directly, 'but light is reflected back onto this period by the toll charters of the mid 8th century' (Birch 1885-99 nos 173,189). At that time the monasteries of Reculver and Minster were both trading and obtaining exemptions from dues in the ports of Fordwich and Sarre. Normally, the king extracted toll from all merchant shipping using these ports, and his authority was upheld by customs officers under the command of a royal *praefectus* or 'reeve'. Reculver and Minster were adjacent to the Wantsum Channel, the one at the north mouth, the other well inside with a harbour on the Thanet shore. Between them was Sarre, also on Thanet, strategically placed where vessels using this inner route had to put in to wait on the double tide, and where traffic on the Roman road from Canterbury passed over to Thanet by ferry. Sarre controlled the Wantsum and was an obvious place for a royal toll station. Fordwich, at the head of the Great Stour estuary, seems to have been the port for Canterbury. Its antiquity as an Anglo-Saxon port remains archaeologically unproven, but, from its proximity to the royal vill at Sturry, it is likely to have come into use early. Sarre is better documented, for it is the site of one of the largest and most remarkable cemeteries in Kent: it is set apart from the majority by virtue of the high proportion of male burials with weapons, including numerous swords, far in excess of what is normal even in aristocratic cemeteries such as Bifrons. The only truly comparable case in Kent is the cemetery at Buckland, behind Dover. Here, then, we have two unusually well armed communities in strategic positions close to known ports, and it is very tempting to think of them as representing, for the 6th-7th century, the military establishments which the king's port reeves must surely have maintained for the execution of their duties in the 8th. 'The implication is that both ports were functioning as royal toll stations at latest by the 7th century...' (S C Hawkes 1969, 191-2). Since I wrote that, excavation within the walls of the Roman fort at Dover has produced sherds of imported French wine bottles and a superb gold-finger ring, such as might have been worn by a royal port reeve, or even royalty itself (Philp 1973) which confirm that, by the late 6th or 7th century, Dover had re-emerged as a Jutish port.

Kent's imported wheel-made pottery has now been published by Evison (1979). Most of it came from northern France and was clearly connected with a wine trade that developed mainly in the 7th century. Very little of it travelled beyond Kent, but the large numbers of wine bottles in male graves at both Sarre and Dover are interesting on two counts. They indicate the major points of

entry and they also show that the king's customs officers were getting their 'cut'. There is growing evidence to suggest that these imports stimulated copying and that Kent had begun to produce wheel-made bottles and bowls during the 7th century.

Amongst the other trade goods that came in during the reign of Ethelbert and his immediate successors, some came from a very great distance indeed: from Byzantium across the Mediterranean to Aquileia, then over the Alps and down the Rhine, and finally to England. This is illustrated nicely by the distribution of the so-called Coptic bronze bowls (Fig 33), but other exotica such as amethyst beads and cowrie shells from the Red Sea followed the same route (Werner 1961). The entry ports were certainly Kentish, as is the chief insular distribution of these luxury goods, but some of them travelled to other kingdoms. It is noticeable that, of the Coptic vessels, Kent seems to have kept only the 'standard' drop-handled bowls with openwork foot-stand: the rarer forms appear only in 'princely graves' outside Kent. One thinks of the bowl with engraved decoration in the Sutton Hoo ship-burial (Bruce-Mitford 1968, fig 7, pl 9), the bucket at Cuddesdon, Oxon (Dickinson 1974, 15 ff, pl iii), and the curious pedestal-bowl from the barrow at Taplow, Bucks (Åberg 1926, fig 189). Dickinson has suggested that these more exotic pieces may have been acquired by these notables as gifts. The donor in each case is likely to have been Ethelbert himself, in his role as *Bretwalda*, and, in the case of Redwald of East Anglia, buried at Sutton Hoo, as baptismal sponsor. A good overlord, in Germanic society, was generous with prestigious gifts to his following. Ethelbert certainly seems to have favoured the 'prince', whoever he was, at Taplow, for not only the bowl but also the lordly drinking horns and gold belt buckle must have been presents from Kent in the time of Ethelbert (Åberg 1926, fig 1). In fact nearly everything in the grave may have been Kentish. What we see well illustrated here, then, is one of the alternatives to trade in the distribution of, chiefly, luxury goods.

Another major import into Kent during the reign of Ethelbert and after was gold. It came in the form of coin from a variety of sources, Imperial, Frankish, and Visigothic, and travelled partly by the Rhine route, partly via Neustris (Rigold 1975). The initial reaction in Kent was to treat it as bullion and turn it into jewellery, hence the splendid products of the jewellers' craft, such as the Kingston brooch, produced during the late 6th and early 7th centuries (Jessup 1974, pls 15-20). But during the 7th century Kent was converted to a monetary economy and the Canterbury mint began striking small gold coins known as *thrymsas*. Late in the century, probably at the beginning of the reign of Wihtried, the supply of gold having failed, Kent adopted a silver standard and began producing a prolific currency in the form of *sceattas* (Rigold 1960). The distribution of such coin abroad reinforces other evidence to suggest that, in the 7th century, Kent was trading with Frisia as well as Frankia.

Kent had been almost too successful. For two centuries it had monopolized overseas trade, but now, at the end of the 7th century, two developing and hungry large kingdoms, Wessex and Mercia, were competing to take it over. There is no room for detail here, but we can sum up the results by saying that Wessex destroyed Kent's colony on the Isle of Wight and founded its own port at Southampton, while Mercia, not without bitter resistance, seized control over Kent itself in the 8th century and had at last an outlet to the sea.

In Kent itself, the reign of Wihtried saw the end of burial with grave-goods; his *sceattas* are the latest datable finds

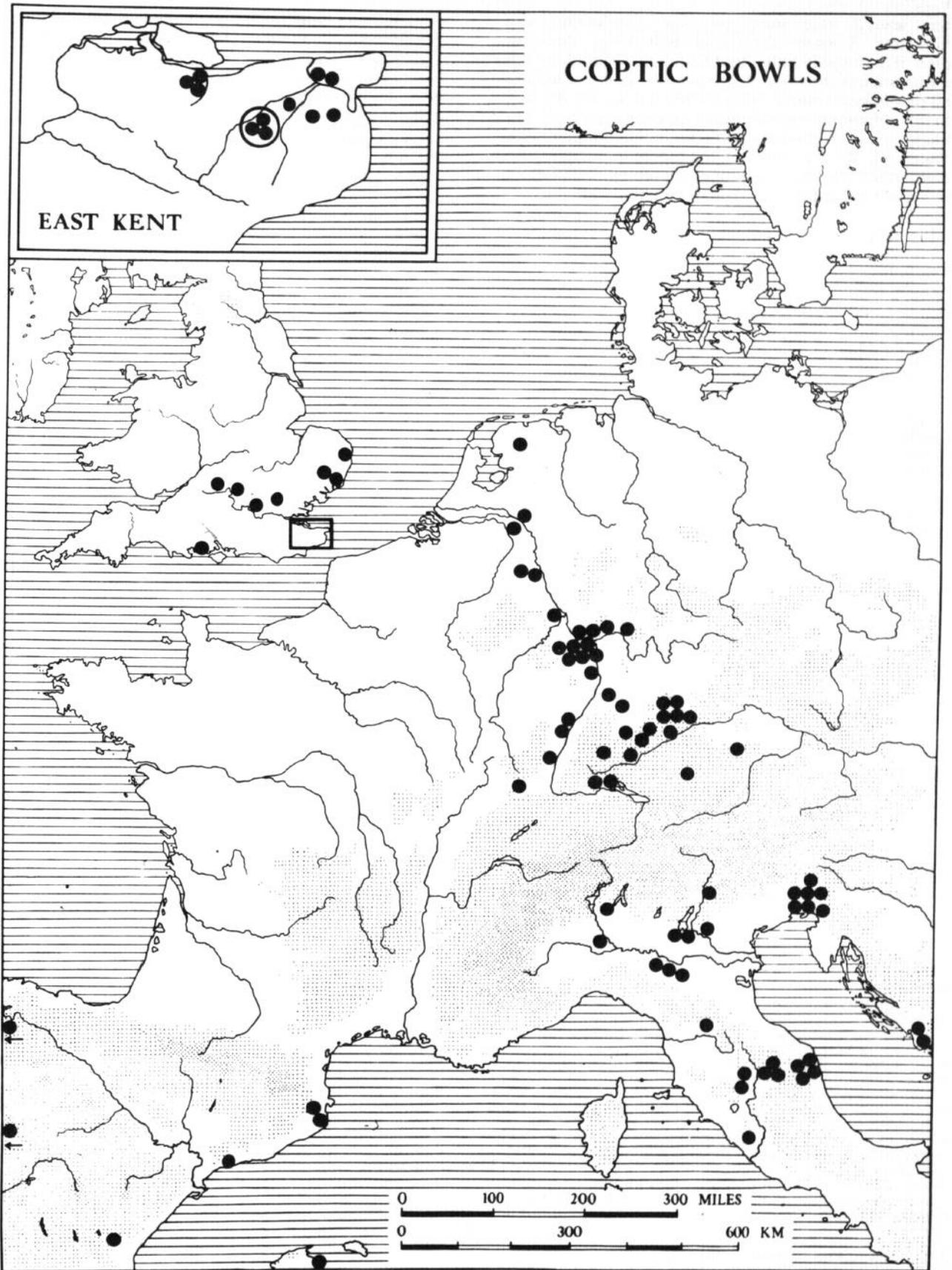


Fig 33 Distribution of Coptic bowls in Europe

from several cemeteries such as Finglesham and Broadstairs. A whole chapter of archaeology has now closed. If I have said little about Christian archaeology it is because such of the early churches as we know have been well published by others (Taylor 1965; 1969a; 1969b; etc), whereas the monastic sites have been grossly neglected. The archaeology of Anglo-Saxon Kent is both inadequate and unbalanced. We need more excavation of cemeteries, but we also need a whole programme of work on monasteries, ports, and royal residences. There is enormous potential.

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Unlike many of the contributors to this new review of archaeology in Kent to AD 1500, who have had little new material to deal with, I, on the other hand, have a mass of recent excavations to synthesize and so I must be very selective and try here to draw broad conclusions only. It should also be stressed that these conclusions are based only on first impressions of the results of our excavations because continuous excavation has been taking place in Canterbury since January 1976, and at the time of writing (May 1980) is still taking place. Several of these excavations are for the first time area excavations so that it is now at last possible to look at the topography and building density of small areas of early Anglo-Saxon Canterbury (Fig 34). Before looking at Canterbury in detail, I would like to look briefly at Kent as a whole to see what can be said of its other early medieval towns. This is important if we are to understand Canterbury in its regional setting.

Medieval towns in Kent before c 1100

Kent is of course not included in the Burghal Hidage so we must begin our survey of its early medieval towns with Domesday Book which records seven burhs: Canterbury, Sandwich, Rochester, Hythe, Romney, Fordwich, and Seasalter. The latter two are both called *parvus burgus* and we can add Dover, a 'vill' (*villa*) in Domesday Book and perhaps Faversham, which has a charter of Edward I ratifying its customs from the time of Edward the Confessor (Beresford & Finberg 1973, 128). In Domesday Book Faversham is also recorded as having a market. We there-

fore have nine probable towns by the end of the Anglo-Saxon period which may have arisen in the following order:

- Canterbury, Rochester
- Sandwich, Fordwich
- Dover
- Hythe, Romney
- Faversham, Seasalter

Let us deal with each (pair) in turn.

Canterbury and Rochester are of course not only the two Roman walled towns in Kent but also the sites of the two earliest post-Roman bishoprics in England. As I shall try to show below in relation to Canterbury, it is likely that both of these towns were abandoned in the 5th century and only reoccupied on any scale after the conversion of Ethelbert to Christianity in the early 7th century. Their early growth during the 7th century must have been fitful but by the early 9th century both towns were large and prosperous centres containing mints and under the control of Wessex. The Viking incursions into Kent in the mid and later 9th century, well documented at Rochester in the *Anglo-Saxon Chronicle* AD 885 (see also Campbell 1973), must have put a temporary halt to this prosperity, but by the 10th century they were once again flourishing. Athelstan's decree (AD 925-939) records seven moneys at Canterbury and three at Rochester, which is only exceeded by the eight in London and six at Winchester (EHD 1, 381).

Despite a complete lack of archaeological evidence, Sandwich and Fordwich were almost certainly *de novo* trading centres (Biddle 1976, 114) originating in the late

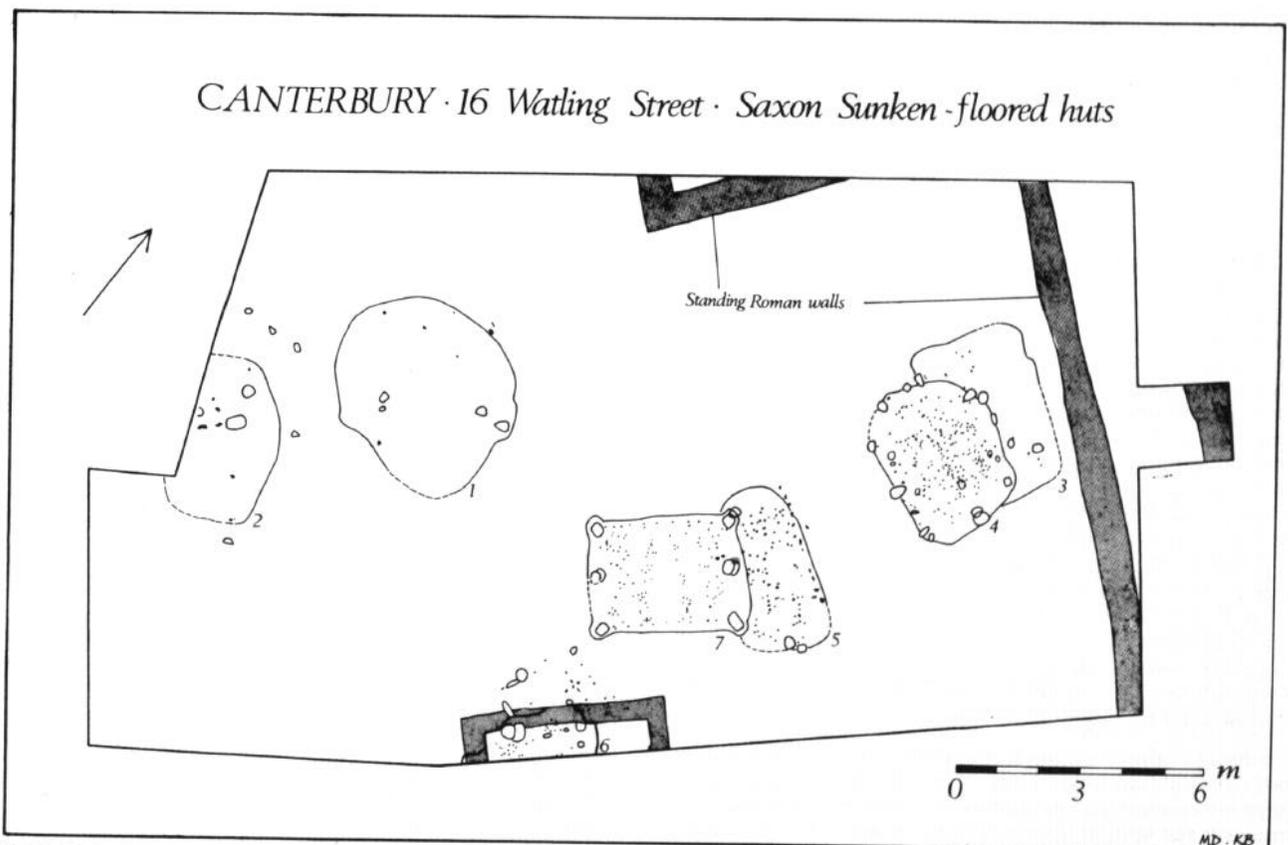


Fig 34 Grubenhäuser plans from 16 Watling Street, Canterbury (drawn by Marion Day & Kevin Blockley)

7th century and comparable therefore to Hamwih (Southampton) and other towns on either side of the North Sea and English Channel having the suffix *-wic* (*Lundenwic*, Ipswich, Harwich, Dunwich, Norwich, Quentovic, Bardowick, etc). Fordwich is first mentioned in 675 as *Fordeuicum* and Sandwich (as *Sondwic*) in 664 and 851. The former date is when St Wilfrid landed at Sandwich on his return from France as the new Bishop of Northumbria (see *Life of St Wilfrid* by Eddius Stephanus), while the latter date, which is in the *Anglo-Saxon Chronicle*, records a great sea-battle off Sandwich against the Vikings which the English won. Sandwich by this time was obviously an important trading settlement, though the temporary settlement of Vikings on the Isle of Thanet that winter must have caused great disruptions to trading in the Wantsum Channel and the Thames Estuary. We should notice also that Sandwich is situated on a new open site (a sandbank), a mile and a half south of the old Roman Saxon Shore fort of Richborough. This is directly comparable to *Claudentum* and Hamwih (Addyman & Hill 1968, fig 25), and must have been caused by a natural change in the silting of the channel in the early post-Roman period.

Three other probable trading settlements of the 8th century in the Wantsum Channel were Reculver, Sarre, and Minster. Toll-charters of 747 and 761 (Birch 1885-99, nos 173 and 189) indicate that Fordwich and Sarre were important royal ports at that period and that the abbeys of Reculver and Minster (in Thanet) were also large trading centres. (They were given exemptions from dues in the royal ports in the toll-charters.) Reculver has produced more sceattas than any other site in Britain apart from Hamwih (Rigold 1977a, 44). It has also produced a large number of 7th century gold *tremisses* (Rigold 1975, 653), and although this may be because of the continuous erosion of Reculver by the sea, it must still indicate a trading settlement rather than just graves. These settlements (?proto-towns) did not however survive the Viking disruptions and so they do not appear as important trading centres in the later 10th and 11th centuries, but only as villages with their abbeys destroyed. Early in the 11th century Minster and all its lands were given by Cnut to St Augustine's Abbey, while the Reculver estates had passed to the Archbishop. Sandwich on the other hand, which had been given by Edgar in the later 10th century to Christ Church, Canterbury, survived the Viking assaults and in the 11th century is clearly an important *burh* though it does not appear to have a mint until the time of Edward the Confessor. If one considers the plan of Sandwich, one can see that its earliest streets diverge from a point just outside the 14th century southern rampart. They then run along the sand ridge until they meet Strand Street which must originally have been the beach where the late 7th century trading started. Sandwich has three parish churches, St Peter in the centre (? the oldest), and St Mary and St Clement on either side. Again if one looks at the pattern of streets around St Mary's (and to a much lesser extent St Clement's), there is the suggestion that we have planned extensions to the original town. Domesday Book tells us that 'T R E (ie 1065) there were 307 *mansurae hospitatae*. Now (ie 1086) there are 76 more, that is 383 altogether'. This suggests rapid expansion so these additional planned areas (and parishes?) are probably 10th-11th century in date, but excavation is needed to prove this.

Fordwich, which is two miles north-east of Canterbury, is at the tidal limit of the Great Stour. It was clearly never as large or as important as Sandwich and for much of its life it was only the seaport for Canterbury. However it does have a name ending in *-wic* and the scanty documentary evidence

perhaps suggests that Fordwich was a very early (ie pre 9th century) port. The plan of Fordwich is now a simple T-shape of streets-the High Street and a street parallel to the river. However the topography suggests a second street parallel to the High Street on its west side which would have led originally to the ford connecting Fordwich with the royal 'vill' at Sturry and the Roman road to Canterbury. Again excavation is needed to prove this. By the late Saxon period Fordwich, like Sandwich, is in a Hundred on its own (the Liberty of Fordwich) and Domesday Book tells us it was a *parvus burgus* with 96 *masurae terrae* in c 1065 but only 73 in 1086, though there were also 6 burgesses and another 7 *masurae* then. The town was held by St Augustine's Abbey.

Next we come to Dover which at the time of the Norman Conquest was clearly the most strategically important sea-port in south-east England. Though certainly not as big as Sandwich, Dover was already before 1066 the head port in a federation of five channel ports (the 'Cinque Ports' as the Normans later called them) and Domesday Book on its very first page has a lot of interesting but confusing information. Thanks to the recent excavations of Brian Philp, the late Roman Saxon Shore fort at *Dubris* has at last been confirmed and it is clear that the earliest Anglo-Saxon settlement at Dover grew up within the Roman walls around the church of St Martin (Rigold 1977b, 73) which had probably been founded in the 690s. The hilltop site, which was later to contain the huge castle, may be an Iron Age hillfort in origin but it was probably not used by the Anglo-Saxons till the late 10th-early 11th century when the great cruciform church of St Mary was constructed there beside the Roman lighthouse in what may have been a hill top *burh* like Old Sarum. At the same time the settlement down in the valley beside the old harboux was also expanding. Domesday Book mentions four churches and three of these must have been in the valley: certainly St Martin's and also perhaps St Mary's (beside the Roman north or Biggin gate of the Shore fort) and St Peter's in the Market Square. The Market Square clearly grew up between the church of St Martin and the water front, the east wall of the Roman fort having been eroded away at an earlier date (see Rigold 1970 for details of the Roman haven). The suburb on the east side of the River Dour, between the harbour and St James' church, is perhaps very late Saxon in origin, but it must have grown up in a big way in the later 11th and 12th centuries. This period of expansion is paralleled by the rebuilding on a grand scale c 1070-1110 of St Martin's church by the Normans.

The next two towns to consider are Hythe and Romney, both of which were tremendously affected by the sea and the courses of the Limen and Rother rivers. Hythe is probably the older of the two and has its origin, like Sandwich and Dover, in a Roman Saxon Shore fort. This fort, which was later called Stufall Castle, is perhaps the 'Limen' on the coins of Edgar (AD 959-975). Unfortunately, even from the recent excavations (Cunliffe 1980b), we do not know when this fort slipped down the cliff, but it may have been as late as the late 10th or early 11th century when the *burh* moved eastwards to Hythe. The move must have been caused by the silting up of the mouth of the Limen (Green 1968, 18; Cunliffe 1980a), though it appears from the surviving topography that Hythe was always an elongated town situated on the steep hillside and running between West Hythe and the eastern end of the modern town, a distance of 2½ miles. Only later in the medieval period did West Hythe become a separate village and the town of Hythe a more concentrated settlement around St Leonard's church. The five parish churches, which except

for West Hythe were chapels-of-ease to Saltwood, were spread out along the hillside. They were St Mary's (West Hythe), St Michael Ashe, St Nicholas, and St Leonard. Only St Leonard appears to have survived after the 14th century and it did not officially become a parish church till 1844 (Dale 1931, 63), when it finally broke loose from Saltwood and the Archbishop. Hythe was first given to Christ Church Priory, like Dover and Sandwich in the early 11th century, and it then came to the Archbishop when Lanfranc divided up the Christ Church estates between himself and the monks. At the same time Hythe was clearly one of the pre-Conquest 'cinque ports' with special royal privileges and 231 recorded burgesses in Domesday Book. It was also a Liberty in its own Hundred.

Romney, as Beresford (1967, 459) points out, was a late Saxon 'new' or 'planned' town replacing Old Romney in the late 10th century (see Parkin 1973, 118, note 7 by S E Rigold however), and as Rigold has shown (*op cit*), it probably acquired a mint and a new port (market) around AD 1000 from Ethelred. Again the move from Old Romney must have been caused by a silting up of the mouth of the River Rother and after the great storm of 1287 (Parkin 1973, 117), New Romney itself suffered great damage to its harbour. Both Hythe and Romney were clearly flourishing sea-ports in 1051 (ASC) and by the Norman Conquest they were among the first places subdued by William the Conqueror after the Battle of Hastings. Romney by Domesday Book has at least 156 burgesses, and it is possible that nearby Lydd (or Langport) was also a late Saxon port.

Finally we come to Faversham and Seasalter, two north coast harbours which are much more difficult to deal with. I will also try here to look at Milton Regis, another north coast port which may also have been a Saxon town that failed. Both Faversham and Milton (or Middleton), were very ancient royal demesnes whose origins probably go back to the 6th century when they were *villae regales*. Both had very rich pagan Saxon cemeteries close by (the Faversham cemetery in the 'King's Field' was one of the richest of all, though sadly it was mauled by the railway in 1859) and both were situated on inland tidal creeks just north of the great Roman road, Watling Street. By the time of the Norman Conquest Milton had been devastated, both by the Danes (see ASC in 893 for one attack) and, more recently, by Earl Godwin in 1052. Before *c* AD 850 however, it may well have been a flourishing port, but only excavations can show this.

Faversham on the other hand, which must also have suffered Danish attacks, just survived at the Norman Conquest as an important market (*mercatum*). This was clearly enlarged after 1147 when King Stephen started to build his huge new royal abbey in the town, and by the later medieval period it was a flourishing small town. Before the foundation of the abbey, the town probably consisted of the two main streets that we still see today, ie West Street/East Street and Court Street/Abbey Street. The former street was part of an ancient track running roughly east to west (parallel to Watling Street) which crossed the river near the later Stone Bridge. To the west of the Brent the track divided into two, one road leading up Davington Hill and the other northwards to Oare. To the east, the road, was first the High Street (and perhaps the most ancient part) of the town and then the route to Graveney and Seasalter. The second main street of the town was certainly, from Norman times at least, the street containing the market. Later this street led only to the main gate of the abbey while parallel to it, on its west side, was the Brent (ie the tidal creek) with its quays. The defined boundaries of the later municipal borough form an almost perfect triangle based

on Watling Street and the river. There is, however, one anomaly which is the separate parish in the south-east corner of Preston Within (ie the borough). This area of land apparently goes back to the 9th century when it was given by the king to the Archbishop of Canterbury, hence presumably the name of 'Priest's Ton' (Ward 1934). It is likely also that the group of parishes with all their odd detached portions around the town (Faversham Without, North and South Preston Without, Ospringe, Luddenham, Davington, etc) were also parts of the Saxon royal demesne which had been parcelled out before the Norman Conquest.

Sea in the mid 11th century was a strange little borough belonging to the kitchen the Archbishop and his priory. Domesday Book tells us among other things that it had eight fisheries and a church, that its value had gone up in 20 years from 25 to 100 shillings. It was clearly flourishing and the name of the town suggests that the panning and marketing of sale from the sea was a major activity in the borough. Oddly enough, salt pans are not mentioned in Seasalter in Domesday Book though they are mentioned at Whitstable (with seven) and Graveney (with four). Unfortunately Seasalter's rather exposed position on the east side of the eastern mouth of the Swale means that much of its northern part has subsequently been eroded away by the sea. An isolated church (perhaps that mentioned in Domesday) and an area of marsh containing salt mounds on the west (reclaimed from the sea in the 14th century) may still indicate where the Saxon *parvus burgus* once was, while the discovery and excavation of fossilized salt mounds (Thompson 1956) and a unique 10th century boat (the 'Graveney' boat) in this marsh (Fenwick 1978) give a rough indication of what might survive below modern sea level. Later in the medieval period Seasalter was replaced by Whitstable.

There were therefore nine boroughs in Kent as found by the Normans when they arrived in 1066. Much remains to be studied in them and only after a greatly needed excavation programme will we really understand their origins and early history. Let me turn now to Canterbury where a programme of excavation and research is now under way.

Canterbury-the early Anglo-Saxon town

Canterbury was by far the most important town in Kent throughout the Roman, Anglo-Saxon, and later medieval periods. Only after about 1600 did it lose this importance for a variety of reasons which are not relevant here. Oddly enough, though, Canterbury is the only town in the group we have just discussed which was not a sea-port and its importance, unlike the other towns, was not based on sea-trade.

In the Roman period, Canterbury was at the centre of a system of Roman roads which joined the rather isolated east Kent area to London and the rest of Britain. After the final abandonment of the Roman city sometime in the middle of the 5th century this road system also went out of use (Tatton-Brown 1980) and the earliest Saxon routes in Kent are droeways running north-east to south-west which connect the northern coastal plain settlements with the swine pastures (dens) in the Weald (Everitt 1976). It is quite clear that during the earliest phases of Saxon settlement, in the later 5th and early 6th centuries, Canterbury had no importance whatsoever. Recent area-excavations in the city have borne this out and we find that all the Roman buildings were abandoned and allowed to decay some time during the 5th century and that overlying these levels is a thick layer of black soil which must be a humus deposit,

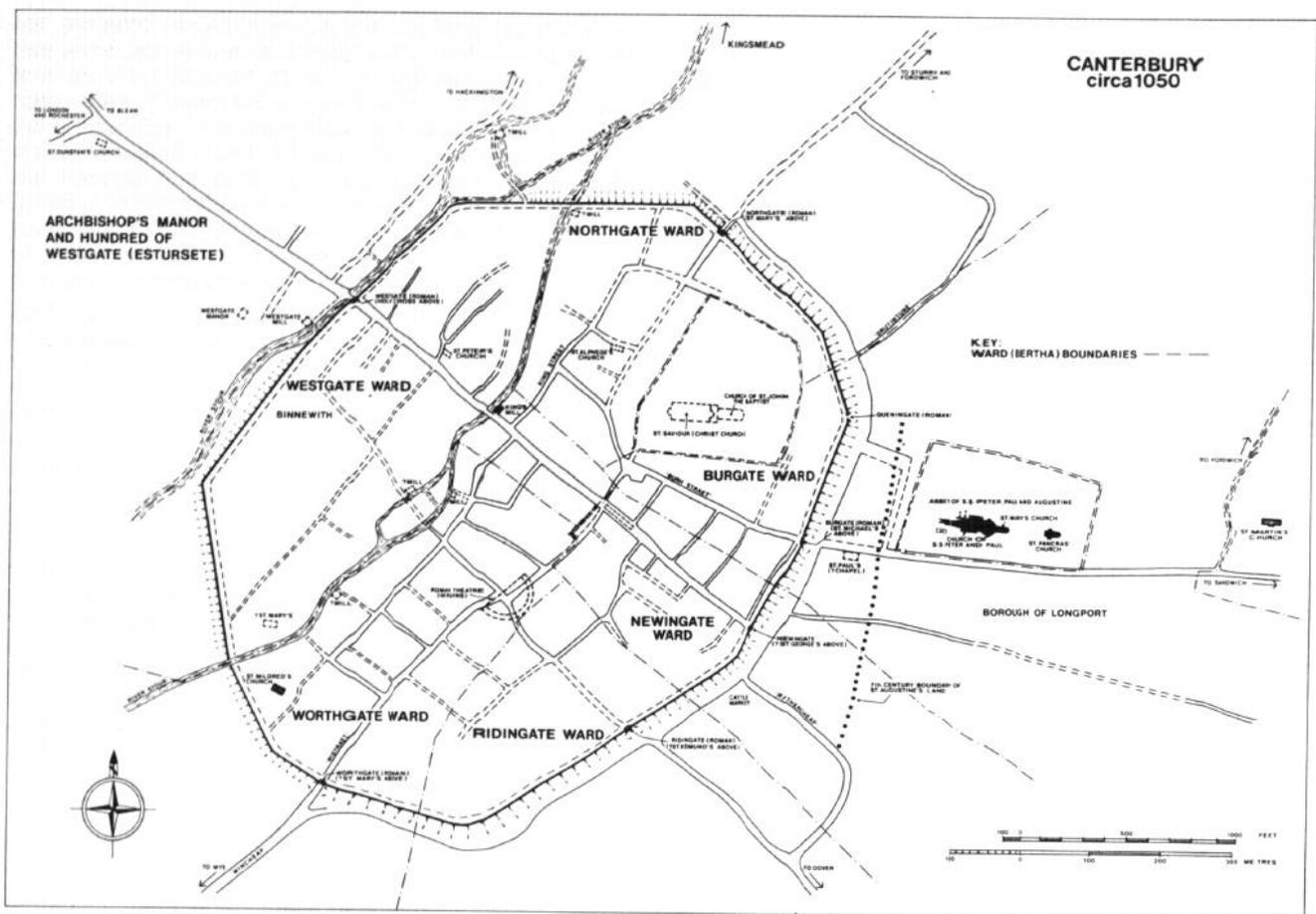


Fig 35 *Plan of Canterbury c 1050 (rom Canteruy Archaeological Trust's series)*

formed by a century or more of growth of weeds and trees. Some time later (recent finds suggest a late 6th century date at the earliest) a large number of sunken huts were cut down through this black soil level (Fig 34), and these huts totally ignore the remains of the Roman town except where large walls were still standing above ground. Excavation also suggests that the main period of robbing of these Roman walls down to their foundations was not until the 12th century, so we have to imagine these sunken huts as being dotted around among the ruins of the Roman town. Some of the huts were even cut into Roman streets, and our recent excavations at 16 Watling Street and in the Marlowe Car Park have brought the known total of sunken huts in central Canterbury to over thirty (Frere 1966). The exact dating of these huts is difficult and Frere suggested that they were built in the 5th and 6th centuries, associating the so-called Anglo-Frisian pottery with the earliest huts. Our more recent work (as stated above) seems to show that all the huts were built after a period of abandonment and some finds from the newly excavated huts now suggest that they were built in the later 6th and 7th centuries, and that the latest huts (eg the very regular six-poster on the 16 Watling Street site) were 8th century in date.

If we now look at the historical evidence in Bede, and Canterbury is after all the best documented early Anglo-Saxon town in Britain, we can perhaps suggest that the reason for the sudden appearance of huts all over the central part of the city was the arrival of St Augustine. Before his arrival, Kent was a small but powerful kingdom ruled by Ethelbert, the most powerful leader in England

(*Bretwalda*), and the centres of Ethelbert's power were surely the *villae* regales which were mostly close to the sea. The evidence of the very rich pagan cemeteries (Hawkes 1970, 188) and some later documentary evidence suggest that these *villae* were at places like Milton (Regis), Faversham, and Eastry, and it is from here that Ethelbert would have controlled the whole of eastern England up to the Humber, using the sea as his main means of communication and not the now defunct Roman roads. Then with the arrival of St Augustine, a Roman bishop who needed to have his *cathedra* in a town, the old decaying Roman city would have been repopulated with the newly-converted Saxons. Bede tells us that after the king's conversion Augustine was given a place of residence in Canterbury and was allowed to build and restore churches everywhere. The Roman monks would have built their churches using stone and reused Roman brick, and we can see still surviving examples of their work at St Martin's Church and St Augustine's Abbey, while the Saxons would have built in wood, and as well as the small sunken huts we hope one day to discover larger timber halls. Despite the large amount of evidence surviving for the early Anglo-Saxon period, our knowledge of the remains of 8th-11th century Canterbury is still very small indeed. A small number of datable finds (including five sceattas) and quite a large amount of pottery and metalwork have been found but on the whole have not been associated with any large structures. An exception, however, was a very large 10th century cellar (found recently on the Marlowe Car Park site) which was apparently part of a larger building above the ground which had left very few traces. This may indicate that many of the

later Saxon buildings in Canterbury, as in Hamwih, were built on ground beams. Other evidence (for example, the very important early mint at Canterbury) does suggest, however, that Canterbury was an important centre throughout the later Anglo-Saxon period, but it seems likely that this centre was an ecclesiastical and not a commercial one, hence perhaps the lack of evidence of buildings, Biddle (1976, 114) has recently compared Winchester and Southampton (Hamwih) and it seems very likely that Canterbury and Sandwich (and ? Fordwich) may have had a similar relationship, though whether Rochester was purely an ecclesiastical centre or an ecclesiastical and a commercial centre is as yet uncertain.

During the 9th century and later Viking raids Canterbury must have suffered a great deal, and in 1011 we have a clear picture from the *Anglo-Saxon Chronicle* of the final devastating raid when the Archbishop, the king's reeve, and the abbot were captured (Archbishop Alphege was killed the following year in Greenwich) and much of the town burnt. Despite this, it seems certain that Canterbury was a large town in the early 11th century, having expanded rapidly in the 10th century. Quite a large number of tie 10th century objects, including the recently discovered and exceptionally fine Anglo-Scandinavian knife (Graham-Campbell 1978, 130-2), suggest a large amount of trading, and some 10th century charters tell us of the markets in Canterbury at this time, places that survive as later street-names, eg Wincheap, Rithercheap, and Longport. It also seems likely that the medieval High Street leading from the West Gate to a new, non-Roman gate called Newingate (later St George's Gate) also came into being during the 10th century (Brooks 1977, 495) but this has not yet been proved by archaeology.

By the end of the Anglo-Saxon period (Fig 35), most of the street pattern as we now know it was clearly in being and most of the gates in the Roman city wall apparently had churches over them, the last of these, at Northgate, surviving until 1830. It also seems likely that Canterbury's late Saxon defensive system was based on its wards, or *bertha* as they were called. Dr Urry has suggested (1967, 92-6) that these are no earlier than the 12th century, but it seems much more likely that the wards were pre-Norman and are to be compared with the borgs in the rural areas into which the Hundreds and manors were divided. Each ward was based on a gate and had part of its area within the city walls and part outside (perhaps the people living in them were the *innan burhwara* and the *utan burhwara* of a 9th century charter). Westgate, however, had already been divided up and only the area east of the river was part of the city. Westgate Ward Without was part of the Archbishop's Hundred of Estursete, and quite separate from the city. East of the city were two enclaves within the Burgate ward. These were St Augustine's manor of Longport and the Borough of St Martin's, which was later a detached portion of the Archbishop's Westgate Hundred mentioned above.

The large extra-mural suburbs of Wincheap, Rithercheap, and Longport all point to a large and flourishing city which

only suffered temporarily during the Viking raids. After c 1030 when the bodies of St Alphege and St Mildred were brought to the cathedral and to St Augustine's Abbey respectively, the great ecclesiastical centres of the city were once again undertaking building work, and it is to this period that we can probably assign the building of the churches of St Dunstan's and St Alphege (by the Archbishop) and the rededication of St Mildred's church (which was perhaps earlier St Mary's) by St Augustine's. Unfortunately, archaeology has as yet thrown very little light on this period and it is hoped that in the near future more structural remains of the 10th and 11th century will be excavated.

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This paper was written just before Stuart Rigold's death; it has been left in its draft form

For nearly a quarter of a century *Medieval Archaeology* has had an annual section entitled 'Medieval Britain in (the previous year)', divided into subsections (towns, villages, and so forth), each arranged under counties. It is not only concerned with excavation, but with every sort of *Sachstudie* and conspectus; yet the showing of Kent, for one of the great and ancient coastal shires (never mere administrative convenience), has been pretty poor on all counts. Thinking in such competitive terms may sound childish but it has been a stimulus as well as a barrier: the *sociétés d'émulation* raised French provincial archaeology to its early peak and both declined together. Kent, with its matchless wealth of early cemetery material or pre-Mercian charters, might think itself serene and unconquered in all things, *hors de concours*. But well tried tests from wider England have never been applied, and if they are not applicable, the unique Kentish problems have not been faced in their own terms. For one thing, there is an immense difference between 'old' Kent, from the Medway valley eastward and north-east of the Weald, and the wooded and relatively marginal rest. In old Kent continuous and intensive cultivation seems to have made field studies much more difficult than, say, in the South Downs, yet air photography has been little used, settlement-patterns are barely studied, and a host of little casual excavation records are quite uncoordinated.

I am concerned neither with the kingdom of Kent, nor with the Kent which seemed to preserve much of the population, buildings, and way of life of a precociously prosperous and independent late medieval period, but with the intervening period, medieval in a sense that Wat Tyler and Jack Cade were not, from the 10th to the early 14th centuries, about which we know, and continue to know, surprisingly little, yet where medieval archaeology has made immense strides elsewhere. We can gauge something of its temper from Dr Urry's study (1967) of the unique rental-rolls of the Christ Church estates in Canterbury, urban admittedly, but not far from the land-a mobile, contentious society, quick to assimilate, relatively free from the hard social stratification of much of Norman England and from baronial power, since their evil experience of it under Odo; a land halfway to being an ecclesiastical liberty, yet maintaining much individual liberty; finally, as we at last know., at least from Canterbury, a society whose average building standards were surprisingly low, compared, say, with Winchester.

We are concerned with the practice of archaeology rather than its often rather unimpressive results, still less with its accidental 'spin offs' such as local typologies of small finds. We should ask: a) what has been done; b) what could be done without causing great devastation; c) what apparently could not be done, even though it may have been done elsewhere, because the evidence is very difficult to recover, if it ever existed; finally d) what might be done but is probably not worth the trouble, because nothing new is likely to emerge.

Historic archaeology is an auxiliary science, to fill the gaps, often vast, in the written record, and to define the terms in which the records are couched. It comprises (a) non-destructive surveys of fields, roads, and settlements, including air photography, analysis of standing structures

and hedges, resistivity and surface finds; and (b) destructive surveys, even when the destruction is forced: dissections of doomed buildings and, last and most desperate, since it can never be repeated and is to archaeology as major surgery, or more often autopsy, is to medicine, excavation.

Kent is weak on non-destructive survey. Only in analysis of vernacular building have we a long, and now increasingly professional, tradition of recording, including its setting, and sometimes perforce in anticipation of destruction; I mention Mr E W Parkin's long series of 'vanishing buildings of Kent' (*Archaeol Cantiana*, 77 ff). But only recently has the work become organized and systematic and it largely lies later than my chosen limit. We have nothing yet published to match Dr E M Yates's historical and geographical analyses of parishes in W Sussex; though I have attempted something like it in the conveniently narrow and relatively late parish of Longfield (cf *Archaeol Cantiana*, 85, 21). By far the most important recent archaeological survey, largely medieval in its implications, and important because it renders obsolete some well intentioned work already daring into this field, but on mistaken premises, is Professor Cunliffe's on Romney Marsh. Mr Tatton-Brown, again with some uncertain predecessors, has been working on the Wantsum area, but I should be glad to see a study of the plateaux of 'old' Kent that would surely produce results, including medieval, comparable with those of Wessex.

A somewhat comparable distributional approach, for which I offer a provisional map but have yet had no time or assistance to work out in detail, is by plotting the clearance and 'marginalization' by watching known endowments of religious 'temporalities', including Longfield, march forward from known areas of early settlement in the 9th century, into the forests, as the Weald and the Blean, until by the 13th century they are penetrated, though not cleared, completely. The basic evidence is documentary, though the front of clearance can be checked archaeologically by settlements and sometimes by small finds. In many areas assarting had, as in forest Essex, reached its limit by the late 13th century: late place-names, often suggesting single homesteads, can be detected, but with a scatter of finds antedating the standing buildings. Sometimes the waste has begun to encroach again. This attack, combining intimate documentary and topographical knowledge, including watercourses and minor roads if not always every kind of artefact, has been used provocatively and fruitfully by Mr Witney (1976) in the Weald. If, at the stage of verification, it is not medieval archaeology, I don't know what is.

My defined period stretches, say from the time of Edward the Elder (when Kent lost its last shade of autonomy as a Frankish spiritual isthmus rather than the key of England, when Sussex had broken at last through the Weald and become the neighbour of Kent as well as of Wessex, when a recovered Essex made the Thames again a highway rather than a frontier) to the prosperous nonentity of early 14th century Kent, soon to become London's back garden in an inward-looking England and borrowing much that, however Kentish we think it, is probably of metropolitan origin and part of a precocious 'great rebuilding'-the so-called 'Kentish tower' certainly, the so-called 'Wealden', better north Kentish, recessed house-front possibly. The overall hipped hall is indeed indigenous,

but extends as far as west Suffolk. Aisled barns, so thick in late medieval and subsequent north and north-east Kent, are at least earlier documented, with a few survivors from the 12th century in north and central Essex, where they now are relatively recessive. We know little directly about earlier medieval timber buildings in Kent, but the scale of rebuilding from the late 14th century may indicate a corresponding economic reconstruction more extensive than in Essex. Even the fairly small, but intensive, isolated mixed farm that supported a 'yeoman's house' and not only in the Weald, may be a late medieval development; and the same might be true of the typical, compact villages of much of Kent, in fact miniature towns of in-farmers and artisans, with little or no 'green' but occasionally a wide street, and quite distinct from the straggling, but often much larger, Anglian peasant vills (Meopham may be an illustrative exception). It should be an archaeological priority to test the hypothesis, beginning with 'shrunken' examples, if any.

We have hardly any reports of early medieval, including late Saxon, settlement, but we can compare our situation with parts of this country rich in deserted settlements, on margin uplands and on claylands too, both conditions we have in plenty. Our Herculean resident Guy Beresford (1975) has amply demonstrated this in Lincolnshire and elsewhere. Yet, despite the Lindsey survey, the completion of the parish system and its relation to settlement is better documented in Kent. The parishes were practically all there by AD 1100, maybe many decades before, and in most cases there is a sizeable settlement hard by the church, whichever came first; in relatively few cases there is no village nor trace of one and, especially on the Marsh, the church is often waste too; isolated churches are rare, secondary villages are rare, not so much, it appears, because they have been ploughed out but because large enclosures already left little room for them to move to; a few secondaries, especially those along Watling Street, are very successful versions of the type found in the 'primary-looking' sites and appear to have inhibited the growth of anything much round the church rather than supplanted it. This is totally different from, say, parts of the Wolds; tofts and hollow ways do not seem to exist anywhere in Kent. Perhaps *all* solid Kentish villages, wherever they are, are of 'secondary', even late medieval, formation, and something much more open preceded them. We don't know, we have not looked, and it is a hiatus in Kentish archaeology, even beside the South Downs. We have, however, a hint about something else, 'boroughs' in the peculiar Kentish sense of small hamlets with some administrative entity, as they appear in early documents, both in forest land (in the Lowy of Tonbridge places like Hildenborough have become successful villages), and on the plateau, where they are represented by isolated homesteads, or are still hamlets, like Bladbean, or are lost completely, as Bilchester. These may be a more typical early Kentish settlement, and are worth sampling, as are some of the many instances where two or three Wealden houses are found together. These are usually ascribed to a gavelkind partition of a single holding but may in fact represent survivors of a slightly larger number with smaller houses, a late medieval rational contraction. A few cases have been found, as at Hamden in Smarden (*Archaeol Cantiana*, 82, 246-56), but more often in Sussex, of early halls with vestigial aisles and base crucks, but hardly before about AD 1300, though the place-name may suggest no new plantation but rather an early case of something up-to-date and more solid, probably on a slightly shifted site. The general locations of habitation are known in innumerable instances, but not one, preferably deserted, has been stripped to give the whole story. The recent work

at Chalton, just over the Hampshire border (*Medieval Archaeol*, 16, 13; 17, 31) shows what may survive in the immediate vicinity of an intensive farm.

If the rural picture, at least before the 14th century, is dim, the urban is a little clearer. My period could also be defined as that of the growth and *Blütezeit* of the Cinque Ports and their 'corporate limbs' before the 15th century admission of Tenterden. Four of the original five, eight of the tale of thirteen when I end, are in Kent. The ancient ports can be seen arising one by one, 'Limen' (Stutfall or even West Hythe rather than the present Lympne?) shifting to Hythe, from their mintages, a right specifically of a 'port' rather than a 'burh'. They lost no privileges at the Conquest and marched on. Beside the cities of Canterbury and Rochester, they and their limbs were the only boroughs, in the usual sense, in Kent, though Milton Regis had a port reeve and some of the privileges. The rest were simply towns with a market granted by a superior, often religious. Tenterden, for instance, originating as the peculiar denn of the Dowry of St Mildred in Thanet, had a complex history before its late incorporation, including an early 11th century charter for the land called Morghew ('morning gift'), not so far from the present centre, and its geography needs analysis. Even the simple and very dependent-looking Tonbridge needs it, though Sevenoaks has been a subject of study.

Mr Parkin has made some gallant attempts on the growth of small towns, with little or no benefit of excavations, penetrating late medieval appearances to underlying street-plans and vestiges of earlier buildings, especially in the ports: Sandwich, Romney, Hythe (devastated in 1400), and also small towns, as Wingham. One thing is clear; the amount of stone housing, at least at ground-floor level, in Hythe down to the 14th century was remarkable. The same has been traced in Romney and even Folkestone, and is consistent with what we know from documents in Canterbury, and in a small way in Dover; a retreat from stone to timber in the later Middle Ages for the richer houses, and for the rest presumably a levelling-up in the shape of good framing for all. For a port, *tout court*, without pretension but with a wealth of imports, I record the work, almost all salvage, but now a little excavation, at Stonar. The days of beachcombing are barely past.

Only in the three major towns has there been serious urban excavation, and that, until recently, largely with Roman aims in view. Rochester has had a steady watch, and digging in more extensive areas, largely religious precincts and defences, by Mr Harrison and others. Dover had a medieval bonus, rich in finds but often careless of structures, when a unit was set up just after the last war expressly 'to find the shore fort' (at that time with no success). With the large-scale and spectacularly successful undertakings of Mr Philp with the reformed unit there have again been remarkable medieval discoveries, but much less is generally known of them than the Roman ones and sometimes the demolition of the medieval town-plan, with remains of stone buildings, had run ahead of the opportunities. Canterbury too benefited from the fairly modest post-war work of Professor Frere; nor do I forget the gallant holding operations of Dr Jenkins and his colleagues in the interval, sometimes in the face of too hurried reconstruction. But all this is now completely overshadowed by the broad-fronted discipline of a proper urban unit, the Canterbury Archaeological Trust under Mr Tatton-Brown, comparable with, and schooled by the experience of Winchester, Colchester, Gloucester, Lincoln, and York, among which Canterbury can now hold its head, not least in publication. At this point I contrast the almost

'blank sheet' in industrial matters: one or two casual samplings of kilns from at least one huge industry; the ironworks abandoned to Sussex.

Turning to fortified sites, the case has looked much better for much longer. Gervase of Canterbury, in his table of castles, gives Kent the longest list. No castle save the Tower has had such a continuity of occupation, and of scholarly interest, as Dover. By far the most far-sighted account of a medieval castle for its date is Edward King's of Tonbridge (*Archaeologia*, 4 (1786), 364 ff), before the Gothick additions, the model for a tradition of study remarkably free of romantic nonsense, and of which Harold Sandys was perhaps the last representative. Finally, under Pitt Rivers, Castle Hill, Folkestone saw in 1878 the first scientific medieval excavation ever (*Archaeologia*, 46, 429-65). I can claim some part in later castle excavation, though I am more proud of my efforts to publish information than of my perhaps antiquated hand in digging. At Dover we have salvaged much from earlier, sometimes hurried operations, and moved far beyond, especially about the keep and inner bailey (*J Brit Archaeol Ass*, 3 ser, 67, 87; 69, 53).

At Rochester and Canterbury, and at Sutton Valence, there has been recent re-survey (not that they were unsurveyed), and a little excavation; but it has not been possible in the bailey. Among other castles I mention in passing my own prolonged sectioning, with as little destruction as possible but penetration to the foundation levels, at the early stone castle of Eynsford, which, beside a deep and restricted stratification, produced a series of three waterlogged timber bridges, the only ones recorded from Kent (*Archaeol Cantiana*, 86; 87). Finally, since it can hardly be called other than a fairly thin-walled, though fully equipped 'keep-like' structure, I mention Walmer 'old manor house' of which I have published a survey (*Archaeol J*, 136, 215-17) and which has had two campaigns of excavation. Others have only been studied as far as they are visible: Tonbridge, the only orthodox large motte-and-bailey in Kent, with a superb 13th century gatehouse; Saltwood, large, complex and basically early; the extraordinarily complete early tower at Malling, all maintained. Thurnham, on the other hand, needs study, and perhaps restrained excavation, and that is not the end of the problems. An attempt at Tonge was not very conclusive.

With what *Medieval Archaeology* calls 'Manors and Moats' there have been a few significant excavations, all on site monated, or at least ditched, as well as a seminar on the oddly limited (compared with Essex), restricted in area, and perhaps rather late, distribution of moats. There is no need to assume that they go usually with the late medieval houses that something them. Ightham Mote certainly has a relatively early core, but has no 13th century claims. All the excavated sites seem to begin little little before 1300: Pivington (*Archaeol Cantiana*, 77, 27-47), Leigh (*ibid*, 92, 173-201), Kennington, and on an extensive scale, the work of Mr Tester and others at Joyden's Wood (*ibid*, 72, 18-40). These produce new timber-buildings of c 1300, at least one probably with base crucks, no trace of anything earlier, and sometimes a short occupation. An abiding manorial complex, other than post-medieval, is relatively rare and was not often carved out; but *curiae*, often of ecclesiastical dependency, would be worth study from their origin. So would the small round ditched works found in the Marsh.

Religious buildings have been the primary school of medieval archaeology. Quite rightly: not only are they the mirror and consummation of their age, or more precisely, of

my period; they are, even more than those of antiquity, the forcing-house of unaided material deduction, of archaeology itself. Religious sites became meaningful in their shadow. Kent has played an impressive part in their study since the beginning of analytic antiquarianism, before Professor Willis did his masterly survey of Christ Church (1868), long before the then young St John Hope began at Langdon Abbey (*Archaeol Cantiana*, 15, 59-67) and put his hand to what is now three quarters of a century of work at the uniquely significant St Augustine's. Yet the promise has been barely fulfilled and even the impetus of St Augustine's has sometimes faltered into tinkering, while recent activity has shown how little has been done for a century in serious study of Christ Church, or of Rochester. True, all kinds of monastic sites, but most of them minor, including holdings of the military orders, have been examined. Elliston Erwood gave much of a long and active life to Lesnes (cf Clapham 1915). St Mary-in-Castro, Dover, whatever it began as, has had over a century of archaeological recording of some kind. But there has been little work on other Benedictine sites save the brave winter attack (Philp 1968) on Faversham (the detail is all across the water, at Shurland in Sheppey); little and long ago at Dover Priory, but there has been a final campaign on the splendid and short-lived *collégiale* of St Martin le Grand there. The only, and not very distinguished Cistercian house, Boxley, has been sampled recently (*Archaeol Cantiana*, 88, 129-58). There has been some work on the Praemonstratensians at St Radegund (worth more for its agricultural works), the Cluniacs at Horton, and recently and most rewardingly, the rich Augustinian priory at Leeds (*ibid*, 93, 33-46). Friaries at Canterbury, Aylesford, and Sandwich are not conspicuous among the many and recent excavations on such sites. The knights, at Ewell, Strood, and Swingfield (*Archaeol J*, 92, 87 ff) are relatively more revealing and include excavation. Little houses (Higham, *Archaeol Cantiana*, 82, 143-61) and grand granges (Minster in Thanet, *Archaeol J*, 86, 213) combine with them to make a good cross-section, European enough but not of international significance. In hospitals the record is proportionately good and perhaps peculiarly Kentish in planning (Strood New Work (*Archaeol Cantiana*, 84, 139-60; 79, 31-69), Romney, and now, triumphantly, Ospringe). On the other hand, in parish churches there is a general lack of archaeological survey, to say nothing of opportunities taken to excavate, and hardly any grasp of late pre-Norman, or non-Norman work. No basic survey, as of the Royal Commission, has ever attempted Kent, and voices like Livett's or Erwood's have rather cried in the wilderness, with at least tolerable drawings, but any survey may seem like a fresh beginning. What is needed is bald archaeological, rather than stylistic reasoning, and petrological tests such as the Canterbury unit is now applying. The early medieval Kentish churches are distinct, preponderant in numbers, reserved save when they reflect a great religious house, and neglected. Yet one of the most distinctive 'Decorated' idioms seems to originate here.

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The ever-increasing number of excavations during the past decade has presented a challenge to the traditional study of medieval pottery. New methods for assimilation and publication of the data have emerged in response to the wealth of evidence, and answers are now being sought to more searching questions about the status of the potter, the distribution of his products, and wider implications for the hinterland of medieval markets. Much of the quantitative information required will only come from intensive study of stratified ceramic groups recovered from large excavations, but smaller assemblages from fieldwork and less ambitious excavations provide valuable insight into the geographical distribution of marketed vessels.

The bulk of material available places a strict limit on the area which can be examined, but the region must be sufficiently large to highlight variations. This preliminary study of medieval pottery found in Kent forms part of a wider survey of the industry in south-east England which focuses on Kent and the adjacent counties of Sussex and Surrey. Results from Sussex have already been summarized (Streeten 1980). Medieval pottery, like so many archaeological distributions, does not respect modern county boundaries, and the coastline provides a convenient rather than a realistic limit to the field of study. Detailed comparison of Kent with areas north of the Thames estuary would undoubtedly be instructive, and many of the wares found in west Kent also have affinities with material in Surrey and East Sussex.

Artefacts which can be attributed to a specific source or area of manufacture offer important evidence for the archaeologist attempting to reconstruct patterns of medieval trade. The distribution of pilgrim badges demonstrates the potential of this approach where documentary and archaeological sources can identify the movements of individuals. Compared with these specialized objects, however, the evidence for household utensils such as pottery is weak.

Canterbury became renowned as a centre of pilgrimage after the murder of Thomas Becket in 1170, and the cult surrounding his martyrdom seems to have lasted until c 1400. Registrars named William and Benedict were active for about a decade after the murder, recording miracles reported by pilgrims to the shrine. These registers indicate the towns and villages from which individuals travelled often considerable distances to Canterbury (Finucane 1977, 165), and the archaeological evidence is complementary. Pilgrim badges are distinctive, and frequently have a letter 'T', an image of St Thomas, or a scene depicting his murder. Although other sources of manufacture cannot be ruled out, these signs were made and sold at Canterbury, and certainly in the minds of his contemporaries the wearer of a badge was believed to have made the pilgrimage. Medieval illustrations show that pilgrim signs were frequently worn on the hat (Spencer 1968, 137). Archaeological finds are therefore capable of identification with a specific source, and widespread discoveries at York (Baily 1851), Dunwich (Hugo 1860, 129), Bristol (Barker 1977), and Paris (Spencer 1975, 245) can be assumed to represent the journeys of individual pilgrims.

The evidence, both documentary and archaeological, for the medieval pottery industry is meagre by comparison. The destination of vessels made at a particular kiln is seldom

known from documentary sources; the pots themselves are rarely as distinctive as a pilgrim badge; and, unlike pilgrim signs, the means of movement is not implicit. In the case of pottery, even if the source of manufacture can be identified, it remains for the archaeologist to deduce the method of transport. Ceramics, which form an albeit disproportionate part of the archaeological record on most sites (Le Patourel 1976, 170), can yield geographical evidence for the marketing of household utensils. Nevertheless, the kilns must be located, the products of each kiln have to be identified, and the distribution of marketed vessels must be recorded.

Kilns and other evidence for pottery production

The traces of former medieval pottery production were recognized by 19th century antiquarians in both Sussex (Ross 1860) and Surrey (Leveson-Gower 1869), but it was not until the Second World War that the first evidence from Kent was found in a bomb-crater at Tyler Hill, near Canterbury (Spillett *et al* 1942). Even today, no pottery kiln of the 13th or 14th century has been excavated within the county. The only published plan is of a slightly later kiln at Hareplain, Biddenden, dated c 1500 (Kelly 1972) and, although large quantities of waste pottery have been found at Tyler Hill, the kilns investigated there seem to be for tile rather than for pottery (Philp 1974). It could be that both products were fired in the same type of kiln, but the scale of excavation has been insufficient to conclude that the more normal double-flue pottery kiln was absent at Tyler Hill.

Apart from the kiln itself, wasters and ancillary remains such as clay pits also provide evidence for pottery manufacture. Sherds with blisters, fractures, or other firing faults almost certainly indicate a nearby kiln, and frequently the sheer quantity of pottery is suggestive. Evidence from Essex, however, shows that tile wasters were sometimes carted away for use as building materials (Drury & Pratt 1975, 156-7), and each potential kiln site therefore requires critical evaluation.

At Potters Corner, near Ashford, the quantity of waste pottery associated with ash and dark soil is positive proof of an industry in the area, although the kilns have yet to be located (Grove & Warhurst 1952). The evidence from Maidstone, on the other hand, is less conclusive (Grove 1967). There, a number of tall cylindrical vessels were found at what was presumed to be a kiln in Week Street, and were originally identified as 'butter pots'. Subsequent discoveries elsewhere, notably at Audlem, Cheshire (Webster & Dunning 1960, 113-18), however, indicate that these objects are probably kiln furniture. Associated finds from Week Street are not recorded, but one jug-not a waster-is thought to have come from the site (Maidstone Museum, no acc, 1921).

Compared with the adjacent counties, therefore, archaeological evidence for medieval pottery production in Kent is scant (Fig 36). Intermittent ploughing of the clay lands, where kilns are likely to be found, restricts, the opportunities for fieldwalking but it must be only a matter of time before further chance discoveries are made.

The scant archaeological evidence can be supplemented from documentary sources and from the circumstantial

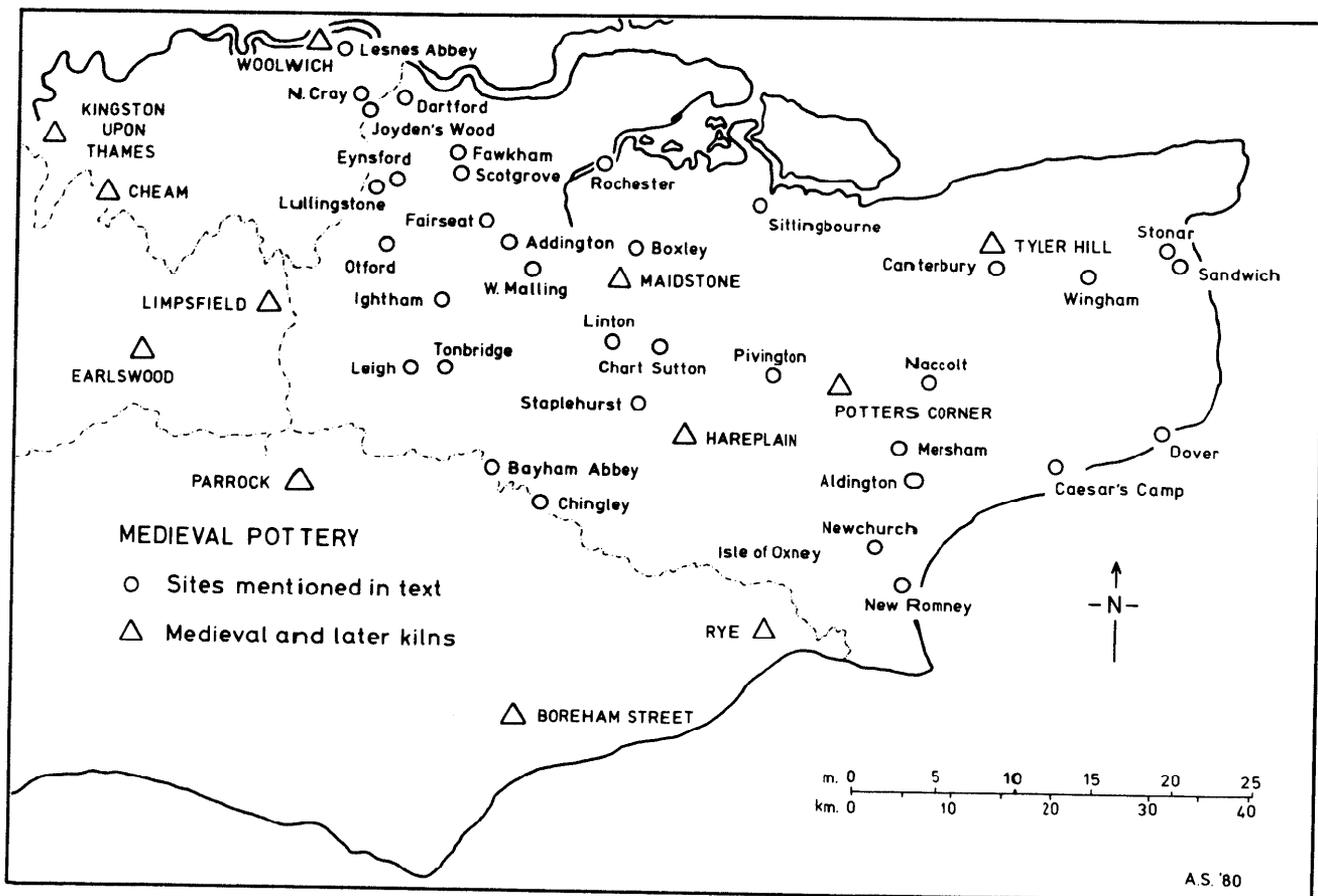


Fig 36 Medieval pottery in Kent. Map showing sites mentioned in text

evidence of personal and place-names. A comprehensive survey of the available sources has been undertaken, and selected examples are used here to illustrate the approach.

Kent has a limited number of published and indexed documents and the search for potters must therefore be less exhaustive than for counties with an active record society. Generalized searches through original documents are unlikely to be rewarding because the references are so scattered, but chance discoveries may be made by historians working on unrelated topics. There are, however, a number of references to medieval brick and tile manufacture (VCH 1932, 393-4) at Nacolton, near Wye, from the 14th century onwards, at Boxley, again in the 14th century, at Hackington near Canterbury in the 14th and 15th centuries (Harrington 1971, 150), and at Woolwich, also in the 15th century. Potters, on the other hand, are known to have held a stall in the market at Linton in the later 13th century (Le Patourel 1968, 112), but the location of their kiln is not recorded. Potters also held five acres of land at a place known as Coteham (Le Patourel 1968, 123, table III), and at Christchurch Priory, Canterbury, a pot-maker was given a specific issue of food for every dozen pots produced (Urry 1967, 157). The value of the goods suggests that he may have been an earthenware potter, and the method of payment is unusual, although it may demonstrate that certain commodities were of lower value than the smallest coins (Hinton 1977, 226). Elsewhere in Canterbury, a 'pottery payntour' is recorded in 1430 (Salzman 1923, 173), and his specialized craft probably suggests an association with earthenware rather than metal vessels.

The distinction between documentary evidence and personal or place-names should be emphasized. Specific

references to the occupation of earthenware potter, to pottery kilns, or to the clay rent provide conclusive evidence for pottery manufacture, but personal and place-names do not necessarily reflect occupation (Emery 1952). Before *c* 1300 personal names, particularly those including *le*, are likely to indicate occupation; the same is probably true during the early 14th century, but by *c* 1350 it is less certain. By the end of the century, the evidence is most unreliable (Fransson 1935, 29). Thus, in the 15th century, William Pottere of Sevenoaks is known to have been a clerk (Owen 1968, 73) but Edulf, Godwin, and Wilmund le Poter of Hackington recorded in the Feet of Fines for 1214-15 (Churchill *et al* 1956, 53) were almost certainly earthenware potters, probably exploiting the outcrops of London Clay which attracted tile-makers to Tyler Hill. Early occurrence of the name 'Cracker' is also to be associated with pottery manufacture, especially if found in the same parish as a 'Potter'. The Lay Subsidy returns provide an important source for the study of personal names but Kent is the only county for which the returns were recorded by Hundred rather than in smaller units (Hanley & Chalklin 1964). Several potters may have been too poor to qualify for taxation, but at Farnham, Surrey, where a medieval kiln has been excavated (Cole 1974), both 'Potter' and 'Cracker' names do occur in the Lay Subsidy (Willard & Johnson 1932, 11). A similar combination occurs in Kent, under the Hundred of Blackheath (Hanley & Chalklin 1964, 137-8), and, although it is impossible to identify a specific location, the two different craft names suggest an association with pottery manufacture. These potters may have been working in the Woolwich area where later kilns have been found (Pryor & Blockley 1978) and where there are documentary references to medieval tile manufacture

(see above). Other personal names may also reflect the occupation of earthenware potter (Le Patourel 1968, 102-3), but metalworkers are also described as 'potters', especially in urban areas.

Potter Street at Sandwich, however, relates to a late 16th century Dutch immigrant potter (VCH 1932, 402) rather than to medieval craftsmen. John Le Discher living in the suburbs of Canterbury in 1271 may have been an earthenware potter (Churchill *et al* 1956, 384), but William Le Bolur of Hadlow, mentioned in the Feet of Fines for the same year (*ibid*, 390), is more likely to have been a woodworker.

The study of place-names is beset by even greater problems than the interpretation of personal names. Certain place-names are likely to be derived from individuals and, under favourable circumstances, the place-name might pinpoint the former holdings of a craftsman with an occupational surname. Many place- or field-names containing the element *pot-* are, however, of recent origin, and others, such as Potkiln Farm at High Halden, relate to post-medieval pottery manufacture. Even *pot-* or *crock-* names of proven antiquity may be derived from *potte-* ME (pot) or *croc-* OE (crook) (Smith 1956, 1, 112; 2, 72).

The evidence is frequently confusing and, although it is reasonably certain that Crackers Hatch Corner, Speldhurst is a topographical name (Wallenberg 1934, 95), it is not at all clear whether the settlement of Potters Corner, near Ashford, takes its name from a local 17th century family (*ibid*, 404), or whether it derives from the medieval pottery industry known from archaeological excavation. Likewise, it has been suggested that Potter's Forstal, Egerton, may have

been associated with pottery production (Rigold 1962, 40) and the nearby name 'Crockney Hill Road' (TQ 897 466) reinforces this impression, but no wasters have been found among pottery from adjacent land. Crockenhill, Eynsford may derive from OE *crocc-* (crook, pot) and *aern-* (house) (Wallenberg 1934, 39), but again archaeological evidence is not forthcoming, and the clay-with-flints of the immediate vicinity would not be particularly suited to the manufacture of medieval pottery.

There is no substitute for investigation of each individual name, beginning with a comprehensive search for all significant place-names, irrespective of date. Ordnance Survey and title maps provide a convenient source, and the Kent section of this survey (Fig 37) includes minor names drawn from transcripts of tithe awards held by the English Place-name Society. Many of the names are probably of recent origin but some relate to the medieval pottery industry.

Identification and fabric analysis

The clays of south-east England do not contain diagnostic inclusions capable of immediately linking locally produced ceramics with the source of their raw materials. Under more favourable circumstances in an area of varied geology, it has been possible to identify the origin of vessels manufactured from a restricted outcrop of clay, even when the precise location of the kilns was not known (Vince 1977). Sedimentary deposits in regions such as Kent can sometimes be distinguished by heavy-mineral analysis, and the origin of certain raw materials used for the manufacture of Roman tiles has been successfully identified using this

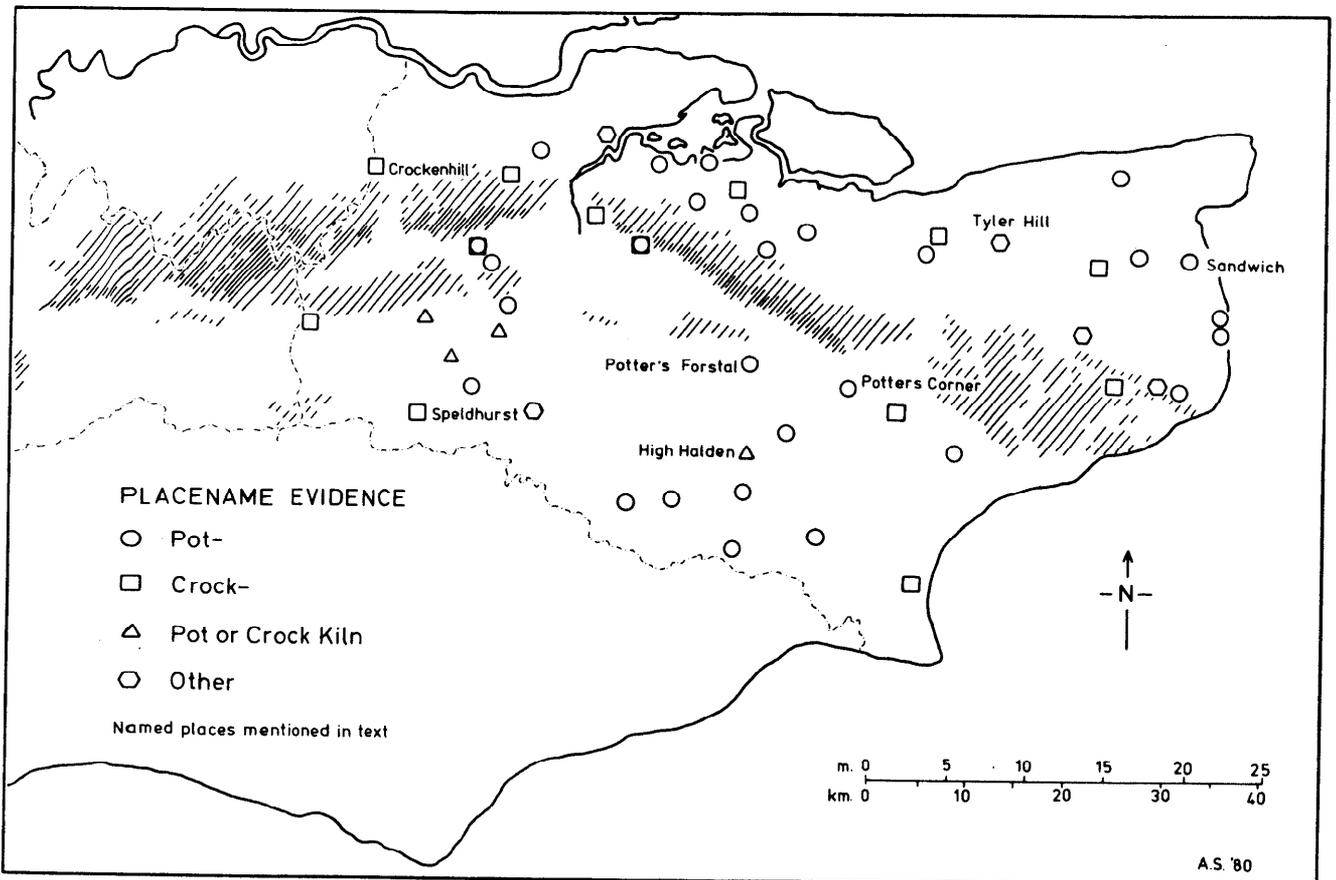


Fig 37 Place-name evidence

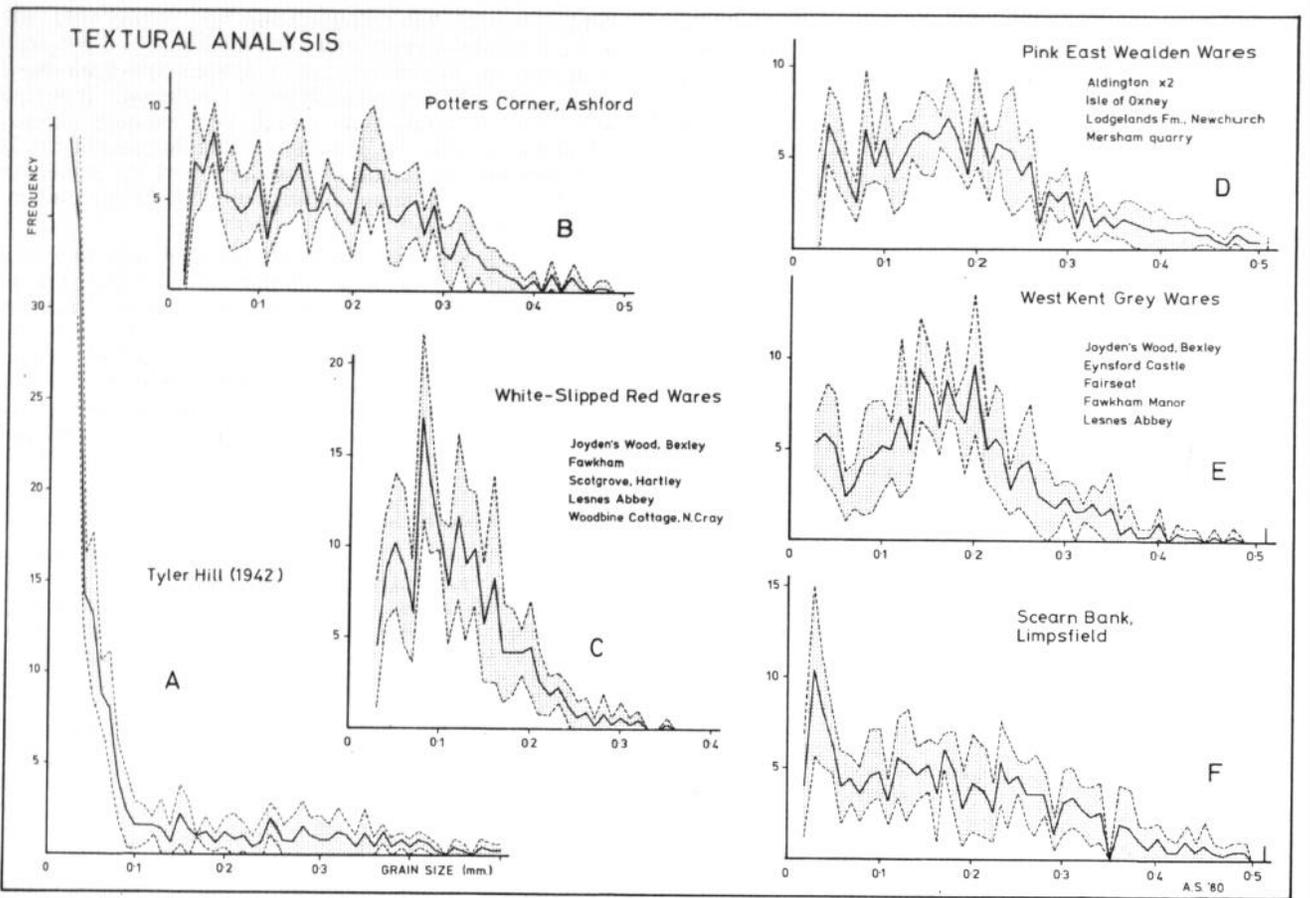


Fig 38 *Textural analysis: medieval wasters and other types from unknown sources*

method (Peacock 1977a). The technique is, however, time-consuming and sometimes impractical. Detailed examination of the fabric texture in thin-section is quicker, and is particularly suitable for comparison of marketed vessels with the products of known kilns. It is not possible to identify vessels made at centres known only from documentary sources or from personal or place-names and, in this respect, the study of Kentish material is hampered by the paucity of excavated kilns. Rigorous standardization of fabric descriptions (Peacock 1977b) and the establishment of a fabric type-series for direct comparison (Rhodes 1977) do, however, provide a starting point for more detailed analysis which is capable of objectively distinguishing the products of different industries, even if the source of some groups remains unknown.

Quartz is often the only mineral visible in thin-sections taken from a variety of different wares, but the grain-size frequency does offer a means of characterization. The technique, known as textural analysis, is based upon the principles of sedimentology, and has been used to demonstrate that a group of Romano-British sherds found at Fishbourne came from a common source of manufacture (Peacock 1971). A modified approach has been used to identify the products of Romano-British kilns at Rowlands Castle, Hants, and elsewhere (Hodder 1974), and further modifications have been introduced for the analysis of medieval wasters in south-east England.

Graphical representation of the size frequency has been adopted in preference to statistical measures of mean size, skewness, and kurtosis (Folk & Ward 1957) and application

of this modified technique to sherds found in Sussex has already been outlined elsewhere (Streeten 1979). Briefly, the prepared thin-section is examined first under the petrological microscope to identify the quartz and other inclusions. A projected magnification of the slide is then used to measure, at 0.01 mm intervals, a sample of 160 grains, and these measurements are plotted on a graph showing size against frequency. The curve can then be compared with the results from other thin-sections. In an attempt to establish the variation in grain-size frequency between vessels from the same source of production, five sherds have been analysed from each kiln, and the data are plotted to show mean frequency \pm one standard deviation for each grain-size group (Fig 38).

Using this method, wasters from different medieval kilns can be distinguished, and other groups from unknown sources also produce distinctive graphs (Fig 38). Textural analysis must not be isolated from diagnostic traits visible to the naked eye, and the intention is to provide an objective standard against which visual identifications can be tested. Hard-fired late medieval wares, however, are not easily distinguished by eye, and analysis is essential if the products of known kilns are to be identified conclusively. The late medieval wares from Hareplain, Biddenden (Kelly 1972) are characterized by a relatively high proportion of large quartz grains, in contrast to the finer texture of wasters from two contemporary kilns at Boreham Street (Barton 1979, 156) and Parrock, Hartfield (Freke 1979) both in East Sussex (Fig 39, Graphs A, B, & E). Once the pattern for a variety of different kilns has been established, the results

obtained from wasters can be compared with individual samples from marketed vessels. The graphs cannot be expected to coincide precisely, but the general characteristics of the curves are sufficient to identify products from the Hareplain kiln found at Bayham Abbey, located on the Kent and Sussex border, and at a number of other sites nearer to the kiln (Fig 39, Graphs C & D).

Preliminary results are therefore encouraging, but practical limitations govern the number of sherds which are sampled. Tests have shown that five sherds are sufficient to give a reliable indication of the variation between different vessels from the same kiln but further tests are being undertaken with larger samples. Textural analysis monitors both the characteristics of the raw materials and any sand-temper deliberately added by the potter. Despite the possibility of technological inconsistency, however, the graphs derived from wasters found in different areas of the same 'industry' at Tyler Hill are almost identical. In this instance, experiments have shown that the very high proportion of fine quartz (Fig 38, Graph A) probably results from the addition of brickearth to the London Clay. The number of distinctive grain-size frequency curves is undoubtedly limited, and, when dealing with long-distance distributions, there is always the possibility that nearer unknown kilns could produce a similar graph. The technique is best suited to definition of the very local market often supplied by medieval potters.

Distribution of marketed vessels

Medieval ceramics are notoriously difficult to date, but,

when the problems of identification have been overcome and using broad chronological divisions, it is possible to detect changes in the areas supplied by different medieval kilns.

Late Saxon and early medieval kilns have not been found in south-east England (Hurst 1976, 289), and it may be that pottery was fired in simple clamp kilns which only survive in exceptional circumstances. Wares dating from the 12th century and earlier have been found at several sites in Sussex, where the pottery is usually flint-tempered, and in Surrey, where shell-temper predominates. Textural analysis of flint- or shell-tempered wares with little or no sand is not feasible, but differences visible to the naked eye are sufficient to indicate local manufacture. Pottery found in Canterbury is also different, and sand-tempered wares, which are almost certainly from a nearby industry, appear to emerge alongside the shell-tempered types at an earlier date here than elsewhere in south-east England. The Saxon pottery from Canterbury is being studied in detail by Miss A Mainman at Sheffield University, but the important material which predates the mid 12th century construction of the *Aula Nova* in Christchurch Priory provides a valuable group for comparison with the later wares.

Analysis has shown that a sherd found at Wingham (Greenfield 1960, 69-70) is of similar manufacture to the wares sealed beneath the *Aula Nova* at Canterbury, and samples taken from a group dated c 1180 at Dover Castle (Cook *et al* 1969, 89) and from an early/mid 12th century assemblage at Caesar's Camp, Folkestone (Pitt-Rivers 1883, 456-60) also have the same quartz grain-size frequency. A waster recognized among material associated

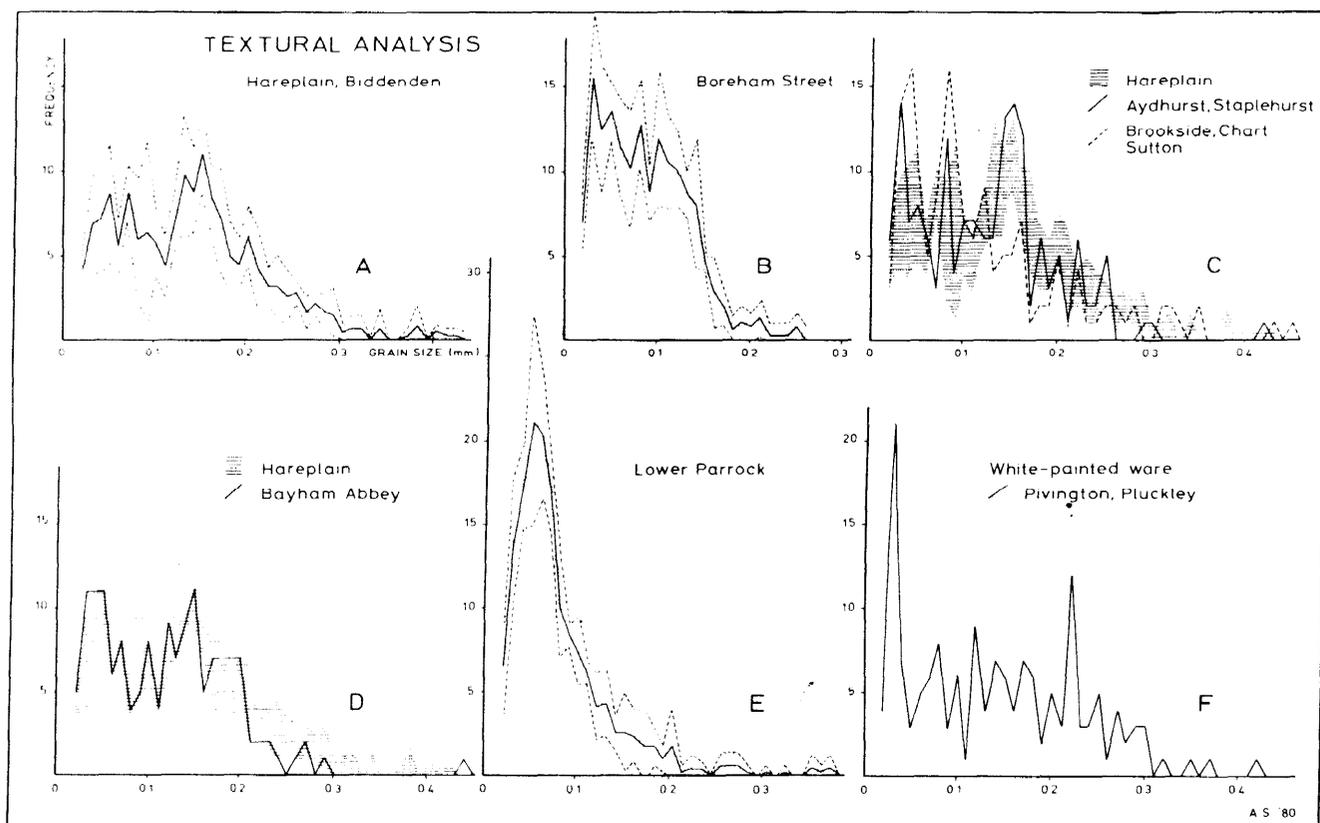


Fig 39 Textural analysis: late medieval wasters and marketed vessels

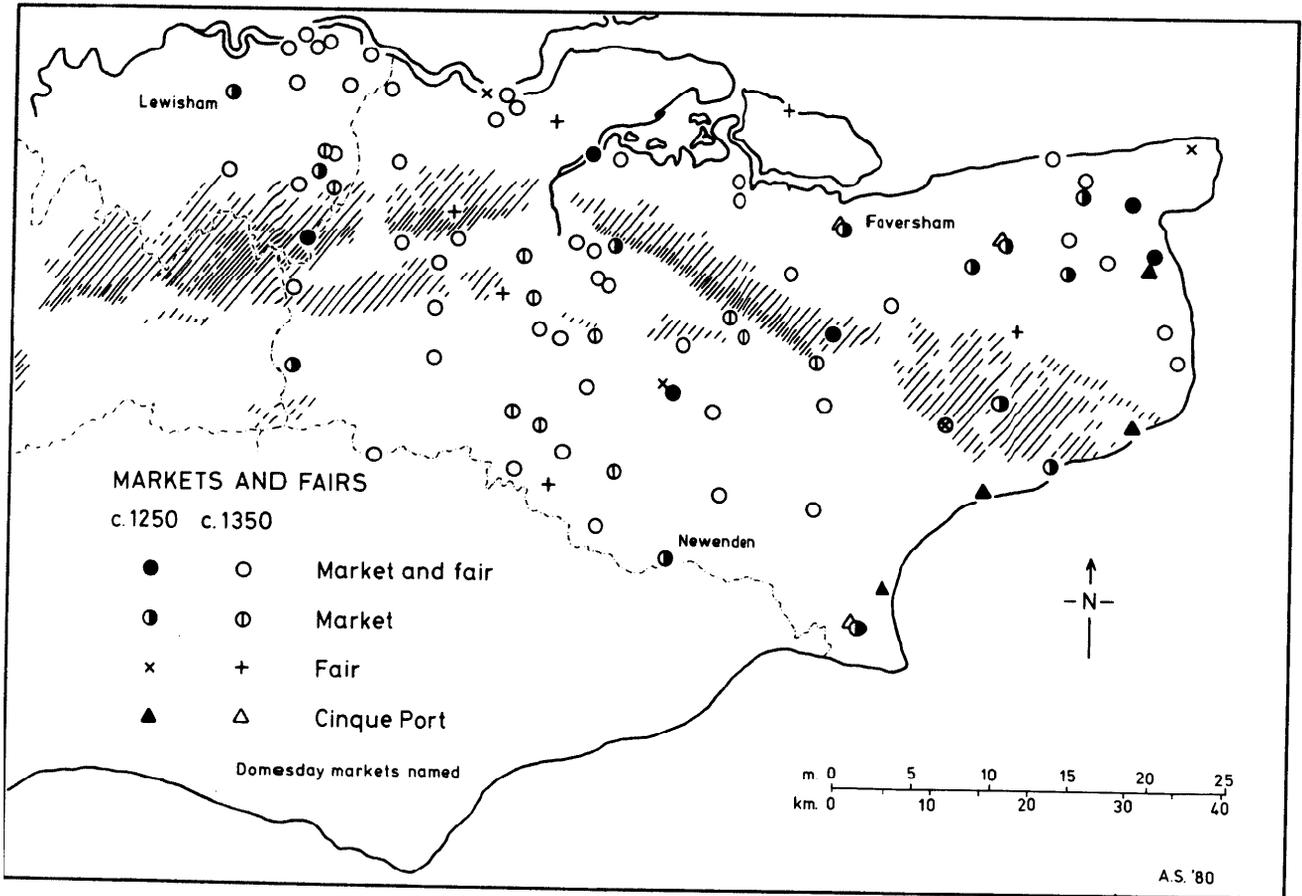


Fig 40 Markets and fairs c 1250 and c 1350

with a kiln producing loom-weights at Rochester (Harrison 1972, 144) suggests the possibility of pottery manufacture—perhaps on a domestic scale—during the 12th century, but samples from elsewhere in the city appear similar in thin-section to contemporary wares at Canterbury. It must be concluded from these results (Streeten forthcoming) that 12th century and earlier wares available in Canterbury were marketed not only in the immediate vicinity, at Wingham, but also as far afield as the south Kent coast and Rochester.

Flint-tempered fabrics from Caesar's Camp, Folkestone, which are akin to early sherds found further west in the Aldington area (Ashford Archaeol Group Coll) suggest competition at the fringes of the distribution but the widespread market for the sand-tempered wares of east Kent contrasts with the contemporary pattern of localized production inferred in Sussex and Surrey. This points to a well organized industry but the source of these wares is not known. The quartz grain-size frequency, however, is similar to the later Tyler Hill types and it may be that the same raw materials were used from an early date, even if the vessels were not manufactured at precisely the same place as the later products.

Although the Charter Rolls only survive for the period after 1199 (Britnell 1978, 191-2), there would have been earlier markets at major towns such as Canterbury and Rochester. Certain smaller towns and rural centres are known to have been granted market rights by c 1250, and the following hundred years witnessed the proliferation of charters throughout the country. The extensive list of Kentish grants, drawn from the meticulous writings of an early county historian (Hasted 1797-1801) and from other

sources, shows a striking density of Wealden markets by c 1350 (Fig 40). Some aspirations of status were doubtless over-optimistic, but as in the case of Linton (see p 88), pottery is likely to have been sold at relatively minor centres as well as in the larger towns. It is perhaps significant that the increase of market charters between c 1250 and c 1350 occurs at a time when many local pottery industries were apparently emerging each serving restricted areas.

Tyler Hill vessels of the 13th and 14th century are found throughout east Kent, and the distribution mapped by Dunning (Rix & Dunning 1955, 150) can be extended in the light of more recent discoveries. Textual analysis confirms the identification of these wares at Rochester, and in the later levels at Christchurch Priory, Canterbury and Caesar's Camp (Fig 41, Graph A), Folkestone. Elsewhere visual examination of thin-sections demonstrates uniformity of the fabric, and also that small quantities of Tyler Hill ware reached west Kent. Finds at Sittingbourne (Baxter & Mills 1978, 246) and Dartford (Mynard 1973, 192) include vessels which had presumably been carried along the nearby route from Canterbury, but the suggested identification of a jug from Moat Farm, Leigh, in the Weald, is an unexpected discovery (Parfitt 1976, 197). Canterbury itself was undoubtedly the single most important outlet, not only for domestic utensils such as the unpublished well-group from Canterbury Lane (Canterbury Museum, 8708-38) but also for more unusual items including a money box (Millard 1968). The east Kent finds represent trade either direct with the potters at Tyler Hill or more probably through local markets, in contrast to floor tiles which were probably supplied as specific orders.

Recent work by M Horton, for the Kent section of the

national *Census of medieval floor riles*, shows that tiles with Tyler Hill designs are found in the churches of Romney Marsh, along the north Kent coast, and even as far afield as Essex (Drury 1974, 70). This distribution extends well beyond that for pottery manufactured at the same place. The fragility of earthenware vessels would have made transport difficult and they must normally have been sold individually or in small groups, unlike floor tiles which were almost certainly supplied as consignments for specific building works. Large orders for pottery, such as those sent by the King to the potters of Kingston upon Thames in 1264-6 (Giuseppi 1937) must surely be the exception rather than the rule. Items manufactured near Canterbury, including the pilgrim badges of St Thomas, reflect three different types of movement seen in the archaeological record. Pilgrim badges represent the long journeys undertaken by individuals; special building materials such as floor tiles were supplied within the limits of economic transport; and pottery represents the day-to-day demand for a fragile low-value commodity, probably sold in local markets.

Unlike the Tyler Hill wares, which are sometimes unevenly fired, other fabrics from the southern and eastern parts of the county are predominantly oxidized. Potters Corner and Tyler Hill products can be distinguished by eye and in thin-section (Fig 38, Graphs A & B). Another type with brighter pink surfaces was discovered at New Romney (Rigold 1964, 61) and is also known from other sites on Romney Marsh (Maidstone Museum, med 12 and 137; Canterbury Museum, 9204). These so-called 'Pink East Wealden wares' are distinguished in thin-section by the higher proportion of large quartz grains <0.4 mm (Fig 38, Graph

D) and the geographical distribution of these and Potters Corner (Fig 41, Graph B) vessels indicates a localized market in places which could not be supplied economically from the much larger industry at Tyler Hill.

In contrast to the red fabrics of east Kent, contemporary coarse wares found in western parts of the county are predominantly reduced. Shell-tempered fabrics persisted longer here than in the east, until c 1300, and the later grey wares found initially at Joyden's Wood, Bexley (Tester & Caiger 1958, 37) and at Lesnes Abbey (Dunning 1961, 3) were originally thought to be from the kilns at Limpsfield in Surrey. The large assemblage from Eysnford Castle, however, revealed significant differences (Rigold 1971, 158), and textural analysis here and at other nearby sites demonstrates the contrast with wasters from Scearn Bank, Limpsfield (Prendergast 1974) (Fig 38, Graphs E & F). An isolated vessel which appears similar in thin-section (Fig 41, Graph D) reached Dover Castle (Cook *et al* 1969, 100), but the west Kent finds form part of a wide distribution of grey wares probably made at several kilns.

Some jugs in this area are in the same grey sandy fabric, but others are of a finer, frequently white-slipped, red ware. A vessel found at Canterbury and attributed by the excavator to the London area (Frere 1954, 135, fig 20, no 44) produces a very similar pattern of grain-size frequency to samples taken from slipped sherds found in west Kent (Fig 41, Graph C). The source of neither these nor the 'London area' jugs is known, but some vessels may come from kilns in Essex. Several sherds from west Kent contain fine mica, and, as this has been noted on samples of London Clay from Tyler Hill, it may be that the slipped wares were made from

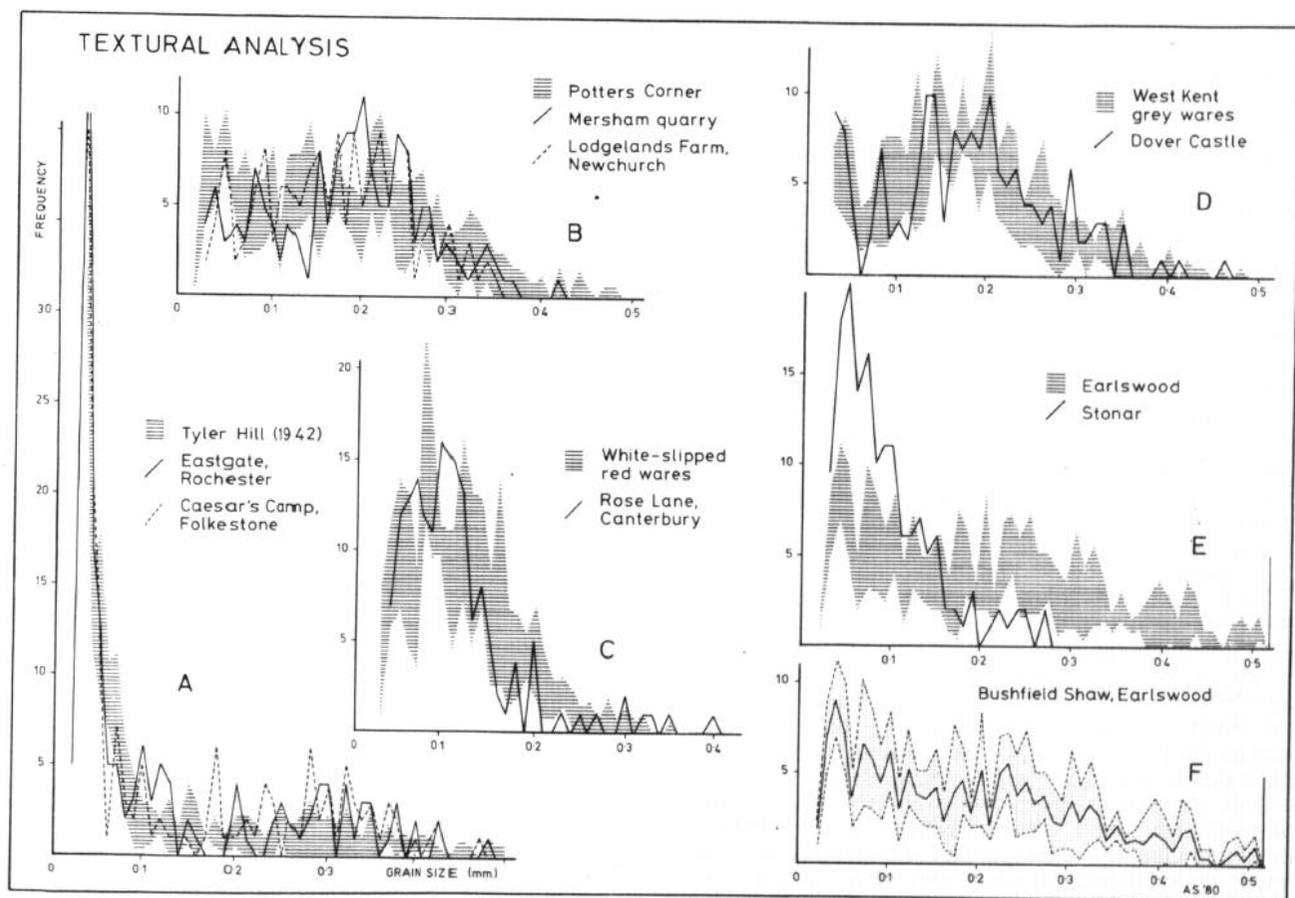


Fig 41 Textural analysis: medieval wasters and marketed vessels

the same type of clay. They might indeed be products of the 'Pot-s' and 'Crockere-s' recorded in the Hundred of Blackheath (see p 88), but outcrops of London Clay are extensive on both sides of the Thames estuary.

Evidence for the restricted distribution of locally produced ceramics in Kent during the 13th and 14th centuries must not obscure the fact that some vessels were imported from further afield. An intriguing explanation for the rope-decorated jug handle found at Chestnuts, Addington (Alexander 1961, 47) suggests that the vessel was carried by medieval tomb-robbers from Southampton or the Oxford region, but there is another unpublished example 'found near Malling in 1928' (Maidstone Museum, med 53) and this type is therefore more likely to be a local variant. Likewise textural analysis of samples from Stonar (Fig 41, Graph E) compared with wasters from Earlswood, Surrey (Turner 1974) (Fig 41, Graph F) does not yet confirm the suggestion that pottery manufactured in east Surrey reached this part of Kent (Dunning 1968, 52, fig 30) and the Cornish origin of a dish has also been refuted recently; it now seems to have been made in western France (Hodges 1978).

There is, however, conclusive evidence that pottery was in fact imported to Kent from elsewhere in Britain. A jug with heraldic decoration found in Canterbury (Canterbury Museum, 30) is of east Midlands origin, and the style of a spouted pitcher from Rochester has affinities with the Oxford area (Harrison 1972, 149). The elaborate knight jug from Dartford (Mynard 1973, 195-8) comes from the Scarborough kilns, and vessels from there are known to have reached both the south coast and the continent (Farmer 1979, 2). Fragments of a jug found at St Augustine's, Canterbury, are similar to products from the Rye kilns (Miss L Blackmore, pers comm) and probably represent coastal trade, but at Chingley, a sherd from the same source (Crossley 1975, 46) almost certainly indicates overland transport along the road from Rye to London.

Certain continental forms such as the Rouen-type jugs from Otford (Maidstone Museum) were copied in local fabrics, but the vast subject of continental imports must remain outside the scope of the present study. The potential of this evidence for understanding the trade contacts of Kentish ports is considerable (Dunning 1968) and, as the geographical range of excavated sites is extended, it may prove possible to quantify the extent to which imported wares reached sites in the Weald. Imports were not found at Moat Farm, Leigh, and, although this may be the result of archaeological sampling, it may reflect the status or location of the site.

Late medieval wares are distinguished from earlier types by their smoother texture and harder surfaces, and in West Sussex the new forms with white-painted decoration (Barton 1979, 122-9) produced at Graffham were distributed over large areas. The potters captured markets formerly supplied by a number of different kilns (Streeten 1980), but the pattern in Kent is more akin to that in East Sussex, where small kilns serving a local market flourished as late as the 16th century. There is no evidence for medieval production near the later kiln at Hareplain but, in east Kent, certain of the harsh sand-tempered wares become harder-tied in the late medieval period, which might indicate continuity from the earlier industry. Textural analysis shows that contemporary smooth-surfaced wares are products of several unknown kilns, but some of the very hard fabrics may in fact be continental imports. Most of the vessels are not decorated, but isolated white-painted sherds have been found at Boxley, West Malling (Maidstone Museum, med 23), Tonbridge (Streeten 1976, 114), and

Pivington, where a bunghole pitcher was recovered (Rigold 1962, 43) (Fig 39, Graph F). This type of decoration extends across southern England (Gaskell Brown 1979, 18-19), but none of the Kentish finds can yet be linked with known kilns.

Sherds in a white fabric with brown slip decoration found at Lullingstone (Dartford Museum, Med Box 10) and Woodbine Cottage, North Cray (Bexley Museum) are almost certainly products of the Cheam industry conventionally ascribed to the 15th century, but similar types have been found in much earlier contexts in London (Orton 1979, 303). A large group of undecorated Cheam jugs was stratified in association with a cooking pot from the Hareplain kiln among dissolution debris at Bayham Abbey (DoE, Dover Castle). The expanding market for so-called 'Surrey' white wares during the late medieval and early post-medieval period must therefore be seen in the context of continued small-scale local production. 'Tudor Green' ware, probably of west Surrey origin, dates from the early 15th century onwards and these vessels have been found at sites in Canterbury, at Ightham (Maidstone Museum), and elsewhere in Kent. Later Surrey white wares are also known at Canterbury, at Rochester (Rochester Museum), and from Dover (Mynard 1969, 38-40). It is difficult to envisage direct 'cross-country' transport of pottery from as far as Surrey and, although consignments could have been sent to local markets, it may be that vessels found in Kent reflect the growing importance of London as a market for south-east England.

Conclusion

Despite the variety of evidence, it is not certain which of the alternative methods of marketing (Renfrew 1977, 9-10) were favoured by the medieval potter. Archaeological distributions and the scant documentary references are nearly always open to several interpretations, and the ceramic chronology is seldom sufficiently sensitive to be linked with confidence to historical changes. The source of many wares will remain in doubt until further kilns are discovered, but, even when the centre of manufacture is uncertain, textural analysis enables objective comparison of fabrics. This technique clarifies the different distribution of visually similar wares.

Acknowledgements

A debt is always owed to those who have laid the foundations of a subject. In this instance the publications of the late Dr G C Dunning and the late Mr S E Rigold have proved invaluable. Dr D P S Peacock introduced me to the principles of textural analysis and both he and Mr D A Hinton have offered helpful advice during development of the work. The project would have been impossible without the willing cooperation of numerous museum curators and field archaeologists, to all of whom I am indebted.

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In preparing this paper three factors rapidly became apparent.

First-the great importance of Kent, more specifically Canterbury, to our coinage in its formative period. 'This ancient city, capital of the former Kingdom of Kent and the chief episcopal see of Britain, has a numismatic history surpassed by that of no other place within these realms' (Carlyon Britton 1910, 4).

Second-the paucity of recent work on, and the lack of a corpus of, the coinage of the Kentish mints. There has been no work such as that done for Sussex by King (19%) nor for Lincoln by Mossop (1970). Perhaps the wealth of material is a deterrent to the undertaking of what will be a major task.

Third-that with so much material this paper has to be limited to the royal and ecclesiastic mints and coins, excluding therefore the sceattas and their predecessors, and the 17th century and later tokens.

It is only relatively recently that numismatists have looked beyond the coins, to see in what way the mints, the moneyers, and the types they struck reflect other events, and to consider what can be learnt from this material. With the examples of Biddle's *Winchester studies* (1976, 1, 396-422), of Lyon's analysis of Lincoln (in Mossop 1970, 11-19), and Dudley's paper on the Sussex coinage (Dudley 1978, 76-7), lists were prepared of the Kent mints, moneyers, and types struck, to enable comparisons to be made of their duration, activity, and correlation with known events. It is hoped that this paper will demonstrate the possibilities in such an approach.

Although mints with royal and ecclesiastic authority may have operated in Kent earlier, in the sceatta series, the period in which mints were undoubtedly active runs from the reigns of the Kentish kings Heaberht *c* 764 and Egberht *c* 765-780 to the first coinage in the name of Edward VI 1549-50. During this period Canterbury, with royal and ecclesiastic mints, was predominant, with the broad flan penny usually the only denomination struck (although occasionally fractions or multiples were issued).

That the preceding sceattas had controls imposed on weight and standard is demonstrated by Blunt (1961, 40); such controls were extended to the new pence, leading to a firmly controlled monetary system, exemplified by Aethelstan in 928, 'that there be one (kind of) money throughout our Kingdom' (*EHD* 1, 382); and by Cnut *c* 1020, 'that one coinage is to be current throughout all this nation, without any debasement, and no man is to refuse it' (*EHD* 1, 420).

The organization of mint activities for at least the early part of this period is obscure. Canterbury, long pre-eminent, is supplemented by mints in other places each of which could serve as an occasional seat of government (Andrews 1901, 17) and it has been suggested that coinage, like law a royal prerogative, would likewise issue only from the current seat of power (Kinsey 1959, 12-50). This may explain the intermittent coinage to which Lyon draws attention at Lincoln. Whether any correlation can be established is doubtful, but it is a possible explanation for the lack of mint names on coins from time to time. Standards were clearly imposed; the final weight of Offa's penny of 20½ grains was increased by Alfred to conform to the Mercian weight of 24 grains (Lyon 1976, 173-224) and also to maintain parity with the

continent (Biddle 1976). The penny became widely accepted and, owing particularly to the Danegeld payments, was exported in vast quantities. That this had eventually to be controlled is shown by Matthew Paris in his 13th century Greater Chronicle, 'the Castellan of Dover, who kept a careful watch over the coast and was an unflinching scrutineer of travellers, found many laden with the much desired coin which they were taking out to the aliens; these he quickly relieved of their burdens' (*EHD* 3, 103).

Although die cutting was probably done initially by the moneyer (Kinsey 1959, 16) regional die cutting centres had developed and were in use by the 'Reform' period of Eadgar *c* 973 (of which Canterbury was one); from these, dies would be issued to authorized moneyers who would pay for this service-typically 240 pence per die (Craig 1953, 20).

Eadgar's Reform, although a recoinage of what seems, on hoard evidence, to have been a tolerably satisfactory currency, is important in restandardizing the coins, increasing the number of mints, and instituting the frequent emission of new issues put into effect by Aethelred II. Under this the weight of each issue may have been varied as a deliberate economic policy. That this was policy and not left to individual moneyers is clear, for although the weights of issues vary greatly, the coins within those issues fall between relatively small tolerances. These variations were possible for the Anglo-Saxon penny tended to be over-valued, thereby encouraging exports, increasing the currency in circulation, and helping to sustain the burden of Danegeld and Heregeld. It is noticeable that abolition of the latter coincided with a major increase in the weight of the penny.

Although Eadgar's Reform was intended to maintain the quality of the currency it has been suggested that the payments required for new dies would have been equally attractive as a source of revenue (Dudley 1978, 19). It is the moneyers, however, who would have most benefited, striking perhaps up to 30,000 coins from one set of dies with their right of, usually, sixpence in the £ 1. The regular issues, by 1035 a two or three year cycle, must have placed a great burden on the mints and on the public who ultimately had to bear the cost. The pressure on the mints may be seen in the increase in moneyers under Aethelred II, but before seeking conclusions the mints should be looked at in greater detail.

The early establishment of Canterbury as a royal and religious centre with Frankish connections is well known. It is from the latter that our new coinage developed; Pepin, after deposing the last of the Merovingian kings, took control of the mints and imposed a new coin, the denier of 20 grains of silver on a broad thin flan, carrying the regnal name and that of the mint town. This appeared in England as the penny and it is now generally agreed that the introduction was by the Kentish kings Heaberht and Egberht. Their coins, of the same size and weight as the denier, also carried the regnal name but not, interestingly, that of the mint but of the moneyer, suggesting that Kent, unlike France, had only one mint the name of which would be redundant. Offa, on extending Mercian power over Kent, struck pence in his own name, using Heaberht's and Egberht's moneyers, Udd, Eoba, and Babba. He also conferred on Archbishop Jaenberht and his successors the right to strike their own distinctive coins in Canterbury. It

may be that this was a confirmation of an existing right (in the sceatta series?) as Offa and Jaenberht were not on the best of terms and a new right was unlikely to be granted (Blunt 1961, 47). Whatever the case, the principle of ecclesiastic issues had been established, to be extinguished finally by Henry VIII. The expansion of Mercian power carried the penny with it, with Canterbury the natural choice for a central mint. Coenwulf, 796-821, used up to eleven moneyers for each of his types; of his total of eighteen moneyers twelve also struck for the Kentish kings, and contemporary with these issues were the ecclesiastic coins bearing regal and episcopal names but not those of the moneyers. A mint at Rochester may have opened at this time--Coenwulf, 821-823, seems to have used three moneyers there, Ealhstan, Eanwulf, and Aelhun, perhaps anticipating Aethelstan's later decree assigning Rochester that number, although on present evidence only two moneyers struck any one type.

The struggle for power between Mercia and Wessex may be seen in the brief appearance on Coenwulf's death of Baldred, King of Kent, c 825, clearly an opportunist who was rapidly deposed by Egberht of Wessex. The political uncertainties of this time must surely be seen in the so-called *Anonymous* issues carrying only the name of the moneyer and of Canterbury. These issues may have been part of a settlement between the two great powers but may instead show that archbishops and moneyers, uncertain as to the outcome and their future masters, were sitting on the fence. It has already been noted that Udd, Eoba, and Babba worked for Kentish kings and for Offa. In this later period too the moneyers were equally indiscriminate, for Swefheard, Werheard, Sigestef, Tidbearht, and Diormod struck for the rightful kings of Kent, for the usurper Baldred, for the *Anonymous* issues, and for Egberht of Wessex. Is this a demonstration that, despite dynastic change, life for the ordinary man was relatively unaffected, and that the social structure was maintained?

The political unity induced by the common interest of the Danish threat is anticipated by the uniformity of the coinage of Mercia and Wessex; there was a joint issue too of Berhtwulf and Aethelwulf c 843 and the Canterbury moneyers Brid and Liaba struck for both. The increase in moneyers--Aethelwulf had sixteen royal moneyers at Canterbury and four at Rochester, together with ecclesiastic moneyers too--is a reflection of the growing need for currency for administrative, military, and commercial purposes and the later tribute payments to the Danes.

The remainder of the Wessex period is not easy to follow in Kent and although Edward the Elder, 899-924, had an abundant coinage with 120 moneyers, only one Kentish mint, Canterbury, can be certainly identified, with only two moneyers. Many more must have been used here, for many of the non-attributable coins are similar in style to those of the contemporary Archbishop Plegmund, on whose death the ecclesiastic right to a distinctive coinage lapsed.

The earliest known documentary evidence for mints and moneyers is in Aethelstan's decree c 928, possibly re-enacting earlier legislation, but also providing a framework for expansion in the number of mints: 'In Canterbury (there are to be) seven moneyers, four of the king, two of the archbishop, one of the abbot; in Rochester three, two of the king, one of the bishop; in London eight; in Winchester six; in Lewes two; in Hastings one; another at Chichester; at Southampton two; at Wareham two; two; at Dorchester one; at Exeter two; at Shaftesbury two; otherwise in the other burhs one' (*E H D* 1, 381).

Oddly, Canterbury does not seem to have taken up its quota, with only four moneyers at present known to have struck the *Circumscription* Cross, and only three the *Crowned Bust*, types. Manna and Aethelsige, both striking mint-named issues, also appear in the moneyers for the unnamed *Two Line* issue, and more, unidentified, may be here. Neither did Rochester take up its quota, having apparently only one identified moneyer, Hungar, striking only *Crowned Bust* issues. Dover and Lympne appear as mints each with the one authorized moneyer--at Dover Fulcreth struck *Two Line* and *Circumscription* Cross and at Lympne Torthelm, brought seemingly from Canterbury, struck *Circumscription* Cross. Few coins thereafter can be ascribed to mints until Eadgar's Reform coinage c 973, for few mint names appear on the coins. Names of moneyers active in Canterbury, Dover, and Lympne are seen however on the unasccribed issues, so the gaps in mint production may be more apparent than real.

During the following century the situation is most interesting as the effects of the Reform were felt, and the period needs a detailed analysis of each mint, its moneyers, and types. The number of moneyers active at any one time may be difficult to assess (Lyon 1970, 13), as the craft was to some extent hereditary with consequent similarity of names, whilst moneyers could also be replaced within the duration of one type. It can readily be seen that there are variations in activity.

Nevertheless a clear pattern emerges. Canterbury, perhaps by virtue of its status, was pre-eminent, whilst of the others, which developed more on economic grounds, Dover with not even Urbs on its coins rapidly overtook its Civitas neighbour, Rochester. Lympne closed with the last type of Cnut c 1035 due to the silting of its sea approaches, being replaced by Hythe which opened with Edward Confessor's Small *Flan* type c 1048. Romney first struck in 997 with Aethelred II *Long Cross* and Sandwich with Edward Confessor's *Pax* issue c 1042-44, and all, excepting Hythe, coined almost continuously till the end of Henry I's reign c 1100, while Canterbury, of course, continued beyond that to the Tudor period.

At Eadgar's Reform Canterbury used two moneyers, increasing to three under Edward the Martyr. Thereafter a great increase took place, with every type being struck under Aethelred II and Cnut, using sixteen and seventeen moneyers respectively. The posthumous *Jewel Cross* type was missed, but all Harold I types were struck with sixteen moneyers used in his five year reign, while four of the moneyers also struck Harthacnut *Second Jewel Cross* and *Arms and Sceptre* types. All types of Edward Confessor were struck with 21 moneyers appearing, of whom five struck the single type *Pax* issued by Harold II, and all types of William I and II were struck using thirteen and ten moneyers respectively.

Over the same period Dover struck, of 43 possible types, all except 3, with fourteen moneyers used for Aethelred II, a number broadly maintained until it dropped to five under William II. Rochester, out of a possible 47, minted 31; Romney, out of 39, minted 25; Sandwich, out of 25, 18; and Hythe, very intermittent until c 1077, minted only 10 out of a possible 22.

It is not possible to attempt conclusions without much further research, including a much needed study of the hoard evidence, but what has been done suggests increasing activity from c 975 to a high level c 997 which was maintained until a slight drop occurred c 1035. The high level was reached again c 1048 dropping markedly c 1065 at the end of Edward Confessor's reign. A steady increase then

occurred with a peak c 1077-80 followed immediately by a slight fall; a new high point was reached c 1086 and maintained through the reign of William II until the first year of Henry I when output dropped and never recovered as far as Kent was concerned.

If this mint activity is accepted as evidence of economic demand it is of interest to consider the nature of the demand. If it is a reflection of commercial activity-if the moneyers were citizens of high rank, many of them burgesses as at Winchester (Biddle 1976, 422)-then Canterbury, Dover, Rochester, and Romney each had a substantial body of relatively wealthy men, suggesting that Kent was prosperous at that time. A number of authorities however see the demand arising more from Danegeld payments and a closer look at these suggests that this may be so. The first, renewed, Danegeld payment of £ 10,000 was in 991, coinciding with a slight rise in mint output. But output then increased to a high level extending from c 997 to c 1035, with Danegeld payments in 1007, 1009, 1012, and 1018, totalling £ 159,000, over 38 million pence if paid in coin. It is of interest that this included a payment of £ 3,000 from east Kent in 1009 to Earl Thorke's army.

Dover and Canterbury were particularly well placed to receive the bullion and foreign coin upon which the moneyers relied for metal. Many moneyers conducted exchange and this was actually required of them by Henry II (Kinsey 1959, 29), and it has been shown that the Winchester moneyers were related to the gold and silver smiths, with important sites concentrated in the central area of the city (Biddle 1976, 421). It would be interesting to see if this applies elsewhere, for instance in Canterbury, a town of much the same standing as Winchester.

The high level of mint activity up to c 1035 leads into a period of uncertainty seen politically in the conflict between Harold I and Harthacnut, and it is interesting to note the extent to which this is reflected by the coin evidence of mint activity. From 1035 to 1037 both were joint kings, issuing their own coin types. Canterbury and Rochester in striking Harold's *Jewel Cross* type, and not that of Harthacnut, presumably recognized Harold I before Harthacnut, for whom later issues were struck, although at Canterbury only four of the sixteen moneyers did so.

The situation at Dover, and Romney to a lesser extent, suggests a leaning to Harthacnut, as all his issues were struck but only the first of Harold; it may be that these two mints, on the south coast, were following the pattern suggested for Sussex with recognition of Harthacnut first (Dudley 1978, 19).

One event that cannot be seen in mint activity is, oddly, the Conquest. That Harold II in his very short reign was able to coin at Canterbury with five moneyers, at Rochester and Dover with two each, and Romney with one (Sandwich and Hythe seem to have been dormant) is testimony to the strong mint organization. Canterbury, Dover, and Romney then struck William I first type *Profile Cross* 1066-68 and, with Rochester and Sandwich, his second *Bonnet* type, in all cases with continuing moneyers. At Canterbury, Aedward, Wulfred, Edwine, and Manna continued, although the first two struck only the first issue. At Dover, Manwine struck immediately for William, and was followed by Godwine, Leofwine, and Cinstan. Rochester shows less continuity,

with Lifwine Horn striking only the last, *Pacx*, issue for William. At Romney Wulfmaer first struck Edward Confessor's *Pacx*, issue c 1044, and then struck apparently for Harold II, William I, and finally William II's *Cross Voided* type c 1083-86, a not impossible span of 40 years. As, however, he struck only the first and last issues of William I, a gap of eighteen years, two moneyers of the same name or family may be involved; such continuity between generations is seen in Winchester (Biddle 1976, 416).

Nor is the burning of Dover during the Conquest reflected in the coinage, of which every type was struck from c 1035 to c 1100 with one exception-that of *Sword* type of c 1080-83, reflecting a political event, the expulsion in 1082 of Odo, to whom Dover had been granted by William I.

The Kent mints otherwise struck virtually all issues of William I and II, in most cases with several moneyers; only at Hythe was a single moneyer used. On the accession of Henry I the mints, excepting Canterbury, appear to lose their privileges; Hythe closed, Rochester issued only the first type, and Dover, Romney, and Sandwich issued intermittently in the latter part of the reign and ceased coining by the end of Stephen's reign c 1154, although at Rochester two moneyers, Alisandre and Hunfrei, struck Shortcross *Class 5* for John in his brief occupation of 1215. Canterbury continued, striking nearly every type until 1335 and was then intermittent, with a final floruit under Henry VII and VIII including, oddly, privileged ecclesiastic issues with the distinctive marks of the archbishop; it closed in 1549.

Much remains to be done in the field of Kent numismatics; it is hoped that what has been outlined above shows that further research will prove fruitful. It must be remembered however, that numismatics, like archaeology, is inevitably fraught with difficulties. With only a fraction of the original evidence known, the discovery of more may well upset current conclusions.

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Abbreviations used: AS Anglo-Saxon; BA Bronze Age; IA Iron Age; Med Medieval; Mes Mesolithic; Neo Neolithic; Nor Norman; Pal Palaeolithic; Rom Roman.

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