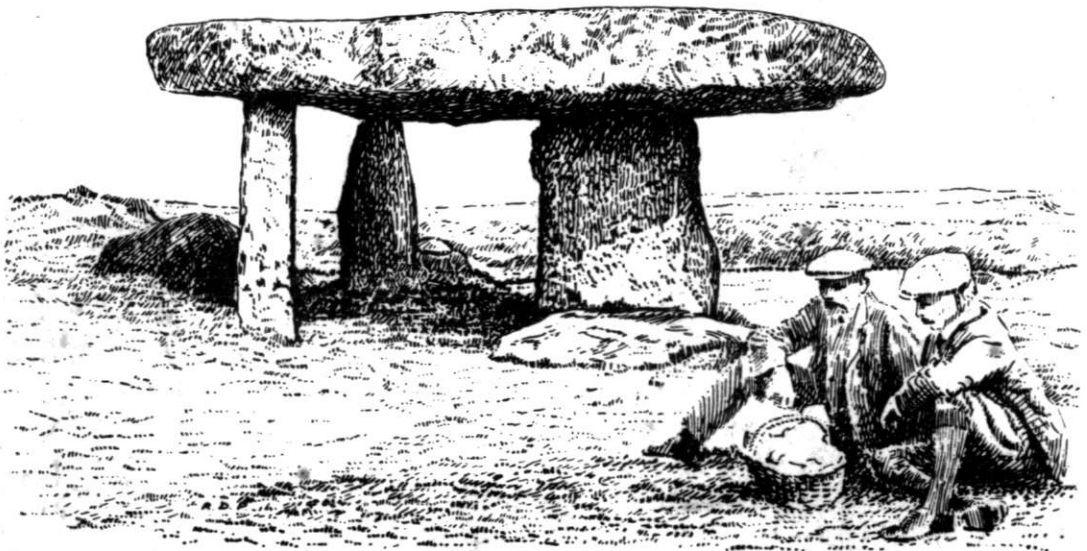


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MESOLITHIC MEGALITHS?

The Scillonian Entrance-Graves: A New View

Paul Ashbee

The first Scillonians have been seen as a *Beaker-successor* people, sustained by the harvest of sea and land (Ashbee, 1974, 279). Shore-line limpet collection supplemented fishing, marine hunting and fowling, enterprises that were complemented by cereal cultivation and the raising of livestock. Limpet-shell middens, with fish and animal bones and broken pottery, as well as querns and ancient fields, portray a diverse and adaptable pattern of provision. Much of this mixed regime, and the stone equipment and stone-built houses, was thought to have been from Mesolithic sources (Ashbee, 1974, 281) and it seemed that stock-raising, cereal cultivation and pottery manufacture, traditional Neolithic traits, were adjuncts, adopted at various stages.

Some of Scilly's ancient fields (Ashbee, 1974, 213-4; Thomas, 1978, 10-12; Fowler and Thomas, 1979) are closely associated with entrance-graves. These, sometimes termed V-shaped passage-graves, characterised by their roughly rectangular chambers, within circular, stone-kerbed cairns, in common with other passage-graves as well as long barrows of all kinds, have long been thought of as collective tombs. This has been questioned (Case, 1969, 13-14; 1973, 193-5) and a reconsideration of the Scillonian entrance-graves (Ashbee, 1976) concluded that their function might have been other than as mausolea. They were seen as cult structures containing a deposit, instead of burials in the strict sense, designed to counteract soil impoverishment and loss of fertility. Many of Scilly's entrance-graves are in no way associated with ancient fields but stand, in small groups, upon eminences such as Buzza Hill, or, as on Porth Hellick Down, St Mary's (Ashbee, 1974, 74-8), in a cluster, close by a larger cairn.

A half-century ago, H. O'Neill Hencken (1932, 19i 317-8) detailed the disproportionate number of chambered cairns, which he termed, after Bonsor (Ashbee, 1980), 'covered galleries', on Scilly (Fig. 1). Because of their geographical position, he considered them (Hencken, 1932, 28) as '*a provincial extension of the great megalithic culture of Brittany*'. Research following the appearance of Hencken's study (Ashbee, 1974, 183-6, for a summary) specified their affinities. Comparable monuments are known, to southwards, in Brittany (Daniel, 1960, 85-7, Fig. 35) and the Channel Islands (Kendrick, 1928, 104, Fig. 36i 188, Fig. 86i 228, Fig. 113). On the mainland, in Cornwall, there are four in Penwith, namely Brane, in Sancreed, Pennance and two at Treen, near Gurnard's Head (Hencken, 1932, 38-49; Daniel, 1950, 61, 237-42). In addition, Carn Gluze, Chapel Carn Brea, Tregaseal and Trewavas Head should also be taken into account. To northwards there is the group inland from Tramore Bay, Co. Waterford, Ireland (Powell, 1941a), two of which, Carriglong (Powell, 1941b) and Harristown (Hawkes, 1941), have been carefully excavated. This *Scilly-Tramore* group, as the combined Cornish, Scillonian and Irish entrance-graves came to be termed (Daniel and Powell, 1949, 174; Piggott, 1954, 264-7) were classed as passage-graves and, although the possibility of a derivation from the Boyne series was admitted, the Breton origin was adhered to (Childe, 1947, 75). Subsequently, the distribution of these structures was extended. Excavations at Townley Hall, Co. Louth (Eogan, 1963) and Knowth, Co. Meath (Eogan, 1968, 305-19) in Ireland, gave substance to the connection with the Boyne passage-graves, while on the coasts of Galloway, in Scotland, the White Cairn, Bargrennan (Piggott and Powell, 1948-9,

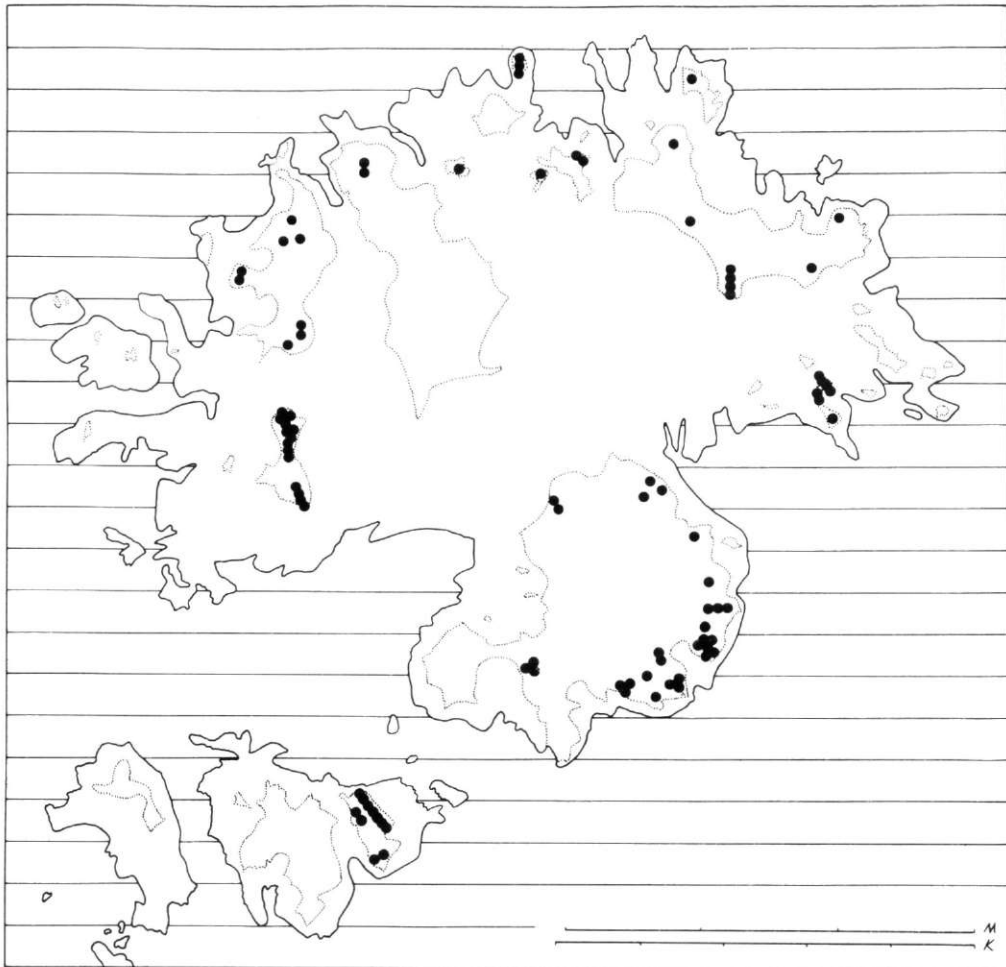


Fig. 1
Entrance-Graves on the Isles of Scilly.

144–53) and other monuments (Henshall, 1972, 255–6) were considered also to resemble the Scillonian series.

Hencken's (1932, 28) view of Scilly's entrance-graves as a Breton implantation was endorsed by Childe (1947, 75) and developed by Powell (1941, 143), with respect to the Tramore group. Indeed, as V-shaped passage graves, an offshoot of these west-Breton compeers, they were considered to be secondary and late in date (Daniel and Powell, 1949, 178–83). Piggott (1954, 264) saw them as *constituting a Scilly-Tramore group of collective tombs, representing colonisation of the two sides of the Irish Sea, about 160 miles apart*. He cited the claims for a Breton origin, recalling also that such monuments are known in the Iberian peninsula (Hawkes, 1941, 144), an observation included by Hencken (1932, 63) in his select bibliography. Distance and isolation excluded the White Cairn, Bargrennan, from his (Piggott and Powell, 1948–9, 152; Piggott, 1954, 265) group. These views were developed when modified diffusion (Renfrew, 1973, 20–47) was deemed the social mechanism behind the appearance of similar monuments in various, sea-separated, places. Childe (1947, 46), aware that such mechanisms demand motivations, invoked the idea of a megalithic *religion*:

'The distribution of tombs, predominantly along the coasts and radiating from coastal ports, indicates the channels of the religion's propagation and the area of its domain.'

At about the same time, a study (Davies, 1945, 1946), which detailed the physical-geographical background to such movements between the Irish Sea and North Channel coastlands, stressed how the seas were used throughout the 'megalithic period'. Unfortunately, reaction against the idea of diffusion and a common origin for our megaliths, has led to the exclusion of all movement from the lives of our early peoples. Nonetheless, coastal, sea-borne movement could have been considerable, for the seas have the facility to unite as well as divide.

The nature of sea-borne movement in prehistory has been discussed by Professor Emrys Bowen in his account of *Britain and the Western Seaways* (1972). As a geographer he was able to appreciate the factors implicit in primitive navigation (Bowen, 1972, 40, Fig. 15) as well as the geographical considerations cited above (Davies, 1945, 1946). He considered the maritime distribution of megalithic monuments in the light of later sea traffic, the voyaging of Celtic saints and pilgrims employing skin boats, versions of the curragh (Hornell, 1983; Greenhill, 1976, 116-23), still widely used in western Ireland. It was concluded (Bowen, 1972, 25) that already in Mesolithic and early Neolithic times there was a well-established pattern of movement and trading from peninsula to peninsula and coast to coast. Professor Bowen (1972, 132) summed up thus:

'While we have concentrated on travelling in pursuit of some great objective, or for health or religious reasons, we must not forget that the cause of travelling in every age and in every land is primarily but not exclusively, economic . . . There is in this context one reason for travelling by sea which is not often mentioned, but which must have had an influence on movement over the western seas from the earliest times, and that is the pursuit of fish.'

In his examination of *The Economic context of dolmens and passage graves in Sweden*, Grahame Clark (1977a) has shown that, while many of these, particularly the passage graves, were sited upon rich agricultural land, the economy of their builders rested largely upon the exploitation of coastal resources. In Scania the megalith builders of this Baltic maritime zone profited from seal hunting while their compatriots in Bohuslän lived upon the results of 'line fishing for bottom feeding Atlantic fish, notably cod, haddock and ling, a fishery already established for a hundred generations or so in the Skagerrak before ever a passage-grave was built in Scandinavia'. A Mesolithic origin for the first megaliths is indicated, and in this context, Grahame Clark turned to the Isles of Scilly, their many chambered cairns, to which Hencken (1932, 17) had drawn attention, and the essentially maritime distribution of their counterparts around the Celtic sea (Fig. 2). He also quoted Emrys Bowen's (1972, 132) statement regarding fishing and movement over the western seas, stressing that 'it is migratory fish and the movements of fishermen that these imply which provide the most likely clue to the coastwise distribution of megalithic tombs in Portugal, Brittany, the Celtic Sea, north-west Ireland and south-west Scotland'. It was also recalled that a limpet-shell midden, associated by its pottery with an entrance-grave, had been recorded in Scilly (Hencken, 1932, 29) and that limpet-shell midden material had been found in passage-graves on the Channel Islands. Moreover, although limpets were eaten (Grigson, 1948, 34), they are also effective bait for fish-hooks.

These observations provide a mechanism for the distribution of, at least, the earliest of our European megalithic tombs, the passage-graves and some of the long barrows, around the western and northern limits of our continent (Daniel, 1938, 26; Clarke, 1980, 99). This sea-board phenomenon has been termed the *façade atlantique* (Giot (ed.), 1963, 3), and may reflect the sea traffic occasioned by fishing from, perhaps, even the fifth millennium BC (Coles, 1971, 351). The skills involved in Mesolithic fishing (Clark, 1948; 1952, 62-90) should not be underrated, for its practitioners were abroad

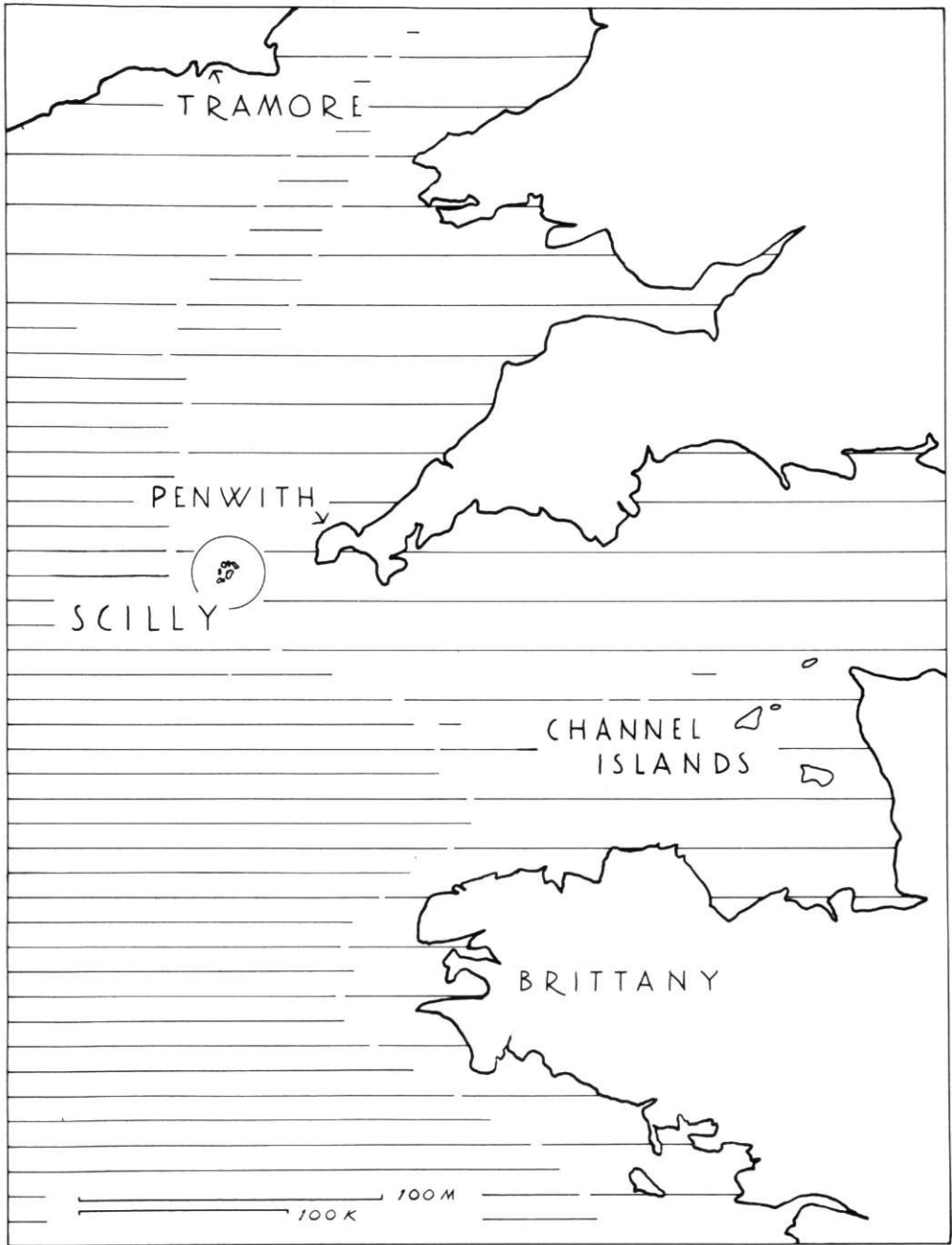


Fig. 2
The Celtic Sea: entrance-graves and fishing zones (after J.G.D. Clarke, 1977).

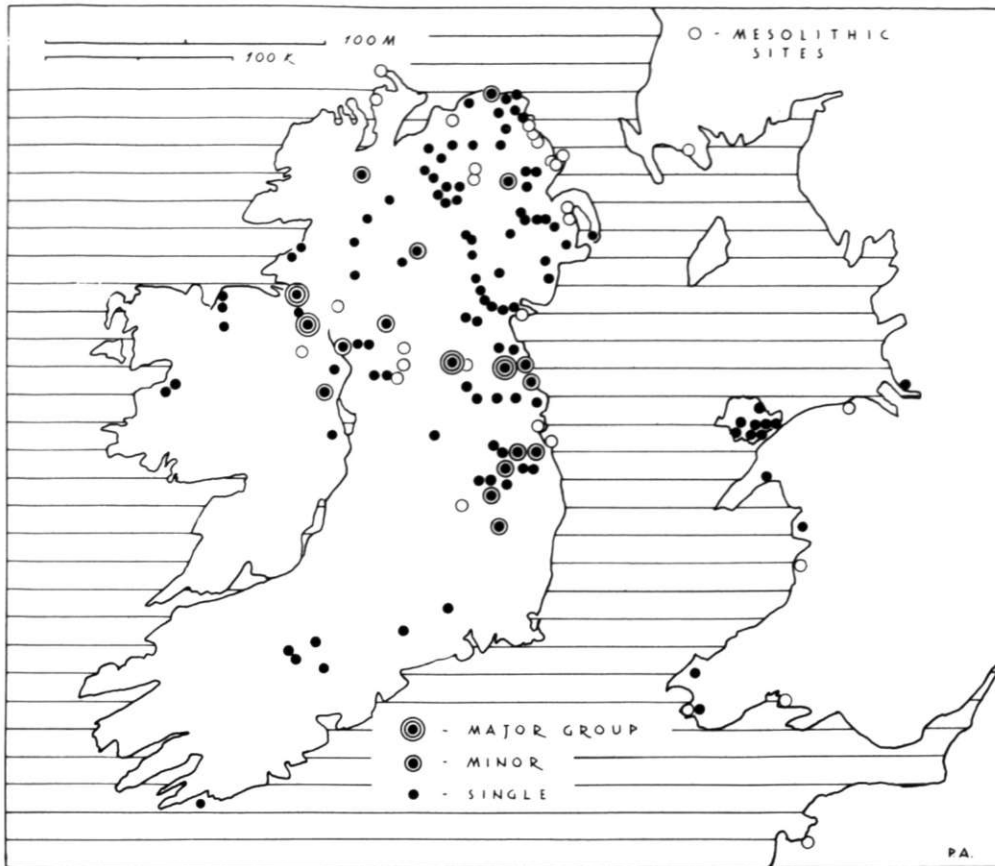


Fig. 3
Mesolithic Sites and Irish Passage-Graves.

in well-knit craft (Elmers, 1981). Bottom-feeding fish regularly move from deep to shallower waters in southern latitudes earlier than they do further north. This would compel northerly movement of fishermen from Iberia to Brittany, to Cornwall and Scilly, and then around both sides of Ireland to the fretted shores of Scotland (Clark, 1977b, 113–6). Maritime intercourse of this nature would involve the transmission of ideas as well as people. Were these the builders of the passage-graves, their landfalls would have been, broadly, in those regions where such monuments could have developed independently.

Apart from circular cairns, roughly rectangular chambers (Ashbee, 1974, 87) are a common factor of the Scilly-Tramore group, its outliers by the Boyne and in Scotland. Sometimes they are V-formed, their distal ends being broader than their entrances or have a coffin or boat-shaped plan when the proximal and distal ends are of equal dimensions but the side-walls are angular or arcuate. In form and dimension they resemble curragh pens, the long, low, roughly rectangular, open-ended and often megalithic, stone structures in which these craft are housed when not at sea (Piggott, 1954, 24, fig. 5, Pl. II). 'Pens' were also built around individual craft when they were beached in exposed, gale-swept, localities. In view of the antiquity of skin boats and the probability that they were, from the earliest times, used for fishing and voyaging it seems likely that 'pens' had wide currency. Thus, just as long barrows may echo the lineaments of *Linear Pottery* long houses (Ashbee, 1982), the chambers of the

Scillonian cairns and their kin might be formalisations for non-material ends of the pens that surrounded and protected skin craft on our long-vanished shore-lines.

Limpet-shells were found in considerable quantities in the chambers of La Varde and Dehus, the large passage-graves on Guernsey, and there were quantities in the mound of La Houge Bie, on Jersey, while oyster-shells remained in the ransacked chamber. In three chambers on Herm, and at Les Pourciaux on Alderney, layers of limpet shells overlay the human remains while in the Grantez passage-grave on Jersey each interment was furnished with a heap of limpets (Kendrick, 1928, 79–81; Hawkes, 1937, 210–12). In Ireland the distribution of passage-graves and known Mesolithic sites also broadly coincides (Fig. 3) (Herity, 1974, 172–3; Mitchell, 1976, 103; Herity and Eogan, 1977, 73). On the western coast the Carrowmore groups of passage-graves in Co. Sligo, contained many shells of winkle, mussel and oyster. On Belmore Mountain, Co. Fermanagh, the cairn had in it pecten (scallop) shells, while the excavation of Fourknocks I, Co. Meath, yielded limpet and mussel shells, as well as a perforated *Nerita littoralis* shell, perhaps for a necklace (Hartnett, 1957, 241). Loughcrew's Cairn H, one of the hill-top group also in Co. Meath and some forty miles from the sea, produced cockle, periwinkle, scallop, limpet and mussel shells. A striking feature of the mound of the passage-grave on the shore at Knocklea, Rush, Co. Dublin, dug into in 1839, was 'a bed of periwinkle shells about eight inches in thickness with some limpet and mussel shells intermingled'. The excavator continued 'I removed a vast quantity of them but a thick bed of them still remains'. Carrowkeel ware, the pottery found in a number of Irish passage-graves, was regularly tempered with crushed shell. Four passage-graves in Anglesey have produced quantities of sea-shells. A 'concentrated deposit of limpet and oyster shells' was encountered when Barclodiad y Gawres was excavated (Powell and Daniel, 1956, 16) as were cockle, mussel and limpet shells at Bryn Celli Ddu (Hemp, 1930, 187). Limpet, cockle, mussel, whelk and clam shell were in Bryn yr Hen Bobl (Hemp, 1936, 274, 280–81) and in the chamber of Lligwy (Baynes, 1909, 224–5) the lower deposit rested upon mussel shells and the upper was covered by limpet shells. Megalithic structures other than passage-graves also had shells in them. A pierced *Nucella* (dog whelk) shell was found at Nympsfield and *Ostrea edulis* (oyster) shells were found in Rodmarton (Clifford, 1950, 28), stone-built long barrows on the Cotswolds. Cairnholy I, a long cairn in Galloway, had periwinkle, limpet, mussel and whelk shells in its forecourt blocking (Piggott and Powell, 1948–9), as did Crarae (Henshall, 1972, 88), where hollows in the chamber floor and forecourt each contained about 2,500 limpet shells.

Only in one or two instances, as on Scilly (Hencken, 1932, 29; Ashbee, 1974, 159), can ancient shell-middens be linked with passage-graves, or other kinds of chambered cairn. Middens on the Channel Islands (Kendrick, 1928, 216–7; Hawkes, 1937, 99), were, as in Cornwall, accumulating as late as Roman times. The most ancient, presumably Mesolithic, shore-line middens have been overwhelmed by rises in sea-level, although, in Brittany, their counterparts, as at Tévéc and Hœdic, have survived (Clark, 1938; Giot, 1960, 24–6; Rozoy, 1978, 744–823). Sligo Bay, in western Ireland, close by the Carrowmore passage-graves, takes its name, *Sligeach* (the Shelly River), from the many shell-mounds thereabouts while others in the estuary of the Foyle, were taken for manure during the seventeenth century (Herity, 1974, 172). At Sutton, near Dublin, the excavation of a shell-midden produced polished stone axeheads (Herity and Eogan, 1977, 19–20, Fig. 5), thought of as Neolithic and thus linked with the passage-graves, as well as parallel-sided flint flakes of Larnian form.

Shell-mounds have for long been the basis of arguments for a sparse population obtaining a meagre living (Cornwall, 1964, 222–3). Most middens contain limpet shells, as on Scilly (Ashbee, 1974, 264–6), and because of their potential as bait for catching bottom-feeding fish (Evans, 1949, 145) it is possible that they were only eaten from necessity rather than choice for, as well as having been overvalued as a foodstuff (Bailey, 1978, 39) they are leathery, and need pounding to render them palatable.

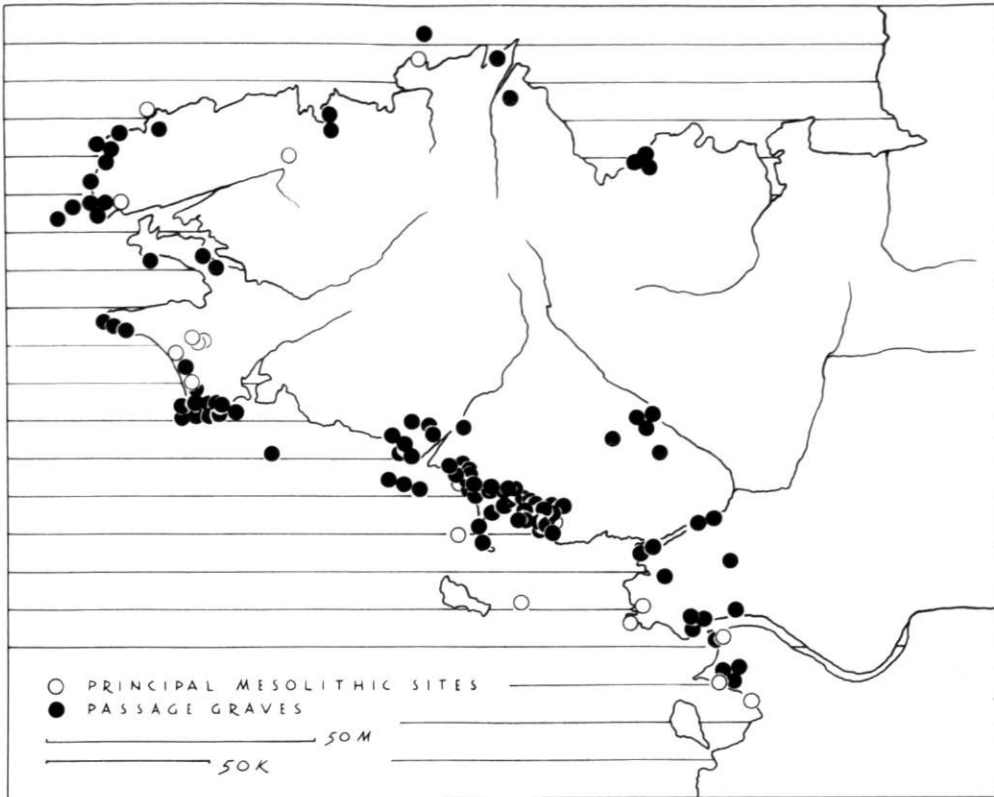


Fig. 4

Brittany: Coastal Mesolithic Sites and Passage-Graves (after Giot, 1970, and Daniel, 1960).

Pecten, oysters and even whelks are much more attractive and assimilable. If limpets were bait, a new and different rate of accumulation of those which are largely limpet shells will have to be envisaged.

The passage-graves of Brittany have been shown to have been erected during the fourth millennium BC or, perhaps, earlier (Giot, 1971, 210, Fig. 1; Whittle, 1977, 259–60). It is considered (Renfrew, 1973, 125) to have been one of a number of regions where megalithic monuments developed independently. The densest and most varied concentration in western Europe is to be found around the Gulf of Morbihan (Daniel, 1960, 72, Fig. 21) and the idea of a local origin has been entertained for some time (Hawkes, 1940, 147). Recently Case (1969, 20; 1976, 51–2) has argued for the interaction of *Linear Pottery* immigrants (Alexander, 1978), from central Europe, with a thriving Mesolithic population practising collective burial. There is, in Brittany, a manifest coincidence (Fig. 4) between the coastal fringe of Mesolithic, and earlier, activity and the distribution of passage-graves (Giot, 1960, 22, Fig. 1; 43, Fig. 5) which could be significant. Of particular importance is the excavation of the double passage-grave at Dissignac, Loire-Atlantique (L'Helgouach, 1976), where a microlithic industry is intimately linked with its construction.

Excavations at Carrowmore, the passage-grave group (Fig. 5) in Co. Sligo, north-western Ireland (Burenhult, 1980, 1981) have produced a range of radiocarbon dates (34 in number) which show that these monuments are among the earliest known of their kind (Daniel, 1981, 82–4). Assay of material from Carrowmore No.7 yielded

Lu-1441 3290 ± 80bc, and from Carrowmore No.27, Lu-1698 3090 ± 60bc. With these dates there is the further date, from Carrowmore No.4, Lu-1840 3800 ± 85bc, furnished by charcoal 'from stone fundament to stone b in the central cist'. Application of the Suess calibration allows us to consider Carrowmore No.7 to be of an age commensurate with 4200 BC, Carrowmore No.27 4190-3900 BC and Carrowmore No.4 4580 BC. In this context one should consider the date of 4700 BC (Sa-95 3890 ± 300 bc) obtained from charcoal found in the Kercado chamber in Brittany. In Ireland the radiocarbon dates obtained from passage-graves, at Carrowmore and in the Boyne Valley (Burenhult, 1980, Fig.31), can be used to question the assumed primacy of the court-cairns (Herity and Eogan, 1977, 27), the particularly northern Irish form of stone-built long-barrows. A further contention is that the Carrowmore chambered cairns may have been built not by Neolithic agriculturalists but by Mesolithic hunters, foragers and fishermen. In conventional terminology many megaliths may be not Neolithic but Mesolithic. To quote Burenhult's (1980b, 5) conclusions:

'The early dates show an introduction of megalithic monuments at a stage when an established Neolithic culture was not supposed to be in existence in Ireland. The traditional stereotype: farming community-megalithic monuments can no longer be upheld, and a development within a pre-existing Mesolithic population has been put forth as a preliminary model of the socio-economical background to the chambered tombs at Carrowmore. This idea is supported by offerings of unopened seashells in the excavated monuments.'

As is shown by the subsistence economy of ancient Scilly (Ashbee, 1974, 264) the dichotomy between Mesolithic hunting, foraging and fishing and Neolithic agriculture is far from clear. To hold to an absolute differentiation is not possible for, as Grahame Clark (1980) reminds us, prehistory was a continuous process and the relationships between man, particular food plants, and animals are best seen as selection, protection and intelligent predation. These qualities would have brought about domestication when they were sufficiently advanced to allow genetic change. The transformation of hunters, foragers and fishers into peoples who subsisted almost entirely by agriculture was gradual and is best expressed in Grahame Clark's (1980, 102-3) words:

'the long process culminating in the domestication of animals, plants and not least of men themselves can hardly have been carried out in any other way than through the intensification and ultimately the transformation of earlier systems'.

If, as seems likely, our Cornish and Scillonian megaliths originated among Mesolithic peoples, particularly those living from the sea, this does not demand a reorientation of persuasion for on Scilly there has for long been visible a subsistence economy of Mesolithic character.

Certain Scillonian entrance-graves (Ashbee, 1976) were, however, associated with ancient field systems, and have been thought of as reflecting a non-material approach to soil fertility, but others could not readily be attributed to such principles. To what extent Penwith, and where commensurate entrance-graves are to be found, enjoyed a similar sea-land subsistence economy is not known, but as on the islands, the ancient environment would have permitted a wide spectrum of choice and emphasis. Indeed, Cornwall and Scilly allowed subsistence economies that were more tolerant than those, for example, of the chalklands of Wessex (Piggott, 1973, 287; Evans, 1975, 116) where there could have been specialised modes of exploitation.

Mesolithic material in the Penwith peninsula (Clark, 1932, 44; Thomas, 1957-8, 9-12; Wymer (ed.), 1977, 36-47) consists of flint artifacts and waste material from working floors exposed in cliffs or by ploughing, while spreads of calcined flint have been observed at the heads of small valleys. Quartz may also have been used — there is an industry of indeterminate date from Camborne (Lacaille, 1942), a perforated pebble from Wicca, Zennor and an incised pebble from Porthmeor (Thomas, 1955-6). The bevelled pebbles, found in Penwith and at Gwithian (Jacobi, 1979, 85; 1980, 188) may also be Mesolithic and connected with the exploitation of shore-line resources.

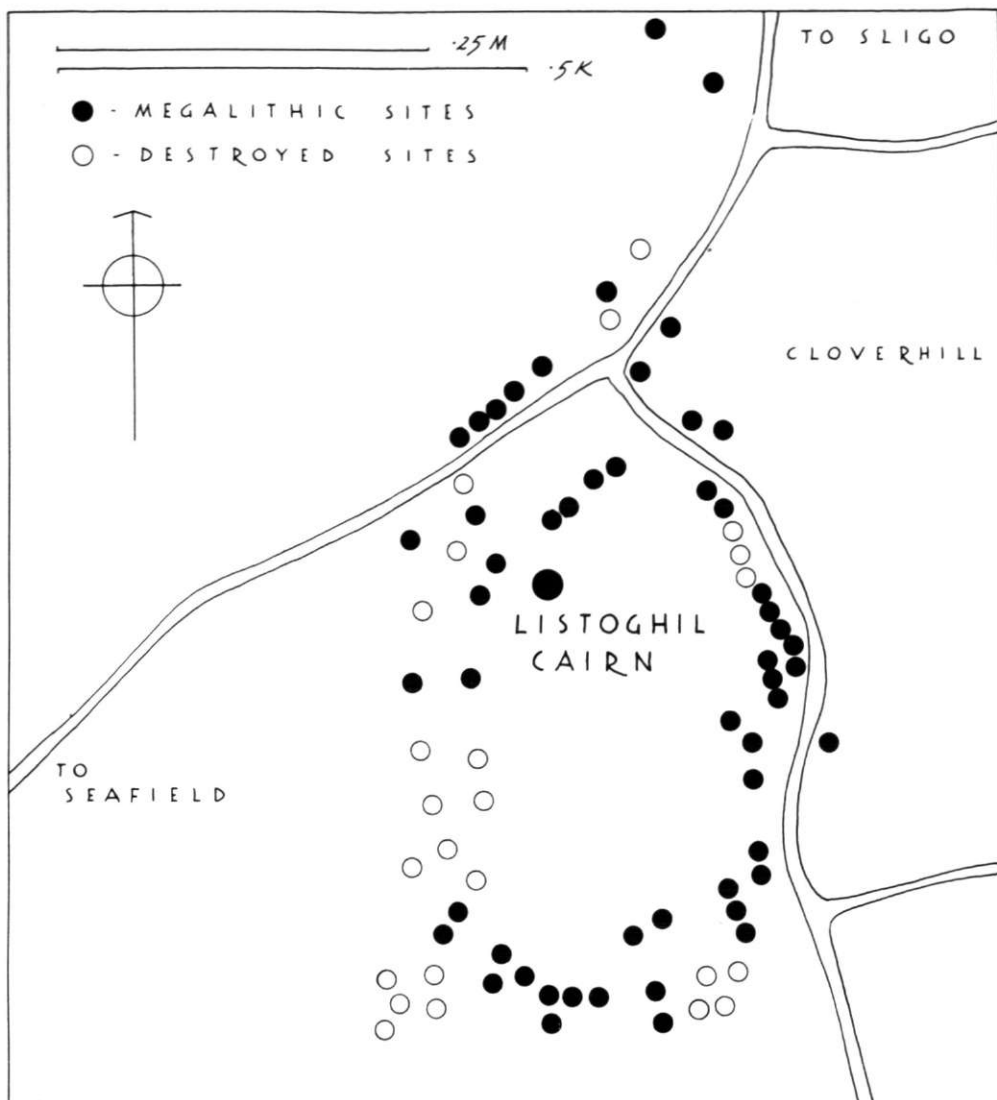


Fig. 5
Carrowmore, Co. Sligo, Ireland: chambered cairn cemetery.

The distribution of these spreads, Mesolithic upon typological grounds (Wymer (ed.), 1977, VII-IX), is almost entirely coastal and shows two major groups (Fig. 6). The larger is concentrated in the south-west, between Land's End and St Levan, with outliers to St Just to the north and Lamorna to the east and the smaller is in the vicinity of Zennor (Fig. 6). From their siting, it could be contended that the entrance-graves, Brane (SW 401282), perhaps Bosavern (SW 368305), Chapel Carn Brea (SW 386280) and Carn Gluze (SW 355312), are associated for they are adjacent to the Land's End group of Mesolithic sites. The entrance-graves, Pennance (SW 448376), the pair at Treen (SW 438371) and that on the summit of Trendrine Hill (SW 479388) are encompassed by spreads of flint artifacts and waste. One is able to see these propinquities with a sense of scale that is lacking within the larger Breton peninsula

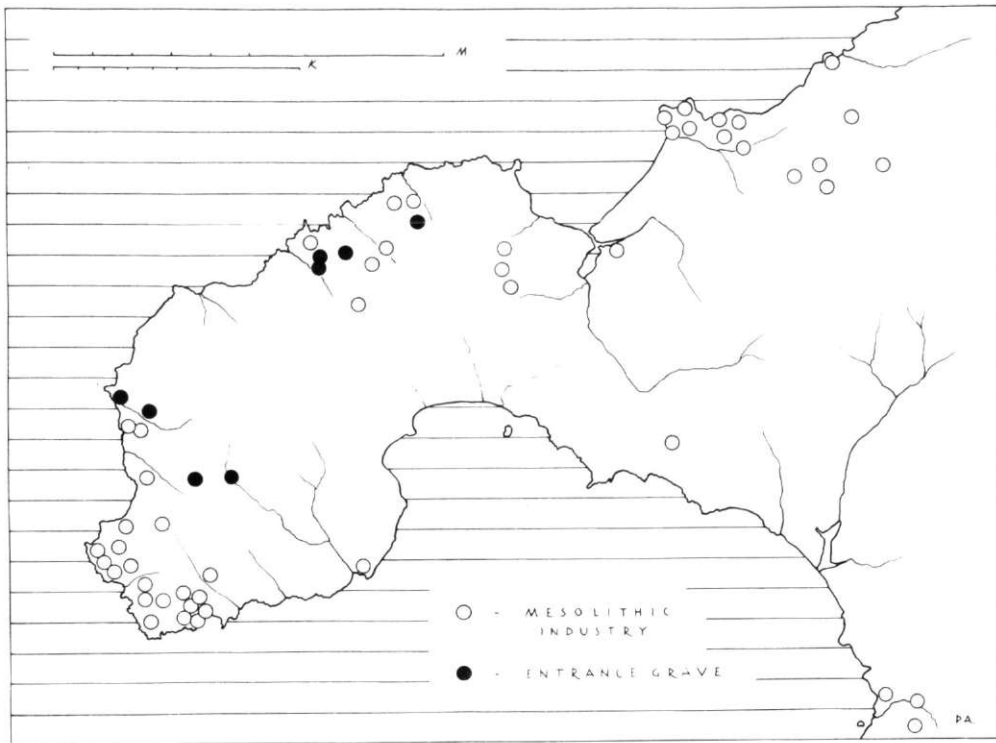


Fig. 6.
Mesolithic industries and entrance-graves in Western Cornwall.

but the coincidences are of the same order (Fig. 6). As on that land-mass, there are grounds for the belief, sustained by the sea-borne distributions, that Penwith's entrance-graves may have been set up by Mesolithic peoples. No excavations have been made at Brane, Pennance or Treen although nineteenth century investigations at Carn Gluze, Chapel Carn Brea and Tregaseal (Hencken, 1932, 40-44) produced interments, pottery and a whetstone of Earlier Bronze Age character. They were included in Glyn Daniel's (1950, 240) list of doubtful sites although their morphology allies them with the series. Until a careful excavation with a possible Mesolithic origin in mind, is undertaken, one has only the significance of their siting in both the wider and the local sense.

Besides their sea-links, Cornish Mesolithic communities began trade and exchange. Pebbles of Cornish stones have been found in a Mesolithic context as far afield as Surrey (Rankine, 1949, 193) while a distinctive chert from the Isle of Portland was imported into the region (Rankine, 1951; Palmer, 1970, 105). Such traffic presumably led, as in Brittany (le Roux, 1979), to the establishment of the fine-grained rock axe and adze factories, one of the principal sources of raw material being near Penzance (Evans et al., 1962, 1972; Cummins, 1979). It was perceptibly observed of Cornish adzes (Thomas, 1953-4), that they are the tools of boat-builders. There are also in Cornwall various stone industries of Mesolithic character which cannot be assigned to a particular stage (Norman, 1977), while marine foraging, leading to shell-middens, continued into later times. They have been found on the northern coast, between Newquay and Perranporth (Harding, 1950), on Constantine Island and at Harlyn Bay (Crawford, 1921; Whimster, 1977, 71) as well as at St Levan (Hencken, 1932, 123) near

Land's End. In Cornwall the earlier midden sites have been inundated by the neothermal eustatic rise in sea-level; indeed, only three shell accumulations in England and Wales, Culverwell on Portland, Westward Ho in north Devon, and Nanna's Cave, Caldey in Wales, can be shown as unambiguously of Mesolithic origins (Jacobi, 1980, 183). Radiocarbon dates (Culverwell BM-473 5200 ± 135 bc; Westward Ho Q-672 4635 ± 130 bc) show that shellfish collecting in the south-west had begun by 5000 bc. Inhumation burial in cists — a number are coeval with the entrance-graves on Scilly (Ashbee, 1976, 23) — in regular cemeteries is known from the Iron Age (Whimster, 1977, 60, Fig. 22). This rite is confined, for the most part, to Cornwall and Scilly, and may be a continuing, Mesolithic trait, for such a practice was observed in Brittany at Téviec (Pequart et al., 1937) and Höedic (Pequart, 1954) where similar interments were in middens. In like manner, certain of the hut sites, some of which are, as on Scilly (Ashbee, 1974), associated with field systems, had Mesolithic origins, and may have been, if not round huts as at Mount Sandel, Co. Derry (Woodman, 1978, 220), the concentric settings for tents or some other form of portable dwelling (Clark, 1975, 96). In this context, one might also recall the floor of limestone slabs, competently laid and covering the midden at Culverwell, in Dorset (Palmer, 1976, 324), or the neat stone settings at Deepcar, in Yorkshire (Radley and Mellars, 1964). Huts with stone-faced earthen walls are known within the broader Mesolithic tradition (Clark, 1952, 170; 1975, 212). Indeed, the courtyard houses (Hirst, 1937; Christie, 1978), a proportion of which cluster in the vicinity of Zennor (Thomas, 1966, 95, Fig. 12) may be no more than a local expression of a cellular thick stone-faced wall form which is seen in Wales (Griffiths, 1959), the Orkney (Childe, 1931) and Shetland Islands (Hamilton, 1956, 18, Fig. 10). The individuality of Dumnonia (Thomas, 1966) may stem from its distant Mesolithic origins, which allowed numerous exploitative, and thus different, modes of life.

Unlike the mainland of south-western Cornwall there are no overt traces of Mesolithic activity on Scilly, apart from an unfinished pecked pebble hammer (Ashbee, 1954, 21, Fig. 8, 13; Rose, 1979, 36) and numbers of unprovenanced flint flakes of Larnian character (Ashbee, 1974, 235), substantial trimmed flakes and blades (Ashbee, 1955, 197, Fig. 6, 1), a form integral to the equipment of those hunter-fishers (Herity and Eogan, 1977, 17–24). The subsistence economy, however, contains many elements which are pronouncedly Mesolithic in character. These have been seen as the components of a mixed economy, which might have alternated between land and sea (Ashbee, 1974, 264–73).

Scilly's ancient subsistence economy contains the following Mesolithic, and mainly marine, components:

- (1) *Sea-shore gathering*: illustrated by some dozen limpet-shell midden sites (Ashbee, 1972; 1974, 264);
- (2) *Fishing*: the bones of conger eels, bass, hake, ling, plaice, polack, turbot and wrasse have been found in middens and on habitation sites (Ashbee, 1974, 267; Turk, 1978, 102). Hake, doubtfully and from a late context, is the only deep-sea fish exemplified, while the remainder represent the returns from coastal fishing by line or net. Appropriately-sized grooved and perforated stones, numbers of which have been found on the islands, were, perhaps, net-sinkers;
- (3) *Fowling*: the bones of land- and sea-birds have been found on Nornour (Turk, 1978, 101–2). Gannets, guillemots, puffins and razorbills, the last being the commonest, were among the sea-bird remains. Small land species were among the considerable number of species listed;
- (4) *Marine hunting* is indicated by the bones of seals found on several sites (Ashbee, 1974, 267; Turk, 1978, 100); indeed, a specialised seal-hunting station may have existed on St Agnes. Dolphin, porpoise and whale bones have also been recognised, the last, perhaps, from strandings (Piggott, 1981, 16);
- (5) *Deer exploitation*: the bones of large and small red deer have been found in

Halangy Porth, on St Agnes, and Nornour (Ashbee, 1974, 268; Turk, 1978, 100). Even on the larger island of early times, it scarcely seems possible that such a large mammal would have been wild or hunted, for its considerable meat value, in a random, predatory, manner. An insular controlled deer economy, as among other communities of Mesolithic character (Jarman, 1972) seems likely.

The Neolithic, land, dimensions of the ancient Scillonian economy are:

- (a) *Agriculture*: the evidence is cereal impressions upon pottery (Ashbee, 1974, 213–4; Thomas, 1978, 10–12; Fowler and Thomas, 1979) as well as a profusion of saddle and bowl querns, their riders and rubbing stones;
- (b) *Animal husbandry*: attested by the bones of oxen, horses, pigs and sheep from, mostly middens (Ashbee, 1974, 269; Turk, 1978, 99).

Agriculture and animal husbandry, with pottery, quantities of which have been found in middens, on occupation sites and in entrance-gaves (Ashbee, 1974, 247–58), is normally thought of as indicative of the Neolithic mode of life which supplanted that of the Mesolithic hunter-gatherers. However, as has been indicated above, absolute differentiation is impossible and the problems of why communities changed their economies, or abstained from doing so, is of considerable concern (Clark, 1980, 64). On Scilly we confront essentially Mesolithic communities who changed little until historic times. Much of the evidence of the earliest expression of human activity on Scilly, that of communities which had neither pottery nor agriculture, may well have been destroyed by the considerable rise in mean sea-level (Fowler and Thomas, 1979, 180; Everard, 1980). This may have been as much as fifty metres (50m) during neothermal times and only the later stages of the sequence remain. Many of the immediate factors which preceded the development of Neolithic attributes evade us. Nonetheless, comprehensive exploitation of available food sources led to the adoption of cereal cultivation and animal husbandry. Agriculture, however, brought about soil deterioration, an eventuality which impelled the erection of certain entrance-graves and the continuation of the intrinsically Mesolithic mode of life.

The view that the entrance-graves, Scilly's numerous and distinctive chambered cairns, were a response to soil impoverishment and loss of fertility was propounded in terms of the longstanding archaeological conviction that megalithic monuments were built by farming communities and are thus *ex facie*, Neolithic. At the time it was also observed that certain groups were not associated with ancient fields (Ashbee, 1976, 22). If this view can no longer be held it follows that a fresh assessment should be made, especially in view of the nature of Scilly's subsistence economy. Indeed, Scilly's adoption of agriculture may be obliquely illumined by the sequence afforded by the siting and associations of the entrance-graves. A reasoned succession would have been in stages as follows:

- (1) Groups, lines and clusters of chambered cairns were built by Mesolithic people, on eminences, in relation to the links with distant places maintained by fishing voyages;
- (2) Lines and groups of chambered cairns were linked by walls or had enclosures aligned upon them because of the intrinsic qualities invested in them by the island communities;
- (3) Chambered cairns were sited upon field systems, sometimes their lynchets and walls, because of soil deterioration and loss of fertility.

A group of chambered cairns on Porth Hellick Down, St Mary's (Fig. 7), where some six lie apart and to the south-east of an ostensible passage-grave, illustrate the first stage of this succession. Two of the smaller ones are ruined, three characterise the entrance-grave formula, while one has its chamber constructed against a massive granite outcrop (Ashbee, 1974, 83, Fig. 12). This passage-grave (Ashbee, 1974, 68, 4a; 80, Fig. 9), which may have acquired its character from an initial enlargement, was augmented by a supplementary kerb or 'collar', now destroyed (Ashbee, 1974, 79). Examination at the beginning of the century by George Bonsor (Ashbee, 1981) found

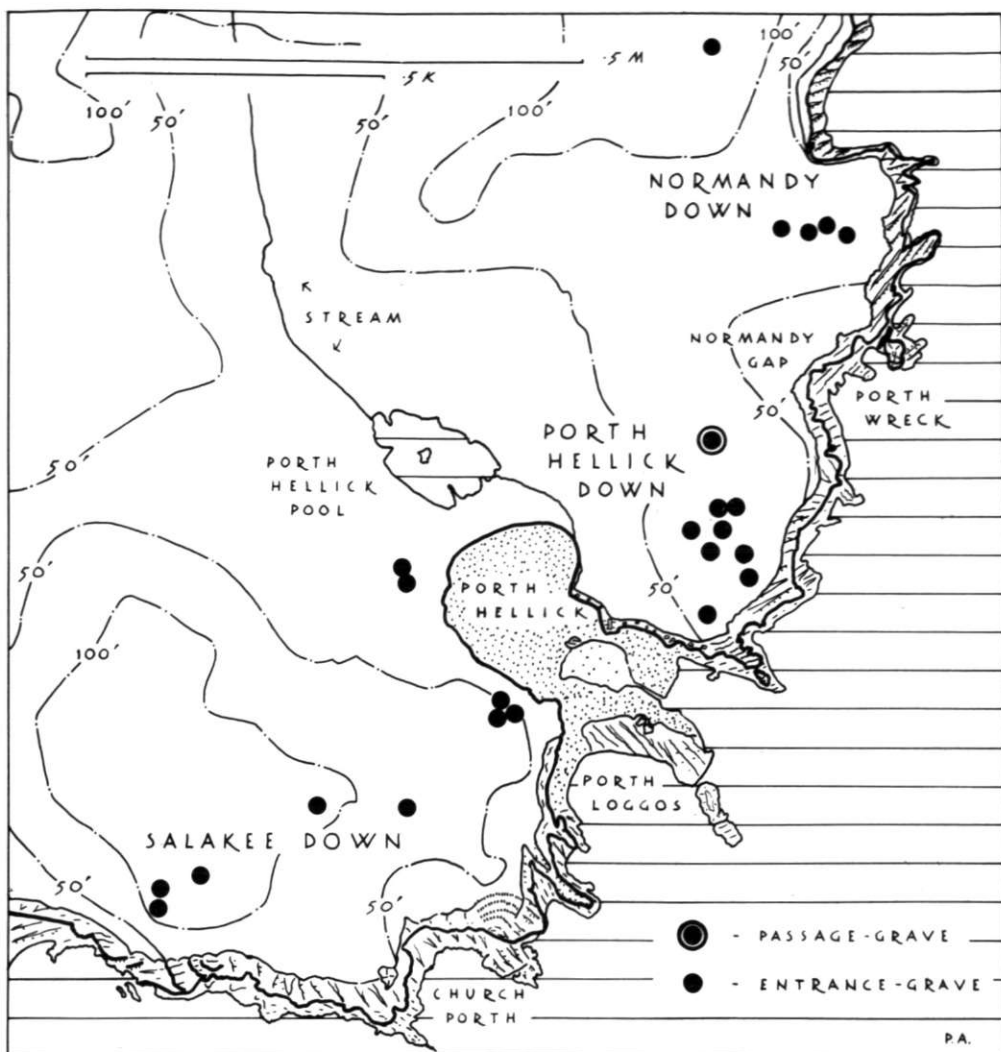


Fig. 7
Porth Hellick Down, St Mary's, and its surround.

only fragments of pottery and a piece of pumice (Hencken, 1932, 20–2). Porth Hellick Down is a plateau above the massive granite cliffs of the coastline of the original large island. With a mean sea-level lower (Fowler and Thomas, 1979, 180, Fig. 4; Everard, 1980) by some fifty metres (50m) these cliffs and the plateau would have appeared as far higher and impressive than today. The group resembles in principle the Carrowmore group of passage-graves (Herity, 1974, 66–7, Fig. 54) where lesser monuments lie around, but at a distance from the largest and most prominently situated in the group. Scilly's closed cists beneath cairns and mostly on high ground (Russell, 1980, 5) have their counterparts in Carrowmore's cists and dolmens (Burenholt, 1980). The Carrowmore cairn building techniques, which involved irregular glacially borne boulders, have also much in common with those of Scilly, although this may be fortuitous, the product of similar materials.

Bant's Cairn, on Halangy Down, St Mary's, Scilly's most grandiose chambered cairn,

is also surrounded by an extension (Ashbee, 1976, 13, Fig. 2). Bonsor (Hencken, 1932, 22–3; Ashbee, 1981) found four piles of cremated bone at the inner end of the chamber and, outside its entrance, pottery (Ashbee, 1976, 12). The pottery was related to the cairn's enlargement, which might indicate that chamber deposits were successive as at Obadiah's Barrow, on Gugh, and the Knackyboy Cairn on St Martin's (Ashbee, 1974, 108–117). It remains to be resolved whether the chambers were cleared, prior to fresh depositions.

A further, smaller, group of chambered cairns stands on Normandy Down, while others, many of which are now destroyed, fringed Salakee Down, to the southwards. Indeed, Porth Hellick, which in conditions of lower sea-level, would have existed as a modest break in a high and forbidding line of granite cliffs, was almost surrounded by these structures. Other and relevant groups of chambered cairns are those on Buzza Hill, St Mary's, a rounded eminence which dominates what is now a considerable bay, those destroyed on Round Island, a northern bastion of the one-time large island, Samson Hill, Bryher, and the group on Cruther's Hill, St Martin's (all sites, Ashbee, 1974). None of these monuments is, so far as can be seen, associated with ancient field systems. With the exception of those on Cruther's Hill, all these sitings relate to the original coastline and the surrounding sea.

Lines of chambered cairns linked by walls (Fig. 8), the second stage of development, are a feature of the western side of the erstwhile large island. They can be seen on Samson's North Hill (Fowler and Thomas, 1979, Fig. 2; Fowler, 1981, and South Hill, as well as on Kittern Hill, Gugh (Johnson, 1980, 164, Fig. 9), part of the one-time large

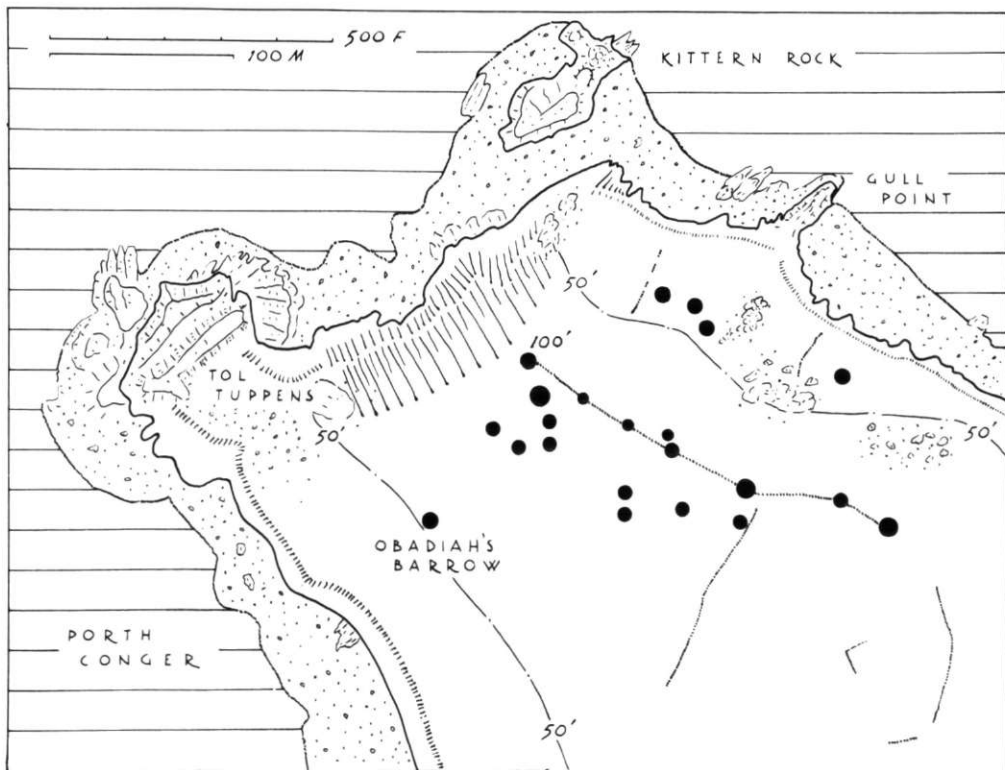


Fig. 8
Entrance-Graves linked by walls on Gough.

off-island. Walling connected with cairns has also been noted at Inner Blue Carn, on St Mary's, and on Great Arthur (Ashbee, 1974, 78). The numerous small cairns on Shipman Head Down, Bryher, may be no more than field clearance and have been excluded. These rows of entrance-graves have been seen (Ashbee, 1974, 74) as different from the nuclear and dispersed arrays that characterise the eastern side of Scilly. It is clear that the chambered cairns preceded the walls which conjoin them, but whether they were constructed as a considered and necessary preliminary to enclosure, or were survivals from earlier times, cannot be determined. It could be contended that the lines of entrance-graves on Samson were determined by its topography (Ashbee, 1974, 77), a claim less easy to defend with regard to Kittern Hill, on Gugh, the top of which could have accommodated a nuclear or even a dispersed arrangement. Some of this walling may have had a special significance for it has been observed that the enclosures, coupled on to Samson North Hill's close-set row, are '*clearly not a part of a field system as normally understood*' (Fowler and Thomas, 1979, 187). Indeed, the procedures involved may well be shown by the fact that some of the clearance cairns were kerbed (Fowler and Thomas, 1979, 179, Fig. 3). The clearance and construction of walls was seemingly an application of cairn building, and linked repositories (Ashbee, 1976) may have been thought of as essential to agricultural practice.

The third stage is the chambered cairns standing firmly upon lynchets, sometimes at the corners of fields, as well as those within fields. Some of the lynchets, upon which monuments have been sited, are faced with stones and thus may be terraces deliberately constructed upon slopes. Stone-robbing has given them the appearance of lynchets although, conversely, facing a lynchet with stone would have arrested erosion. This would have been only one of the factors which irrevocably changed Scilly's environment and stimulated the erection of particular entrance-graves as a panacea (Ashbee, 1976).

Bant's Carn (Ashbee, 1976) was sited upon a substantial lynchet at a corner of the field (Fowler and Thomas, 1979, 187; Johnson, 1980, 159) as was Innisidgen (Hencken, 1933, 18, Fig. 5; Ashbee, 1974, 85, 5a). These monuments, so similar in terms of stone selection and construction, could have been the work of a single megalithic architect (Ashbee, 1980). They stand at what appears to be the limits of a complex of fields and settlement which occupied the northern part of what is, today, St Mary's, as well as an adjacent area now below the sea. A repository, smothered by hill-wash (Ashbee, 1976, 14, Fig. 3), which has formed a high lynchet at the bottom of Halangy Down, may have been sited on a field extremity. Another, similarly sited at the foot of the slope down from Innisidgen and known as 'Lower Innisidgen', may have been similarly placed. Obadiah's Barrow, on Gugh (Hencken, 1933, 20; Ashbee, 1974, 93, Fig. 14), and another chambered cairn called Carn Valla, and, like Innisidgen, close by the rocky carn (outcrop) of that name, are both subsequent to an extensive lynched field system on the south-western flank of Kittern Hill. Obadiah's Barrow's chamber has been set into the lynchet and adjusted to the hill slope. Knackyboy Cairn, St Martin's (O'Neil, 1952; Ashbee, 1974, 113, Fig. 18), which incorporated a rock outcrop, may, like Bant's Carn, have been enlarged for its final deposit. It is on a south-facing slope which bears traces of a field system, which has had a subsequent enclosure pattern imposed upon it. A stone wall crossed the cairn, and another chambered cairn, just to the north-west, may have been joined to it by walling. A well-kerbed cairn, only about ten feet in diameter, with an almost closed chamber, on Arthur (O'Neil, 1954) stands on the lip of a lynchet.

Future fieldwork may offer further examples of field systems under chambered cairns. For example, those on the northern flank of Salakee Down, St Mary's, above Porth Hellick, may come into this category. The monuments designated above housed human remains. The cremated bones of four people were found at the inner end of the Bant's Carn chamber (Hencken, 1932, 22). Obadiah's Barrow (Hencken, 1933, 20-24) and the Knackyboy Cairn's chamber (O'Neil, 1952) contained sequential deposits,

initial settings of urns and thereafter a compound of broken pottery, cremated bone and charcoal, while there was inurned cremated bone in the small chamber on Arthur (O'Neil, 1954).

The foregoing sequence, based upon chambered cairns listed by the present writer (Ashbee, 1974, 295–310), can be expressed numerically:

<i>Stage 1</i> , built by ? Mesolithic people in groups on peripheral hilltops, etc:	35
<i>Stage 2</i> , lines linked by walls to enclosures, etc.	17
<i>Stage 3</i> , sited upon field systems:	7

A simple count such as this cannot take into consideration destroyed monuments (Grimes, 1960, 170; Ashbee, 1974, 305) while several others, on account of the ambiguities of their present-day condition, must also be excluded. Recent intensive fieldwork (Russell, 1980, 5) that has confirmed the number of entrance-graves (85–90) on Scilly is however taken into consideration. Thus the relative proportions have a validity, the initial large number reflecting several millenia of Mesolithic maritime and other activity, followed by the local adoption of agriculture and its environmental consequences.

The purpose of this essay has been to reconsider our Scillonian (and Cornish) entrance-graves in the light of the recent new insights into the age, nature and affiliations of the passage-graves. Such perceptions are frequently far from conclusive, but they question accepted views while presenting new and unlooked for perspectives.

Following Grahame Clark's (1977a, 143; 1980, 99) suggestion that fishing, not farming, might account for the large number of entrance-graves on Scilly it has been possible, because of the convergent inferences afforded by the early radiocarbon dates for passage-graves in Brittany and at Carrowmore, as well as the character of the contents of the series, to see them as, initially, a Mesolithic implantation. The feasibility of this is enhanced by the number which occupy the initial stage of the sequence. We can now regard them, not as memorials solely to adverse environmental changes brought about by farming (although some of the later ones were), but as an integral part of a wider maritime pattern of great antiquity. We see something of the introduction of agriculture to Scilly and, perhaps, even to Penwith. Its substance indicates that it was not from the specifically southern English version of *Linear Pottery* agriculture with its imitation long houses and settlements, the earthen long barrows and causewayed enclosures (Ashbee, 1982) nor was it brought in its entirety by an intrusive people. Apart from the changing character of the deposits that they housed, the intrinsic specification of the entrance-graves remained, from first to last, constant. Only Cornwall displays monuments that might derive from Wessex. We might well look to north-western France, where *Linear Pottery* people and the Mesolithic indigenes, who were interinvolved with our shores, met and developed relationships (Alexander, 1978), for the first Scillonian view of agriculture. Scilly's distinctive pottery may be a feature of only the latest entrance-graves, the final state of others and, perforce, the settlements which, like some of the fields, were overtaken by environmental deterioration, loss of fertility and blown sand from the neothermal rise of sea-level. This pottery appears as unconnected with the inception of agriculture and, because of its Later Neolithic affinities (Ashbee, 1974, 289), a late acquisition.

From their start to their conclusion, a fundamental problem of the entrance-graves is the status of those whose remains were deposited in them. They have already been seen as repositories or *fana* and attention has been drawn to cist burials of commensurate age (Ashbee, 1976, 23). Moreover, as has been shown above, burial in cists was the normal method of disposal of the dead in Brittany, the Channel Islands and, perhaps, Cornwall, from Mesolithic times onwards. From the outset, particular people must have been intimately involved in the design, ministration and modification of entrance-graves. Thus the possibility that those whose remains are found in entrance-graves, structures built for non-material reasons and which echo the primordial European Mesolithic house form, were especially selected is not entirely unthinkable.

It has been said (Fowler and Thomas, 1979, 187) that the squat stone cairns of Scilly are integral to prehistoric enclosure. This is surely because of the continuing pattern of sustenance, life, observance and death, by land and sea, since Mesolithic times. The complex beliefs that led to these megalithic structures may have obtained for more than four millennia, twice as long as Christianity.

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THE EXCAVATION OF MESOLITHIC, NEOLITHIC AND BRONZE AGE SETTLEMENTS AT POLDOWRIAN, ST KEVERNE, 1980

by George Smith and Daphne Harris

Summary

An area of dense flint-working was found with an assemblage containing a large number of 'narrow blade' late Mesolithic microliths dominated by convex-backed and lanceolate forms. Associated with this assemblage were many 'bevelled pebble' tools plus a scatter of charcoal and charred hazelnut fragments. In the same area were a number of small pits and the probable remains of a small structure associated with pottery and leaf-shaped arrow-heads of Neolithic style.

Elsewhere a circular stone-walled house associated with sherds of Early Trevisker style pottery was excavated. It had an internal ring of wooden posts and a porch outside the entrance which was approached by a cobbled pathway. At the rear of the house was a 'sump' surrounded by paving. The house was adjoined by two slight stone walls which were part of an apparently contemporaneous field system some of which still survives in nearby heathland and unploughed pasture.

Introduction

Thanks to the great interest and energy of Mr P S Hadley, the owner of the farm Poldowrian, a large number of finds of all periods in various areas have been located and properly recorded by him (Hadley, 1977). Some of these areas, including those described in the present report, were discovered by Mr Hadley during agricultural clearance of heathland and it was felt these merited investigation whilst still relatively intact. The work, in May and June 1980, was part of a wider project on the Lizard Peninsula being carried out jointly by the Cornwall Archaeological Society (CAS) and the Central Excavation Unit (CEU) of the Department of the Environment. Three areas were excavated in 1980 (Fig 2). Area 1 was an extension of work carried out by members of CAS in 1978 (Harris, 1979) where a concentration of Beaker pottery was found. In 1980 it was hoped to locate associated structural or other occupation evidence in Area 1 but excavation and geophysical survey showed neither, so that this part of the work is not further described here. This report is concerned with the investigation of Areas 2 and 3. Mr Hadley has made a surface collection of late Iron Age cordoned pottery in Area 4, indicative of occupation, but this was not investigated further in 1980.

The farm area of 135 acres runs up to the cliffs (Eastern Cliff) which here are at a height of approximately 60.00 m O.D. and constitute one of the most southerly stretches of coastline in Britain (Plate I). The location of the farm is dependent on a small spring-fed stream which runs in a shallow valley and debouches over the cliffs. Part of the farm is on serpentine and part on gabbro bed-rock (Fig 1). The areas close to the cliffs are rocky heath or ill-drained rough pasture. Other parts of the farm are less rocky and allow good pasture with some arable. The entire coastal strip of heathland is designated as a Site of Special Scientific Interest by the Nature Conservancy Council.

Location of the finds and the excavation archive

The finds illustrated in this report are housed at the Poldowrian Museum where they, together with other material found on the farm, can be viewed by appointment with Mr Hadley (Tel St Keverne 280468). The rest of the finds together with the excavation archive, consisting of drawings, text and photographs is stored at the Royal Institution of Cornwall, River Street, Truro. The archive has also been microfilmed and a copy of this, (CEU site 33), can be consulted at the National Monuments Record, 23 Savile Row, London.

Acknowledgements

The work was carried out with the kind permission and assistance of Mr Hadley,

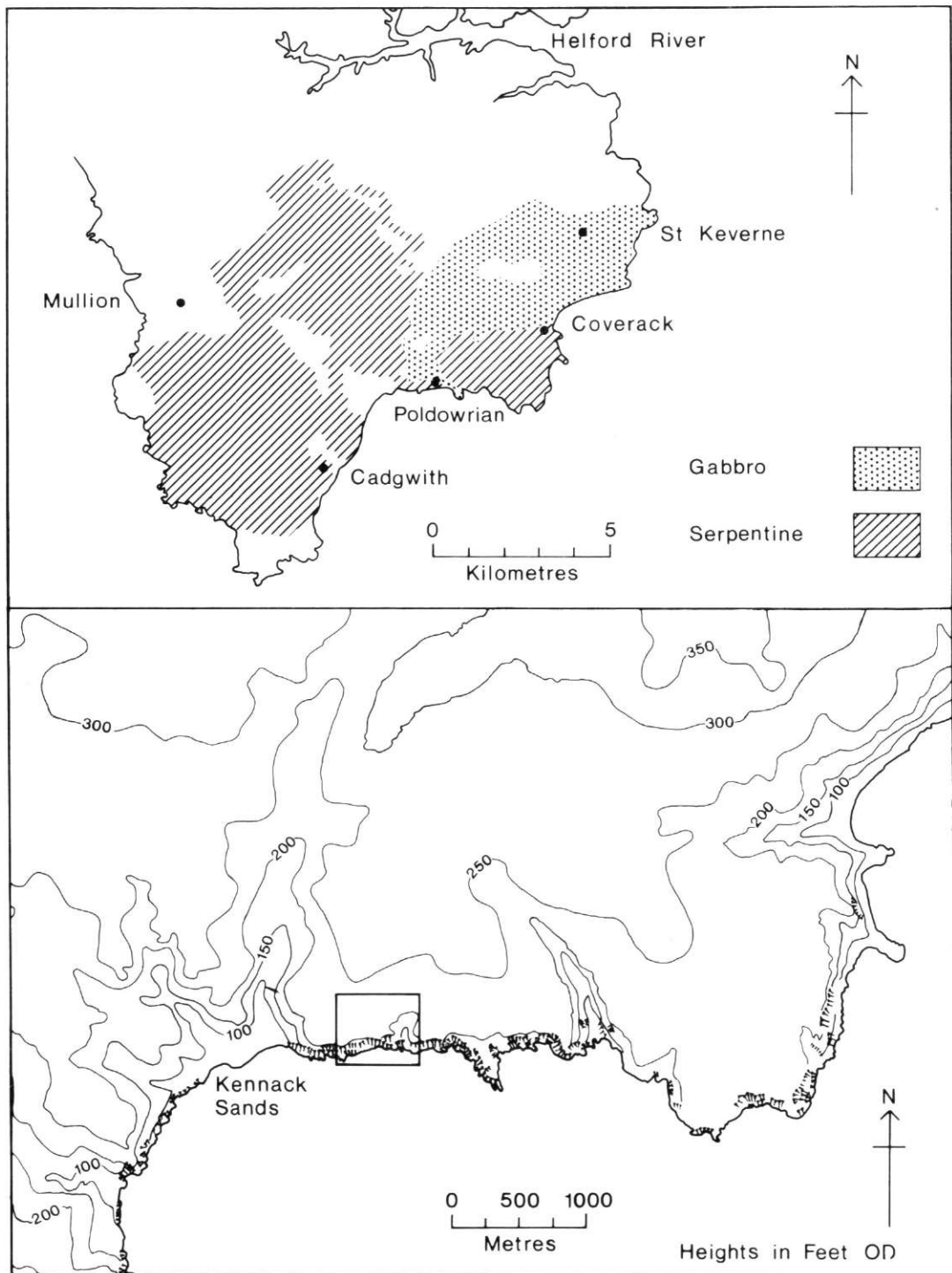


Fig. 1
Poldowrian, Site location.

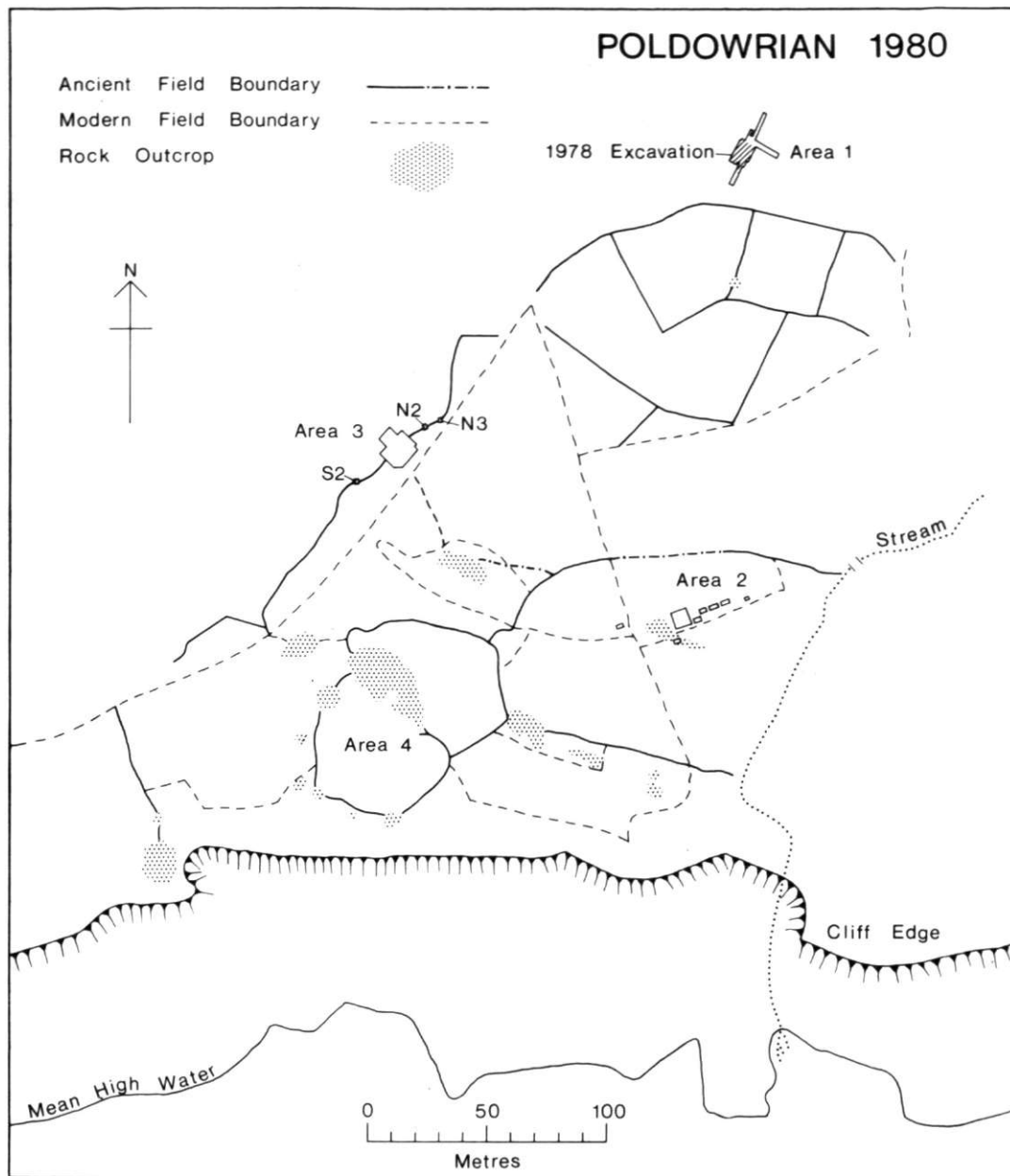


Fig. 2
Poldowrian, The field system and location of excavation areas.

the landowner, and of Mr M Basher the tenant farmer. It was supervised by Daphne Harris, Peter Crane, Robin Melia and Abigail Borrow. Thanks must also go to the many people from Cornwall Archaeological Society who helped with the work particularly to Geoff Berridge for planning and to Jane Andrew, Stephen Hough, Charles Johns, Jean Lawman, Rachel Rampley, Nancy Reed, Paul Sherbird and Margaret Shirley who helped throughout the excavation period.

Especial thanks must go to Shân Smith who carried out flotation work, drew all the published plans, sections and diagrams and did a very large amount of work in sorting, marking and recording the finds.

The drawings of all the finds were done by Chris Boddington, except for numbers 71, 72, 73, 82, 90 and 91 by Jim Thorn, both of the Ancient Monuments Drawing Office, London.

Environmental work was carried out by Nick Balaam (CEU) geological identification by David Batchelor (CEU) and a geophysical survey of Area 1 by Andrew David (Ancient Monuments Laboratory).

Dr R M Jacobi classified the microliths and provided much useful advice. Peter Berridge, Andrew David and Nicholas Johnson also provided useful comments and ideas.

Much work was involved in the preparation of the archive particularly the drawings by Shân Smith, teletyping by Sheila Keyte, computing by Brian Attewell and photographic work by Ryszard Bartkowiak.

I The Mesolithic and Neolithic settlement (Area 2), by George Smith

The site (NGR SW 74851690) lies around a slight knoll, with outcropping serpentine bedrock, beside a small valley (Fig 2). The cliff edge is at a distance of only 100 m but, although not sheer, access to the rocky shore below is difficult (Plate I). The nearest easy approach to the shore is at Kennack Sands a broad cove 700 m to the west. The serpentine soils are stony, poorly drained and rather infertile. Before ploughing they maintained a heath vegetation while the wetter valley bottom holds a dense growth of willows.

The site was first visited in 1979 after its second ploughing. Mr Hadley had made a large surface collection of worked flint including late Mesolithic and Neolithic pieces and, with Mr P Trudgian of the Cornwall Archaeological Society, had excavated a part of the rock outcrop (Fig 3, Trench J). A further gridded collection from the surface of the field (Fig 3) showed the greatest concentration of finds just to the east (the lee side) of the outcrop and here excavation commenced. Initially a series of small sample trenches were excavated across the area of the site and the most fruitful of these, in terms of number of finds, was extended.

Excavation Techniques: the area was excavated from the top of the ploughsoil down in metre squares first by trowelling in the normal manner and then by wet sieving all the soil through $\frac{1}{4}$ inch and $\frac{1}{8}$ inch mesh. The soil from each metre square was first soaked to break down its structure and float off roots and then passed through the sieves using a fan jet from a high pressure water pump at pressures of 700–1,000 lbs per square inch. The sieved residues were then emptied on to a table where the finds could be sorted from the natural residue of rock fragments. All the finds from trowelling and the two stages of sieving were kept separate so that comparisons in recovery rates could be made (Table 1) and to allow comparison with assemblages from previously excavated sites where sieving has generally not been employed.

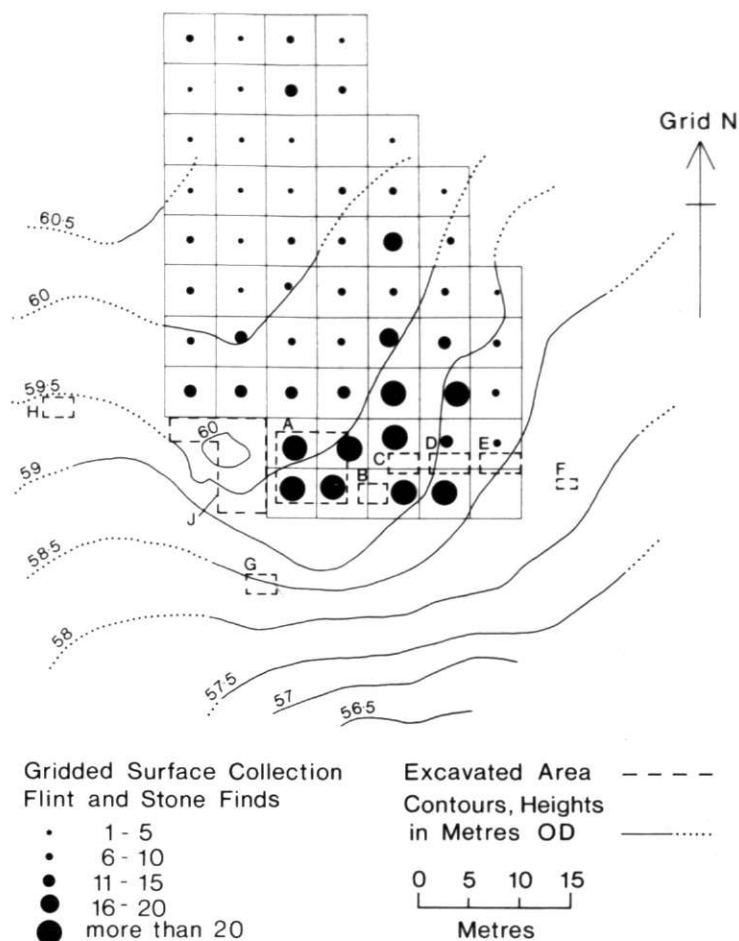


Fig. 3
Poldowrian, Area 2. Topography, location of trenches and distribution of surface finds.

Table 1 Comparison of Recovery Rates (Flint)

Category	1/8 sieve	1/4 sieve	Trowelled	%
Waste Piece (Number)	46	30	24	100
Waste Piece (Weight)	5	20	75	100
Core (No.)	0	8	92	100
Microlith (No.)	79	9	12	100
Microlith Fragment (No.)	89	7	4	100
Microburin (No.)	68	18	14	100
Retouched Piece (No.)	6	25	69	100
Other Retouched Tools (No.)	1	17	82	100
Leaf-shaped point (No.)	0	43	57	100

The Excavation

After removal of the ploughed horizon (level 1) in Trench A there remained a horizon (level 2) on which lay a considerable number of cores, waste pieces, pebbles and pebble tools. This may have been an artificial level rather than a true surface since as many artefacts came from level 1, the plough soil above, as from level 2 (Table

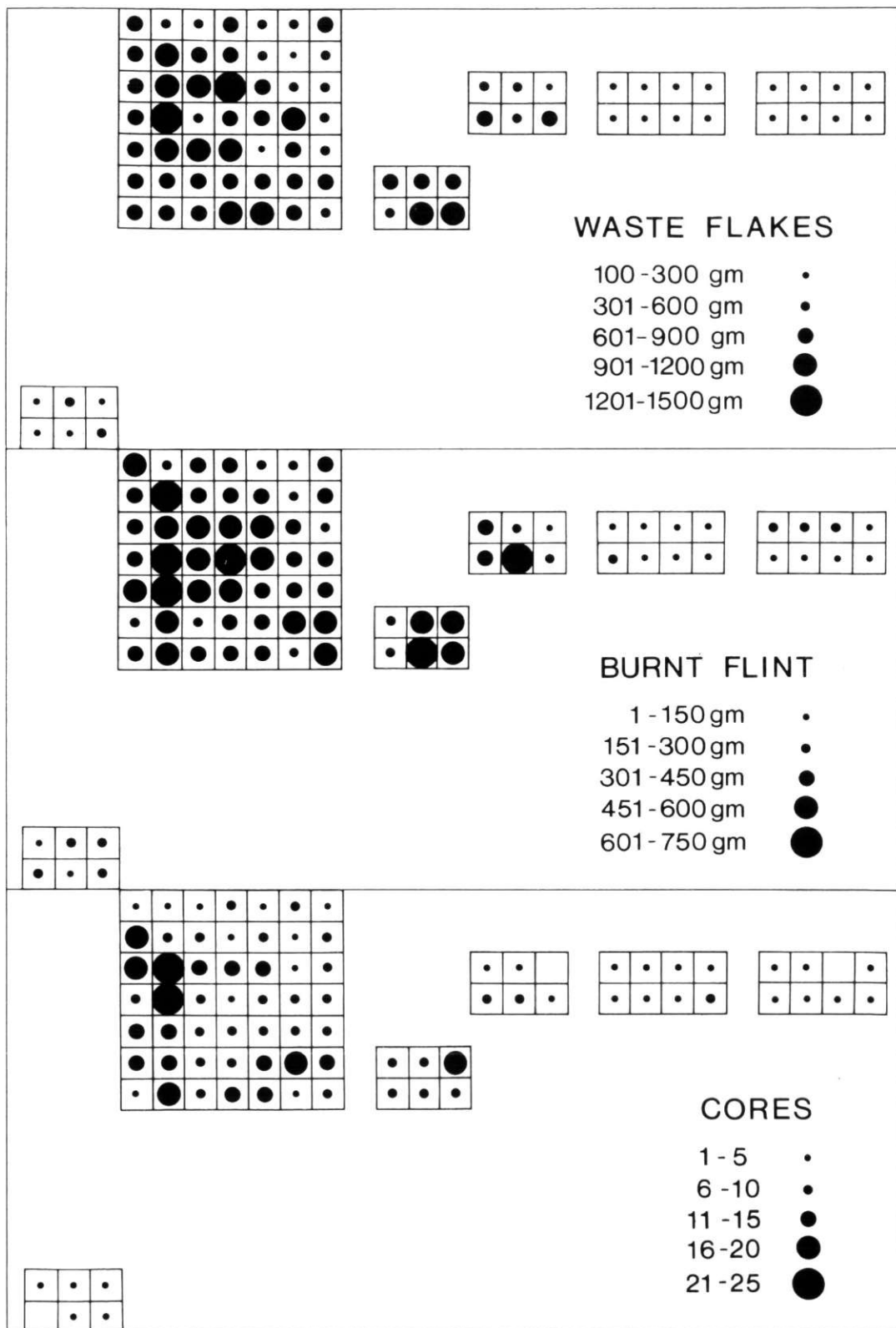


Fig. 4
Poldowrian, Area 2. Distribution of excavated finds.

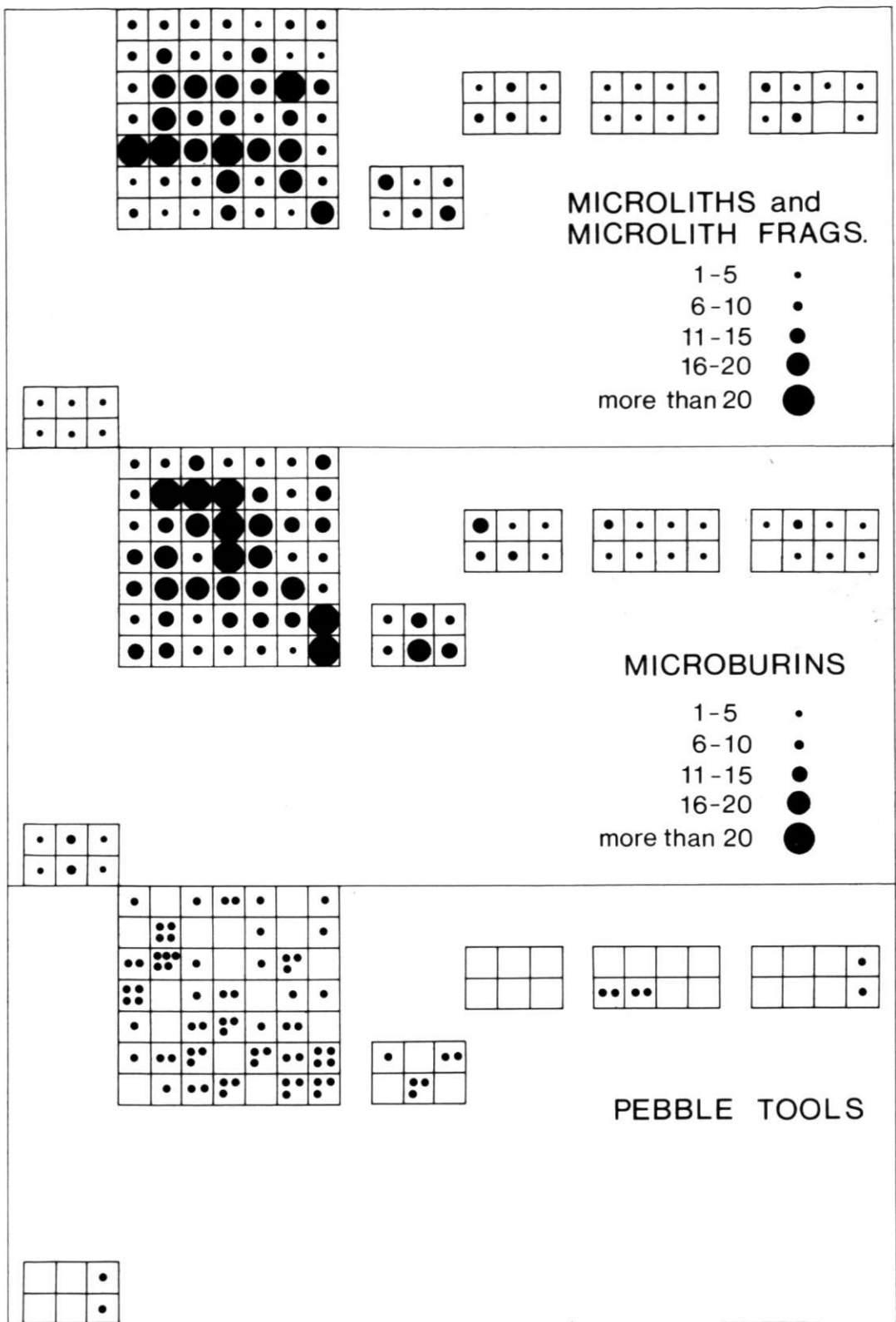


Fig. 5
 Poldowrian Area 2. Distribution of excavated finds, cont.

2). However level 2 was undisturbed since in one place three pebble tools lay close together in a clearly related group (Plate II) and elsewhere there were small areas of pottery which on further excavation proved to lie within the top fill of small pits. The survival of this buried horizon was due to the greater depth of soil here whereas in Trenches B-E to the east, where the slope increased, the soil was thinner and no buried horizon survived.

No features were located which could have been associated with the Mesolithic occupation and so the interpretation of this phase of the occupation relies solely on the distribution of finds, that of the main categories being shown in Figs 4 and 5. The features which were located were of Neolithic date and comprised three small pits, an area paved with slabs of serpentine and a curving gully made up of a series of small pits or post-holes (Fig 6). The top fill of each pit held a considerable amount of pottery. If this topmost fill was in fact a result of slight subsidence of the occupation surface into the pits then the majority of pottery elsewhere within this surface must have disintegrated with weathering since only a few small fragments of pottery were found elsewhere. Only one diagnostic piece of pottery was found (Fig 18 No 83), this being in pit 106 which also produced a leaf-shaped point (Fig 18 No 86). Pit 139 also included a part-finished leaf-shaped point (Fig 18 No 87). The pits seem to have been deliberately backfilled — pit 106 containing one layer with a concentration of charcoal and pit 145 having a large boulder of serpentine within its fill (Fig 6). The series of small pits making up the curving gully at the east side of Trench A may have been post-holes but perhaps more likely bedding holes for a more tent-like structure partly represented by the line of stones running off from the northern end of the gully (Fig 6). Pit 128 at this northern end of the gully contained much charcoal within its fill as well as numerous stones. If this gully was part of a structure then it would have been oval and some 4 by 2.5 metres.

Stratigraphically there was no possibility of separating the Mesolithic from the Neolithic occupation as fragments of pottery were found in level 2 the buried horizon and likewise microliths were found in level 1 and in the fill of the Neolithic pits (Table 2). As a result of the mixing of material it is not possible to separate much of it by period. There is, however, only a small amount of identifiable Neolithic material (described separately below) and there would appear to be very little Neolithic flint working on the site. Comparison of complete waste pieces from one of the Neolithic pits with pieces from within level 2 showed no significant variation (see Debitage, below).

Plotting of the position of individual artefacts did not reveal any useful variations in the horizontal distribution (see Archive Report, Sheet 4). The general variations in density (Figs 4 and 5) seem to be determined by the position of the Neolithic pits and structure which could be seen as redistributing an original fairly even scatter.

	leaf-shaped points	Microliths	Other Retouched Tools	Retouched and Utilised Pieces	Pick/Chopping Tool	Pebble Tools	Cores
Table 2							
Level 1	3	129	35	43	7	23	295
Level 2	2	170	32	41	9	57	283
Neolithic Pits	2	9	0	4	1	5	28
TOTAL	7	308	67	88	17	85	606

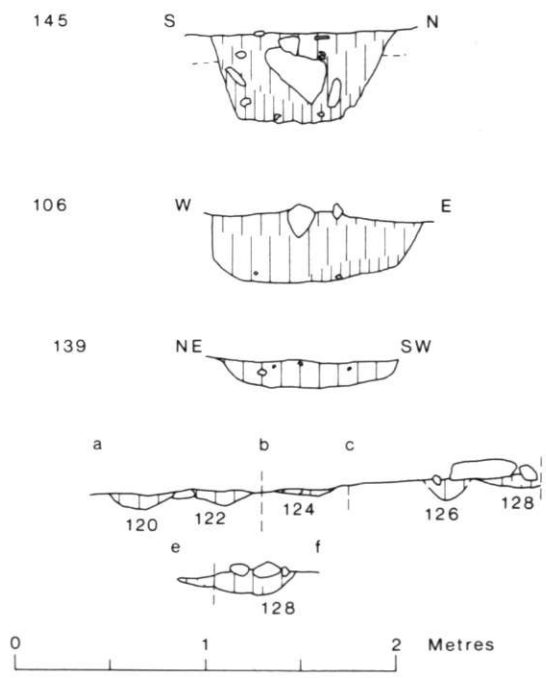
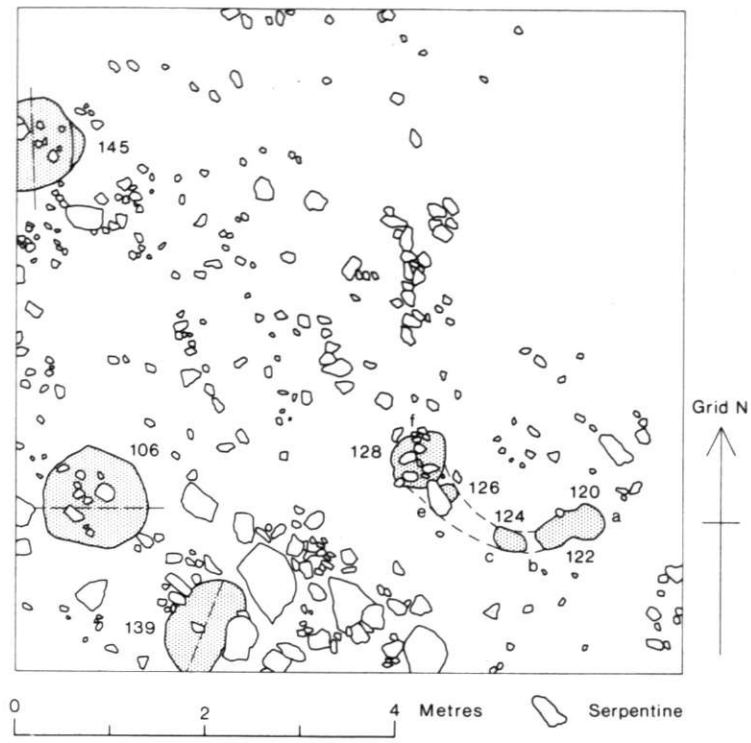


Fig. 6
Poldowrian, Area 2. The Neolithic features.

Later Occupation

A shallow pit (150 Fig 7) with much carbonized material and burnt serpentine was cut through by a recent drainage ditch at the eastern side of the site. This was excavated and though it produced no diagnostic finds was sampled for radiocarbon dating since it could have been a hearth associated with the Mesolithic occupation. However, the date obtained, of 1930 ± 60 bc uncalibrated (HAR-4033) (sample mainly oak with some Alder/hazel and Hawthorn type), suggests that the feature may be associated with a fragment of a pot with heavily impressed decoration (Fig 19 No 90) found by Mr Hadley during his excavation of the nearby rock outcrop. Some of the flint working could also be of this date although there are no diagnostic pieces to prove it. It may however be significant that Mr Hadley notes (pers. comm.) that the majority of waste flint from his excavation of the rock outcrop was grey-black, (as were eg Nos 88 and 89 in pit 106) whereas that from the 1980 excavation was predominantly yellow-brown.

The Finds

All the pieces are from the 1980 excavation unless otherwise described. The material will be treated as a single assemblage except for that small amount which is identifiably Neolithic. The worked flint pieces illustrated are chosen to show the range within each classification group and all are flint unless otherwise described.

1. Worked Flint and Stone

Raw Materials

The bulk of the material is flint and as this derives from local beach pebbles varies considerably in quality and in colour from yellow-brown to dark grey. A small proportion is of honey-coloured greensand chert. This flakes less easily than flint but occurs in larger pebbles and so is used for all but one of the picks and all but three of

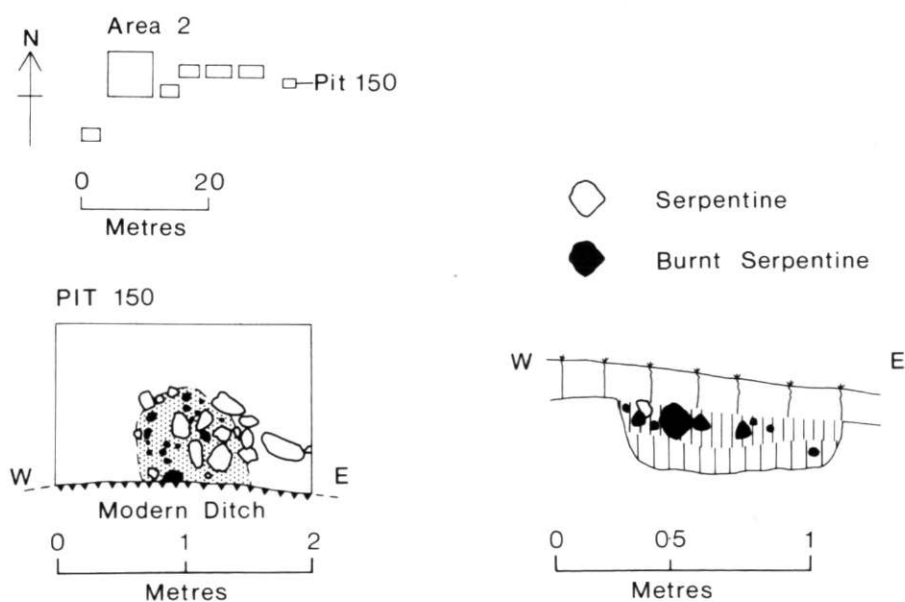


Fig. 7
Poldowrian, Area 2. Bronze Age pit 150.

the chopping tools (in the excavated material) but for only three of the retouched tools. There are 16 chert cores out of the total of 606 (including core fragments and split pebbles). Proportionately this compares closely with figures for waste pieces found at a Middle Bronze Age site at Carngoon Bank, Landewednack (McAvoy, 1980) 5 km to the south-west and for pebbles from the beach at Gunwalloe, Mullion (Barton, 1968) 8 km to the west (Table 3). This suggests that flint and chert were being used with equal favour in relation to their supply.

Table 3

	Flint %	Chert %	
Poldowrian	97	3	(Cores)
Carngoon Bank	93	7	(Complete waste pieces)
Gunwalloe	98	2	(beach pebbles)

There are also a very few pieces of a fine quality 'Portland type' black chert including two microliths (eg Fig 8 No 24) and one retouched fragment. One fragment of debitage with pebble cortex shows these came from a beach pebble so there is no need to infer importation.

The Assemblage

Table 4 shows the total number of worked pieces from the 1980 excavation combining levels 1 and 2 and the pit fills and excluding all previous collections. The classification categories rely on those used by Dr R M Jacobi (eg Jacobi, 1981) since there is as yet no widely agreed system. The debitage is treated separately below.

Table 4 The Worked Flint Assemblage

Convex scraper (on a split pebble)	31
Convex scraper (on a flake)	8
Denticulate	22
Concave-edged piece	1
Awl	2
Borer	1
Abraded piece	1
Serrated piece	1
Retouched piece	26
Retouched fragment	27
Utilised piece and fragment	35
Microlith	308
Microlith fragment	483
Unclassifiable and unfinished microlith	30
Microlith by-product	923
Leaf-shaped point	7
Pick	10
Chopping tool	7
Cores, core fragments and split pebbles	606
Waste pieces (50.3 kg)	48,997

Microliths. (Figs 8 and 9, Nos 1-51): Table 5 shows the numbers of different shapes of microlith present, classified by Dr Jacobi (for exposition of system see Jacobi, 1978). Of the total of 308 classifiable only 234 are actually complete. Of the total of fragments some are likely to be joining parts of broken microliths. The assemblage is dominated by lanceolate (111) and convex-backed microliths (104) in almost equal numbers with scalene triangles (42) following. This classification system has been adhered to since it allows easy comparison with the many other British sites classified by Dr Jacobi. It does produce meaningful results although relying on position and shape of the retouched edge rather than the overall shape and size of the microlith. Thus, among



Fig. 8

Poldowrian, Area 2. Microliths. Nos. 1-6 obliquely backed (No. 6 with its microburin); No. 7 double truncated; Nos. 8-15 lanceolate with leading edge retouch; No. 16 lanceolate with leading edge and basal retouch Nos. 17-23 lanceolate with basal retouch; Nos. 24-31 convex-backed. NB. On drawings of flint + marks position of surviving bulb of percussion, • marks former position of removed bulb. ◦ marks probable position of removed bulb.

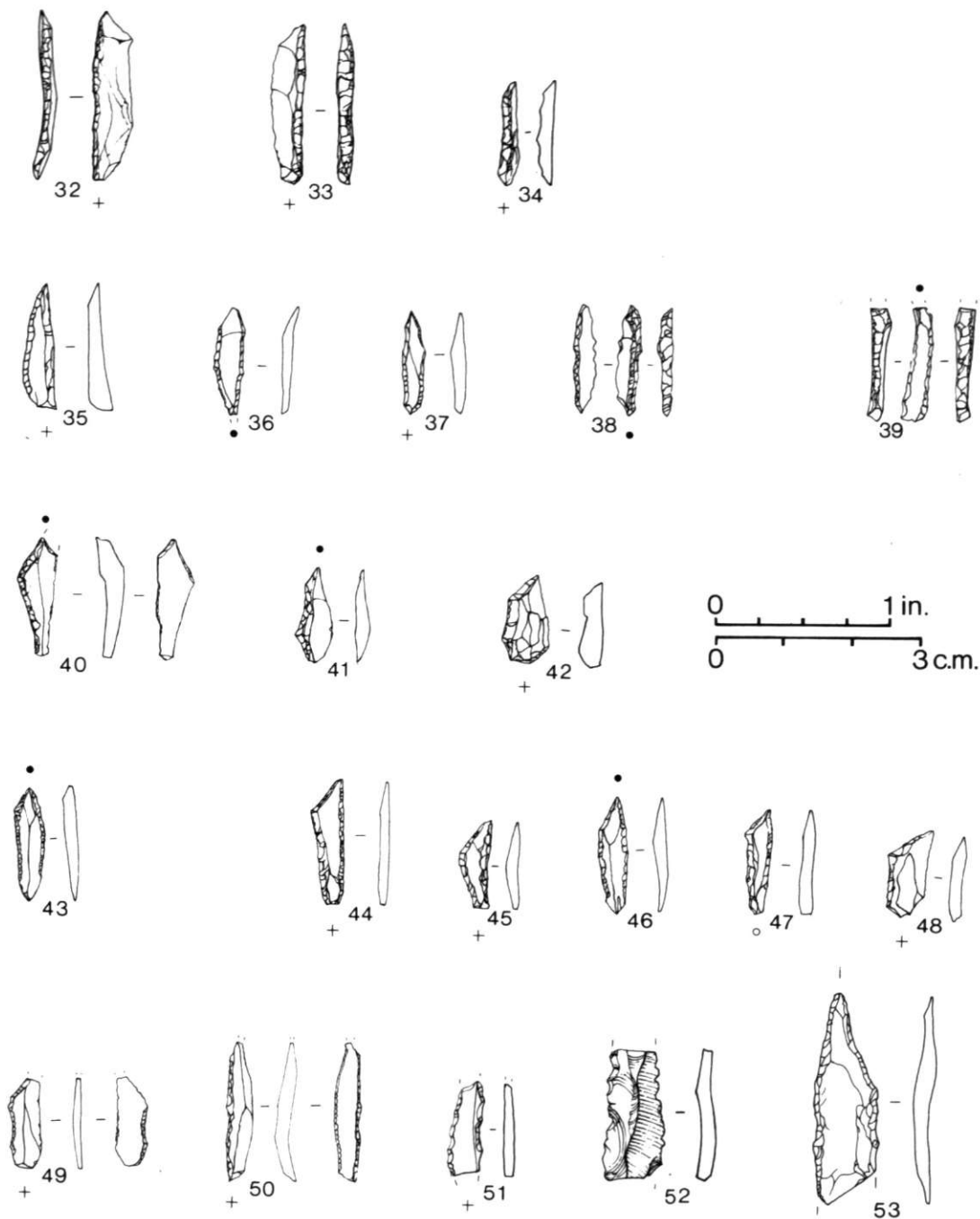


Fig. 9

Poldowrian, Area 2. Microliths. Nos. 32-4 straight-backed; Nos. 35-8 straight-backed with leading edge retouch; No. 39 double straight-backed; Nos. 40-2 scalene; Nos. 43-8 scalene with leading edge retouch; No. 49 scalene with inverse retouch; No. 50 straight-backed with inverse retouch; No. 51 unclassified serrated microlith. Other tools: No. 52 serrated piece; No. 53 borer.

this collection a 'lanceolate-shaped' microlith could be classified as obliquely backed, convex-backed or lanceolate depending on the position of the retouch as will be clear from the illustrations which also show the variations in size. No 6 shows an obliquely backed piece together with the microburin of the flake from which it was made, showing the technique of manufacture. Some microliths however are made on flakes without removal of the bulb. No 51 is the only unclassified microlith illustrated since it is quite unusual, being serrated along each edge.

Table 5 Microlith classification

Class	obliquely backed	isosceles triangle	double truncated	lanceolate with leading edge retouch	lanceolate with basal retouch	lanceolate with leading edge and basal retouch	convex backed	straight backed	straight backed with some leading edge retouch	double straight backed	scalene triangle	scalene with leading edge retouch	straight backed with some inverse retouch	Total
	21	1	4	44	63	4	104	7	15	2	8	34	1	308

Serrated piece (No 52): A flake segment with saw-like retouching, incomplete.

Awls and Borers: Only two pieces are classified as awls (not illustrated) both have a short blunt point produced by steep retouch on the edge of a broad thick flake. The only borer (No 53, incomplete), on the other hand, is produced by delicate retouch, in microlithic fashion, on two converging edges of a thin blade-like flake and could be classified as a 'mèche de foret'.

Scrapers and denticulates (Fig. 10, Nos 54–61): The majority (62%) are convex and most of these are pebble-backed (eg Nos 54–57) while a few are made on flakes (eg No 58). 35% are convex denticulates (eg Nos 60–1). It should be noted that there is no firm division between scrapers and denticulates. The pebble scrapers are made on the piece of split pebble which is the primary residue from producing a striking platform on that pebble.

Concave-edged piece (No 62): A thick flake with a retouched concavity.

Abraded piece (No 63): A large thick flake with retouch or heavy utilisation and heavy abrasion around all edges of both faces.

Retouched pieces (Fig. 11, Nos 64–70): The majority are on 'blades' ie twice or more longer than broad. Of twenty-six complete examples twenty-two have retouch on one edge of the dorsal surface one of which also has polish on the adjoining ventral surface. Two pieces have retouch on both ventral and dorsal surfaces.

Utilised pieces: These are more varied than the retouched pieces although again generally on blades. Of thirty-five pieces twenty-four have utilisation chipping on a straight edge, seven on a convex edge, two on thick scraper-like edges and two on awl-like points. Twenty of these have utilisation chipping on the dorsal surface, six on the ventral surface and nine on both surfaces. Two of the latter have polish as well as chipping while two others have utilisation polish only. The predominance of retouch and utilisation on only one surface of the retouched and utilised pieces would suggest their use mainly in light scraping rather than cutting.

Chopping Tools (Fig. 12 Nos 71–72) and Picks (Fig. 13 Nos 73–75): Nos 71 and 72 (from the Hadley collection) are both made on flat quartzite pebbles while of chopping tools from the 1980 excavation one was of quartzite, two of flint and four of chert. All the picks illustrated are of greensand chert. No 73 (from surface collection, incomplete) is bifacially worked to a triangular section and is the only one found of this type. Nos

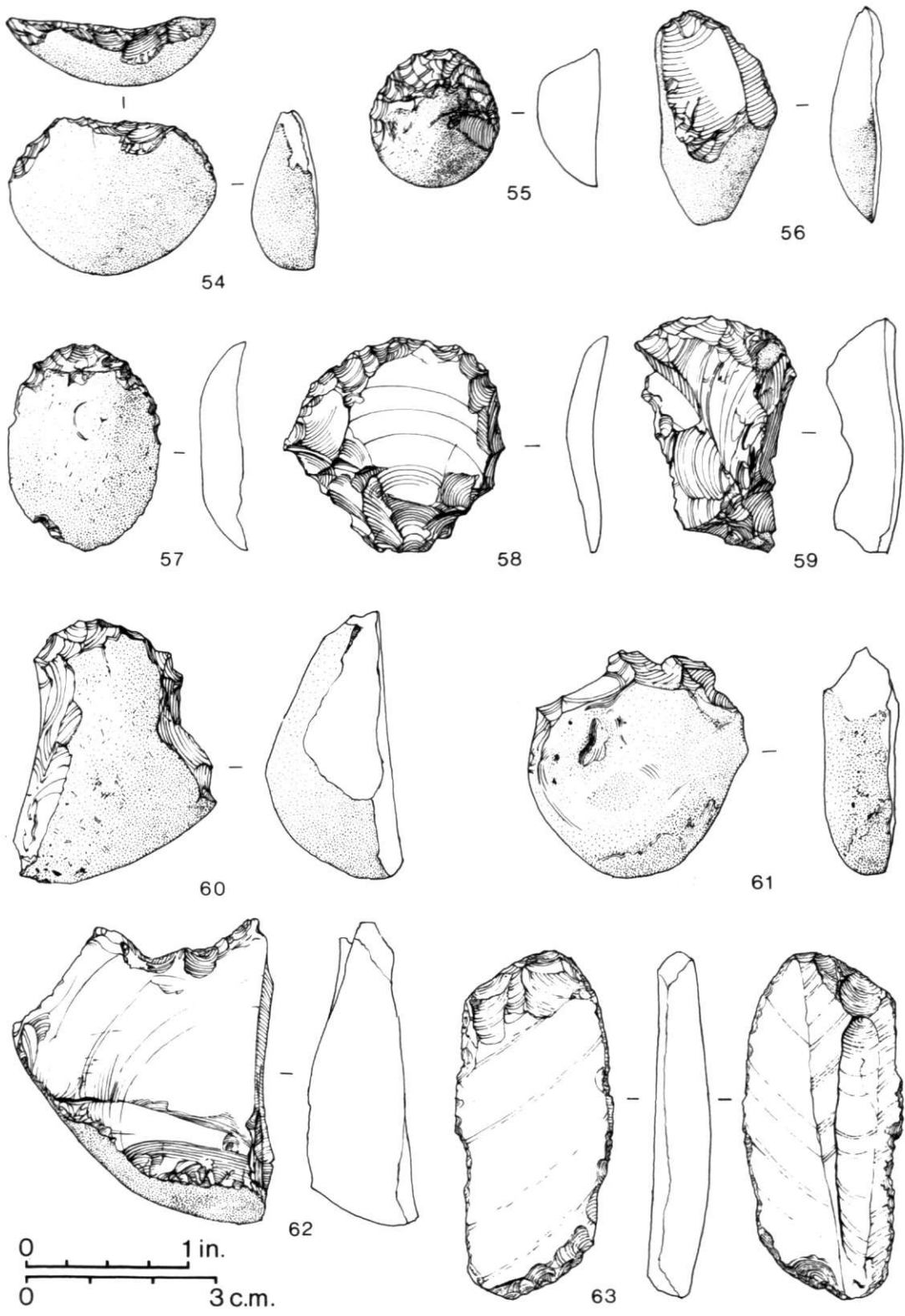
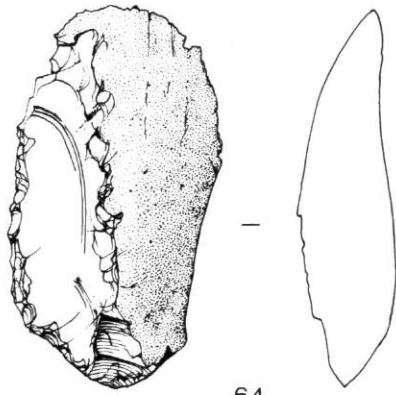
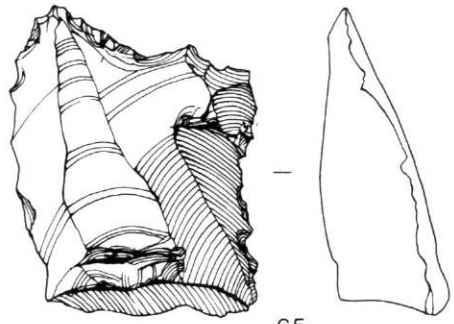


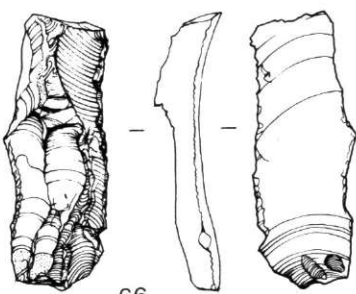
Fig. 10
 Poldowrian, Area 2. Nos. 54-9 scrapers; Nos. 60-1 denticulates; No. 62 piece with concave edge; No. 63 abraded piece.



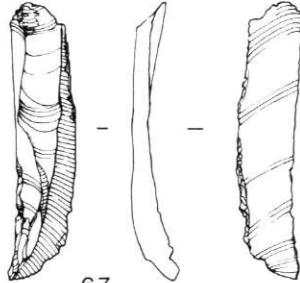
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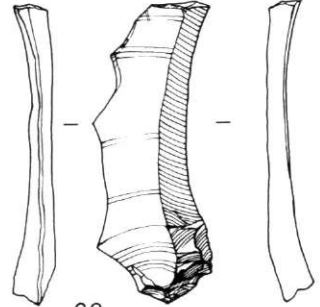
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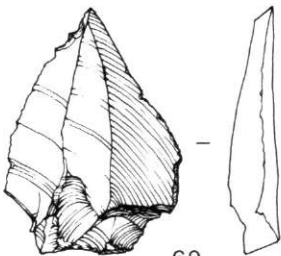
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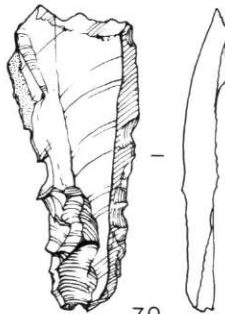
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69



70

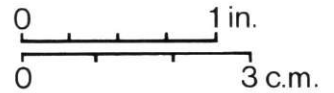


Fig. 11
Poldowrian, Area 2. Nos. 64-70 retouched pieces.

74 and 75 are characteristic of all those found in excavation being made on pebbles with the pebble butt retained showing that they were hand-held tools. The only difference between the chert chopping tools (not illustrated) and the chert picks is that the former have a strong transverse 'edge' while the latter have a rather pyramidal 'point'.

Debitage

Cores: Of the total of 445 complete cores found the majority are of single platform type (Table 6). There is no significant difference in proportions of different types of core from levels 1, 2 and the Neolithic pits.

Table 6 Core Classification

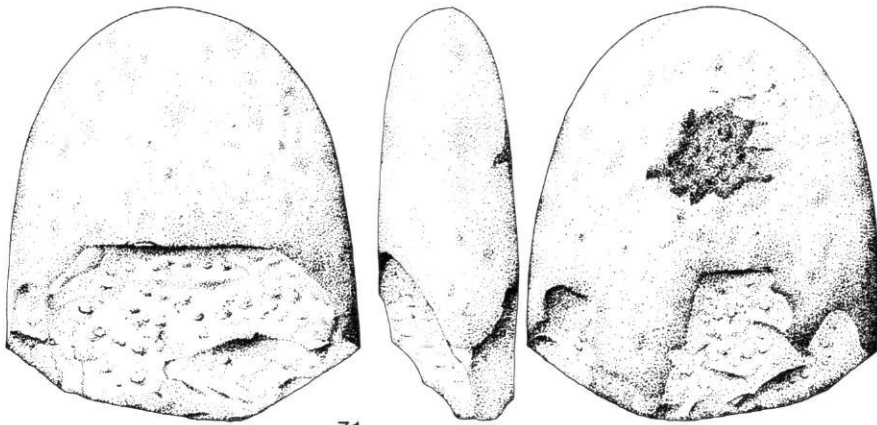
	Single Platform	Two Opposed Platforms	Two or Three Perpendicular Platforms	Multiple Platforms	Total	Fragments	Split Pebbles	Total
No	380	37	20	8	445	72	89	606
%	85	8	5	2	100			

The first stage in working a beach pebble, of which all these cores consist, is to remove an oblique piece from one end in order to produce the first striking platform. This pebble-backed piece can be used with minimal trimming to make a scraper as in Nos 54-57 or a denticulate as in 60-61 above. If the pebble is large enough after abandonment of the first platform a second, opposed, can be produced by striking an oblique piece off the opposite end. Occasionally a second or even third perpendicular platform can be produced by striking a piece off the side of the pebble.

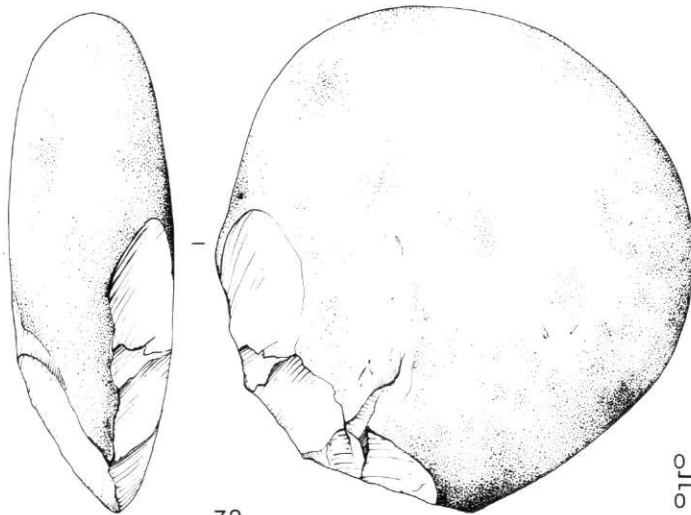
The available raw material was used very successfully and the majority of the cores are extremely small. A sample of thirty-nine complete pieces from nineteen metre squares gave an average weight of only 32 gm. It is obvious that the majority of these cores would have been useless for anything other than microlith manufacture. Studies of early and late Mesolithic material from Trevoise Head, Cornwall shows it may be possible to distinguish the early from late Mesolithic cores by size and that the Poldowrian cores compare closely in size with the Trevoise 'late' Mesolithic cores (David and Johnson, below pp. 80-1).

Waste Pieces: Fig 14 shows plots of the length and breadth of the complete waste pieces from two of the excavated metre squares and from the fill of one of the pits. This allows a simple visual comparison of the nature of the waste material. No attempt has been made to apply statistical techniques the value of which lie mainly in broad inter-site studies (Pitts and Jacobi, 1979) or intra-site studies of stratified sequences (Hemingway, 1981). The general proportions of the three groups are similar but it is interesting that the material from square B within the Neolithic 'structure' is more like that from the pit 106 than that from square A outside the structure, both 106 and B having flakes generally rather longer in relation to their breadth.

Microlith by-products (Table 7): There are 923 microburins of which 24 are notched flakes or flake segments which represent incomplete or unsuccessful microburin removals, where the blade has snapped above rather than at the microburin notch leaving the notch intact.



71



72



Fig. 12
Poldowrian, Area 2. Nos. 71-2 chopping tools on quartzite pebbles.

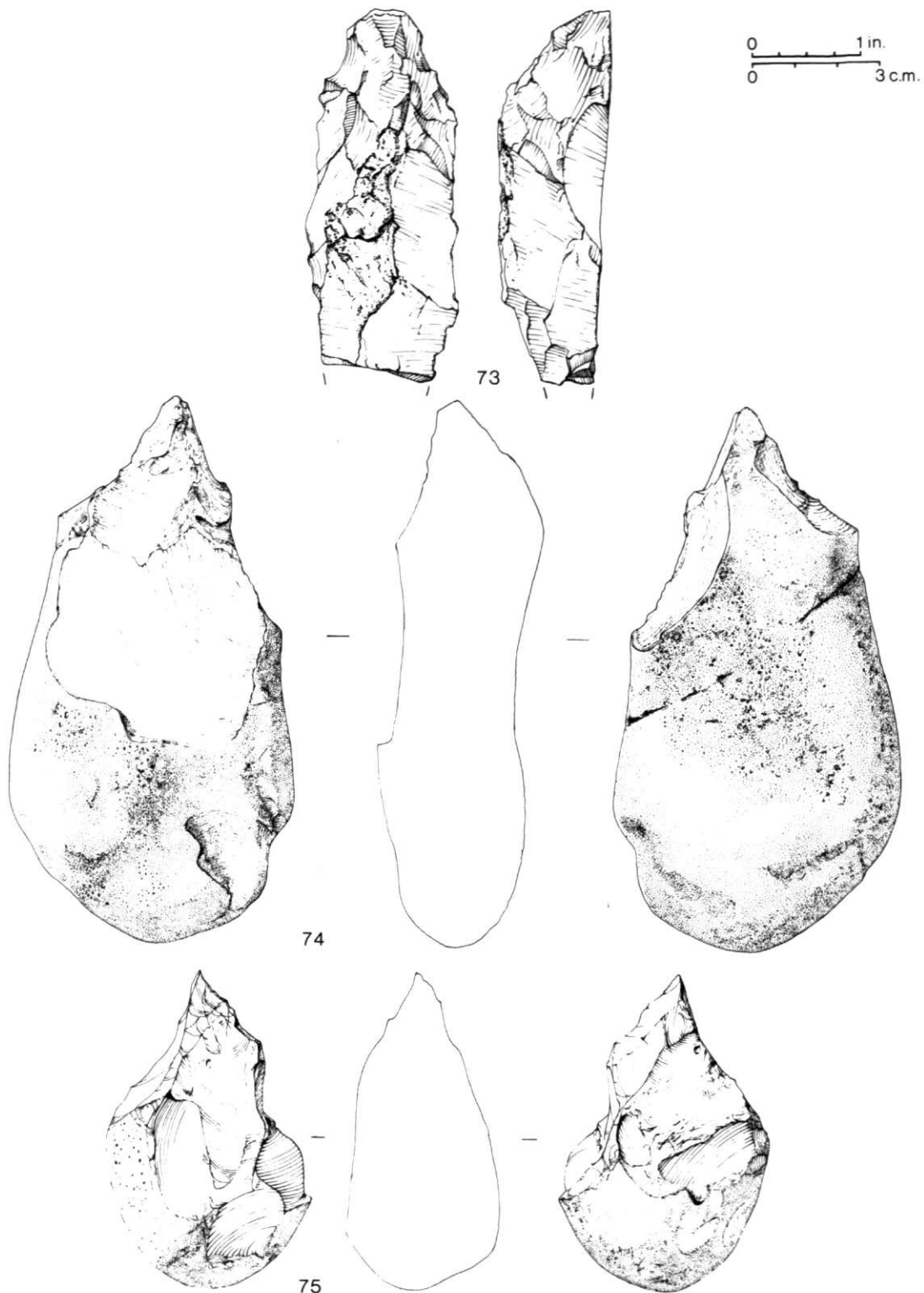


Fig. 13
Poldowrian, Area 2. No. 73 pick; Nos. 74-5 pebble-butted picks. All of greensand chert.

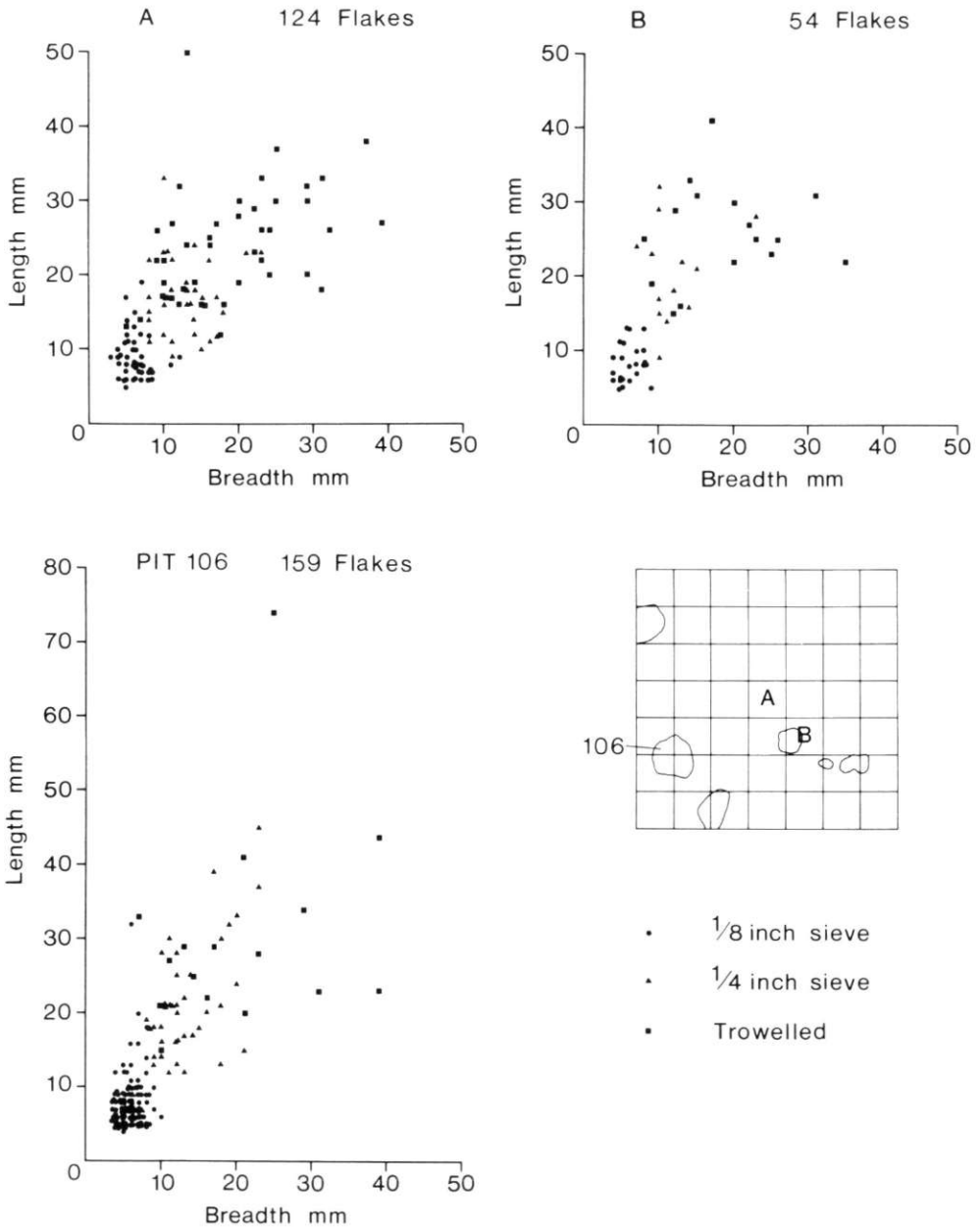
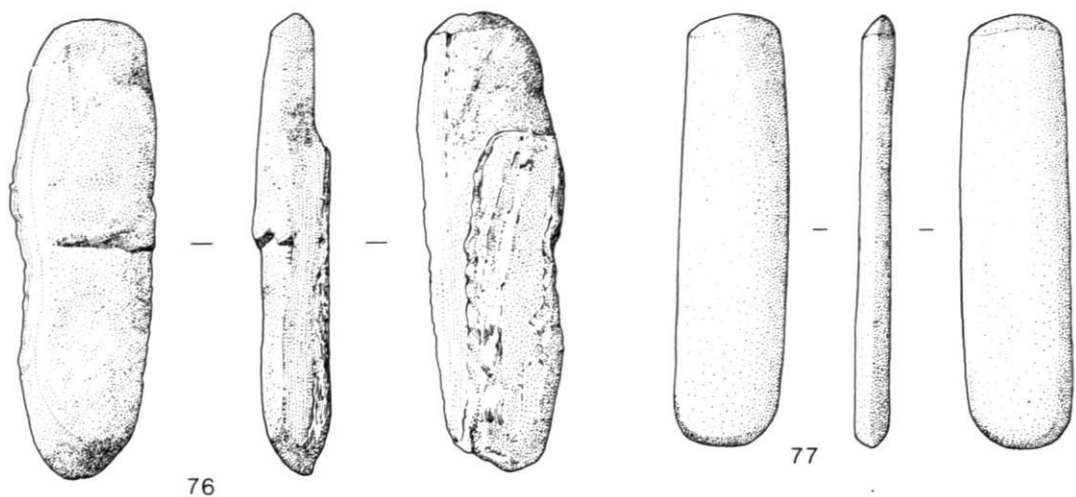
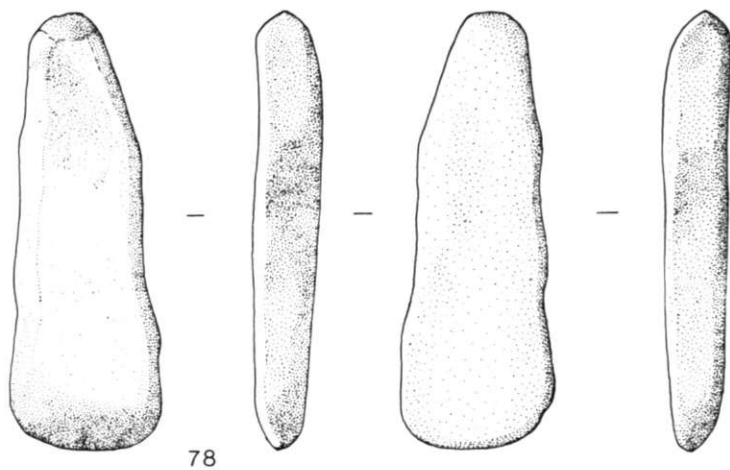


Fig. 14
Poldowrian, Area 2. Scatter diagram of samples of complete waste pieces of flint.



76

77



78

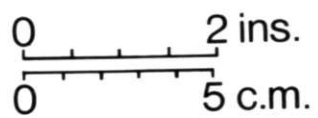


Fig. 15
Poldowrian, Area 2. Pebble tools. Nos. 76-8 type a, bevelled. 76 schist, 77 granite, 78 gabbro.

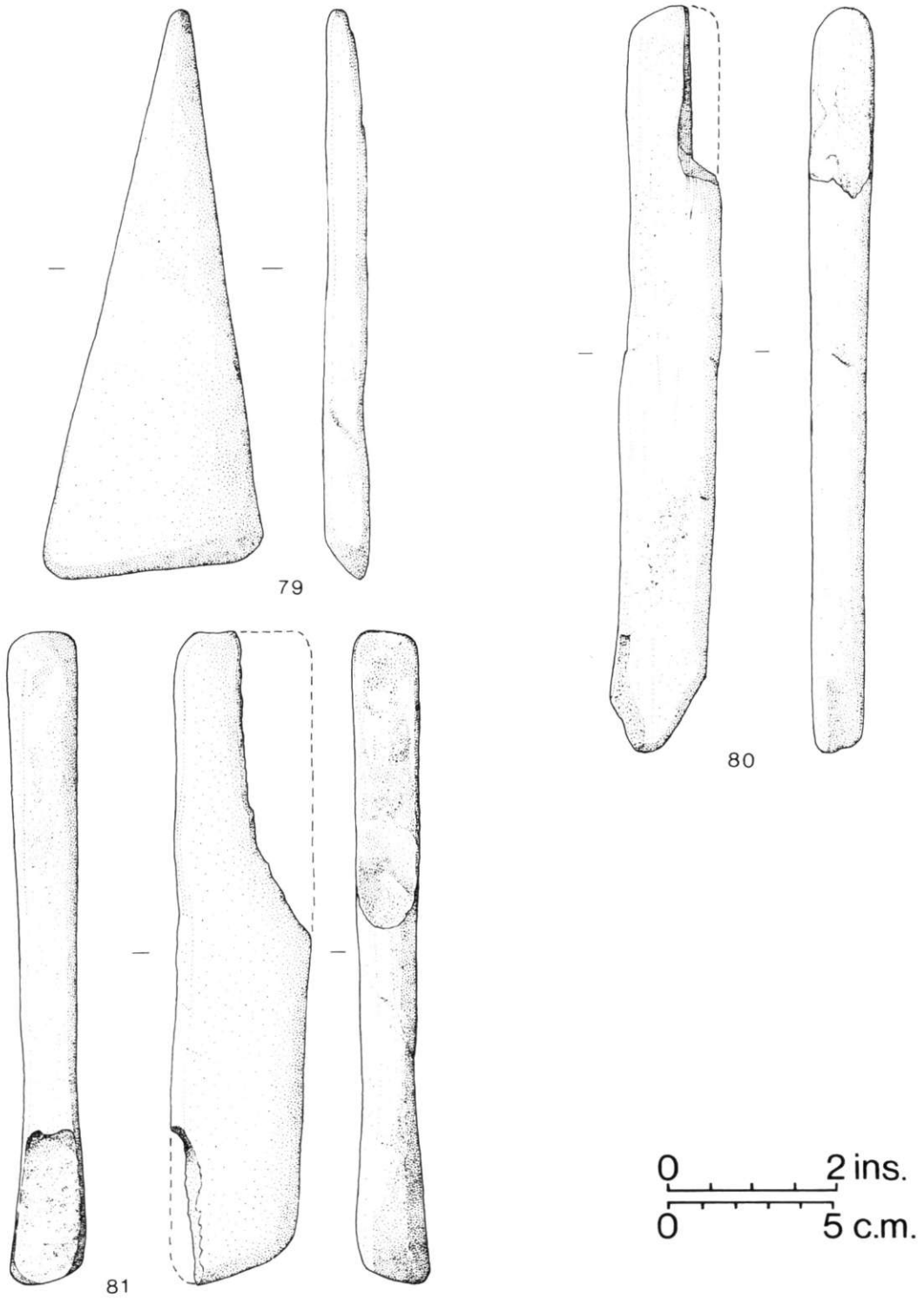


Fig. 16
Poldowrian, Area 2. Pebble tools (See Plate II). No. 79 type c, rounded; Nos. 80-1 type e, heavily chipped. All slate.

Table 7 Microburin classification

	Butt Microburins	Tip Microburins	Double Microburins	Notched pieces	Total
No	524	338	37	24	923
%	57	37	4	2	100

2. Pebble Tools

Of the pebbles and pebble fragments found eighty-five show signs of use and these were classified into seven types (See Table 8):

- Elongated pebbles with chisel-like abraded 'bevelling' at an angle of approximately 45° on one or two faces of one or both ends (eg Fig 15 Nos 76-78).
- Flat oval pebbles with abraded end facet or facets almost perpendicular to the long axis and on the shoulder of the pebble (eg Clark, 1954, Fig 76, S 2).
- Elongated pebbles with general rounding of the tip (eg Fig 16 No. 79 upper end).

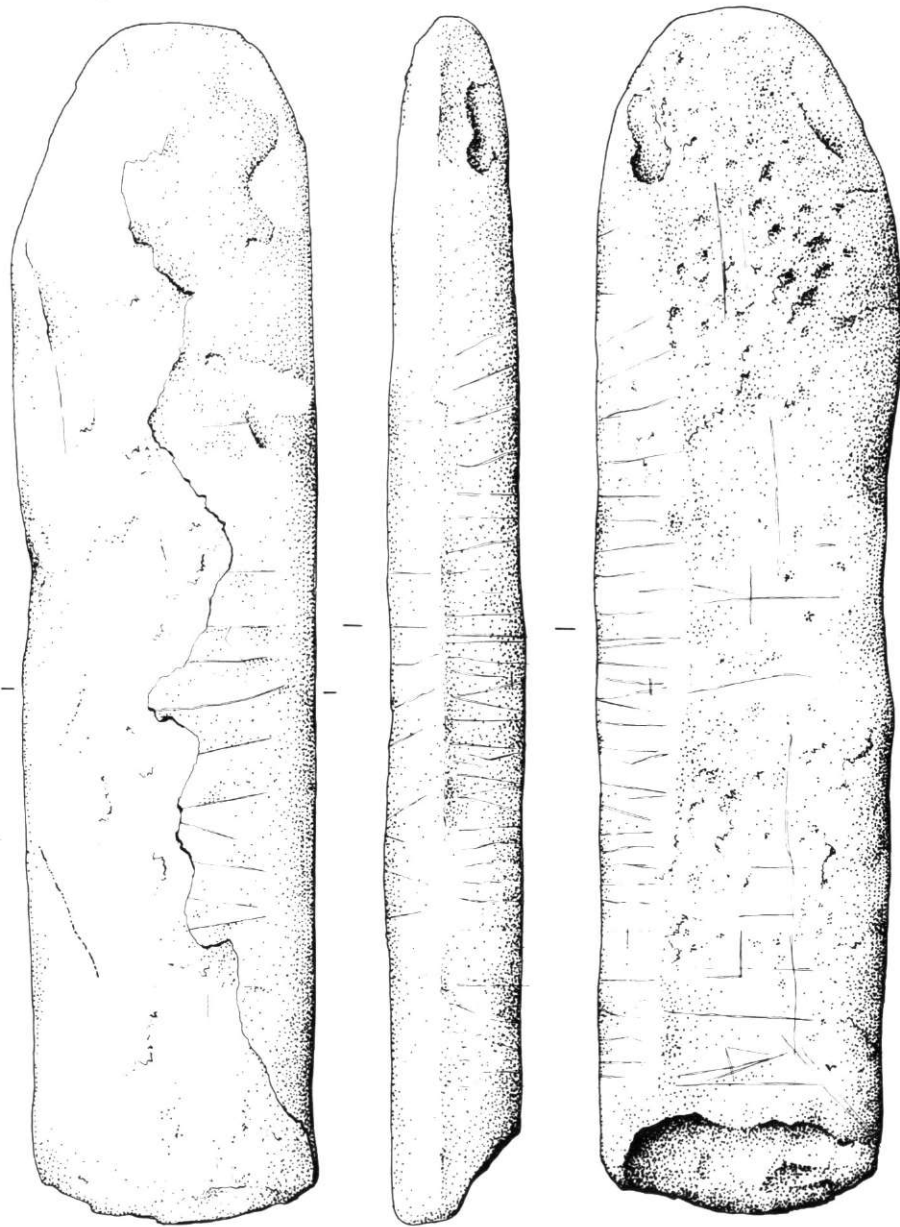
Table 8 Stone pebble identification

Utilisation Type	Schist	Slate	Gabbro	Serpentine	Quartzite	Quartz	Granite	Other	Total
a. Bevelled	38	10	3	-	-	-	1	-	52
b. Facetted	-	4	-	-	-	-	-	-	4
c. Rounded	-	1	-	-	-	-	-	-	1
d. Chipped	12	4	-	-	-	-	-	-	16
e. Heavily Chipped	-	2	-	-	-	-	-	-	2
f. Lightly pecked	-	-	-	-	2	-	1	1	4
g. Heavily pecked	-	-	1	-	2	-	3	-	6
TOTAL	50	21	4	-	4	-	5	1	85
Other pebbles	122	15	15	4	17	6	4	14	197
Fragments	242	45	12	1	31	15	3	21	370

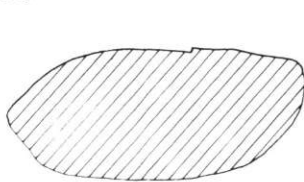
- Elongated pebbles with repeated light chipping on one end (eg Fig 17 No 82 lower end).
- Elongated pebbles with a large heavy chip removed from one side of one or both ends (eg Fig 16 Nos 80, 81).
- Small flat oval pebbles with light 'impact' pecking.
- Thick oval pebbles with heavy impact pecking.

This classification is not exclusive since a few pebbles show more than one type of utilisation (eg No 82a also has light pecking on the upper right face). The bevelled pebbles, (type a.) often have subsequent light chipping of the bevelled edge which suggests heavy use in abrasion of a hard material. The pebble tools fall into two general groups: types a-e mainly elongated pebbles with abrasion and chipping and types f-g with pecking. The former group is of as yet uncertain use (see Discussion below) while the latter are the hammerstones.

Fig 5 shows that the distribution of pebble tools is closely similar to that of microliths and debitage. In one place three pebble tools (Nos 79-81) were found lying in a group (Plate II) suggesting that they were part of a tool kit. Two pebble tools were also found side by side during the Hadley excavation (Trench J). There are a considerable number of pebbles which have no visible signs of use and there are many



82a



82b

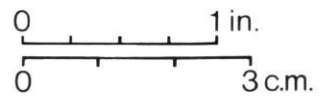


Fig. 17

Poldowrian, Area 2. No. 82a (Hadley Collection) inscribed pebble tool type d, lightly chipped. No. 82b inscribed pebble fragment. Both slate.

fragments which show that the pebble tools were being used on site. The selection of the rock types (Table 8) is significant since although all occur within a 'site catchment area' of 10 km radius the majority do not outcrop on the immediately adjacent beaches.

Inscribed Pebble Tool (Fig 17 No 82a): This came from the Hadley excavation (Fig 3 Trench J). It is a pebble tool of type d, of slate, and part of one face has exfoliated. The inscribed marks on the better preserved face are in rows of roughly equally spaced lines at two distinct spacings, which could not be by chance. There is also an area of light pecking on one face. The tool could have been a tally stick but Dr Jacobi has also suggested that it might have been a gauge for net or harpoon making although he points out that there are no known Mesolithic parallels (pers. comm.). An inscribed fragment from the face of a slate pebble (Fig 17 No. 82b) and which could therefore be part of No. 82a was found in Level 2, the buried horizon, in Trench A.

3. Other Finds

Carbonized material: a scatter of small pieces of charcoal was found during sieving of soil from Level 2, all impregnated with iron pan. Most were too small to identify but of the material that could be identified, the majority was oak (*Quercus* sp.). Much of the charcoal was from mature wood although immature twiggy material was also represented. All the charcoal examined seemed to be from trees that were slow grown. In addition to oak the other types of charcoal represented were: hazel (*Corylus*), alder or hazel (*Alnus/Corylus*) and hawthorn (*Crataegus*) type.

There were also numerous fragments of carbonized hazel-nut shell and a few charred seeds of *Euonymus*, *Crataegus Oxycanth.* and *Prunus* sp.

Pebble gravel: sieving of the soil revealed large quantities of pea-sized pebbles in greatest concentration in Trench A. These are not a natural part of the soil since they consist mainly of flint with occasional schist and quartz whereas those remnants of the Pliocene sea-floor remaining on the Lizard plateau consist solely of quartz (Flett, 1946, 165). Since the excavation another later Mesolithic site has been discovered 5 km to the west at Windmill Farm, Predannack, which shows similar small pebbles grading down to sand aggregated in shallow pits, (Smith, forthcoming b). At present the only suggestion is that the pebbles might have been brought to the site adhering to the roots of sea-weed.

Burnt Flint (Fig 4): 28.6 kg of burnt flint was recovered excluding secondarily burnt worked flint. None could be described as 'pot-boilers' while much of that retained in the 1/8 inch sieve was burnt 'pebble gravel' as described above.

4. The Neolithic Assemblage

Pottery (Fig 18 No 83): All the pottery found was very fragmented and the majority clustered in the very top fill of the pits. Although this suggested that only a small number of vessels were present no useful joins were found mainly because most of the sherds were very weathered. A scatter of small fragments was found in sieving material from level 2.

All the vessel fragments were of gabbroic fabric but some contained mica flecks suggesting an admixture of other (perhaps serpentine) clay. The fabrics varied from fine and well smoothed (eg No 83) to thick and coarsely gritted. No 83, the plain rim of a bowl of approximately 28 cm diameter with a small applied unperforated centrally depressed strap lug, was in pit 106 which also contained a much weathered plain rim (not illustrated) of uncertain angle and diameter in coarse fabric. Spherically curving thick body fragments of the same fabric in pit 106 suggested that these coarse fabric pots were round bottomed. The lug is not paralleled on any other Neolithic sites in the south-west but could be just a simple variation or imitation of the well known 'trumpet' lug found eg at Hembury (Liddell, 1935) and Carn Brea (Mercer, 1981).

Worked and utilised flint (Fig 18 Nos 84-89): Of the leaf-shaped points, No 84 came from the Hadley surface collection and No 85 from level 1. No 86 came from pit 106 and No 87, which is burnt and is unfinished or broken and re-worked, came from pit 139. Of

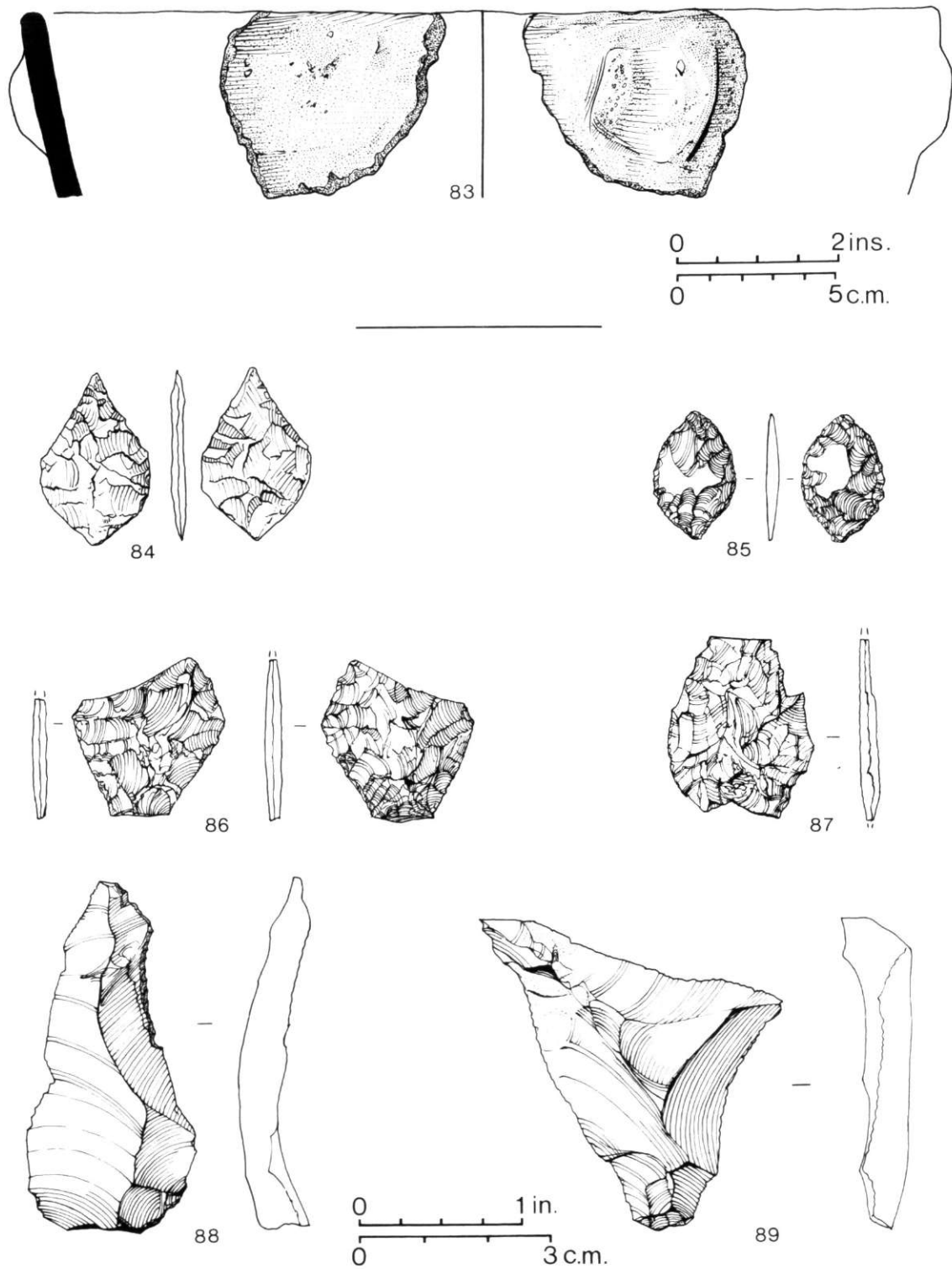


Fig. 18

Poldowrian, Area 2. Neolithic pieces. No. 83 lugged rimsherd; Nos. 84–87 leaf-shaped points (No. 84 from Hadley Collection); No. 88 retouched piece; No. 89 utilised piece.

other worked pieces only two — No 88 a retouched piece and No 89 a utilised piece, both in pit 106, could be definitely assigned to the Neolithic assemblage. They are both of a size and freshness which would suggest they are not derived although the pits did contain some derived material including for instance nine microliths. There was little suggestion that the Mesolithic and Neolithic material could be separated qualitatively (see Fig 14 above) although of twenty-eight cores in the pit fills four were considerably above the average size of the microlith cores.

Polished axe (not illustrated): a fragment only, of flint, from the Hadley surface collection from Area 4, a field approximately 100 m south-west of Area 2.

Flotation: The entire contents of all the excavated pits were passed through a flotation system before being sieved. However, although some charcoal was retrieved, this did not include any carbonised seeds.

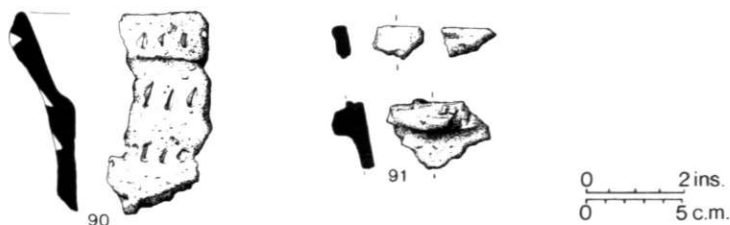


Fig. 19
Poldowrian, Area 2. (Hadley Collection). Nos. 90–1 Bronze Age pottery.

5. Bronze Age pottery (Fig 19, Nos 90 and 91):

Two diagnostic sherds came from the Hadley collection — No 90 the rim of a large jar with horizontal lines of heavily impressed decoration and No 91 a plain rim with a horizontal unperforated lug, both in gabbroic fabric. The decorative style of No 90 occurs both on urns eg from Mullion, The Lizard (Patchett, 1944, 36, Fig 8 D4) and on 'food vessel urns' eg from Penquite, probably Golant Parish, Nr Fowey (Patchett, 1944, 39 Fig 9 E8) which would suggest a date between c.1900–1400 BC (Simpson, 1968) and the vessel might therefore be associated with the fire-pit 150, at the east side of the site (Fig 7) which produced a radiocarbon date of 1930 ± 60 bc, uncalibrated (HAR-4033). The vessel could be a remnant of a disturbed burial in the rock outcrop since the style is not found on domestic pottery from Trevisker (Apsimon and Greenfield, 1972), Gwithian (Megaw, 1976) or Stannon Down (Mercer, 1970) which together span the period c.1800–1100 BC. The form of the lug of No 91 occurs too widely to be chronologically diagnostic. The 1978 excavation (Harris, 1979) two hundred metres to the north uncovered a pit containing a coarse fabric plain rimmed, plain lugged pot associated with charcoal giving a date of 2050 ± 150 bc, uncalibrated (HAR-3108).

Dating and Discussion

A sample of oak charcoal from pit 128 produced a date of 2920 ± 130 bc uncalibrated (HAR-4052). This accords well with the earliest date from the Carn Brea Neolithic site of 3049 ± 64 bc uncalibrated (BM-825) (Mercer, 1975, 30). A sample bulked from all the charcoal (mainly oak with some hawthorn type) in pit 106 which contained pot No 83 and leaf-shaped point No 86 however produced a date of 3230 ± 150 bc uncalibrated (HAR-4323) but this is likely to be contaminated by the inclusion of some derived Mesolithic charcoal. A bulked sample of all the hazel-nut shell fragments from level 2, the buried horizon, and which could therefore contain some Neolithic as well as Mesolithic hazel-nut shell, produced a date of 4500 ± 110 bc uncalibrated (HAR-4568).

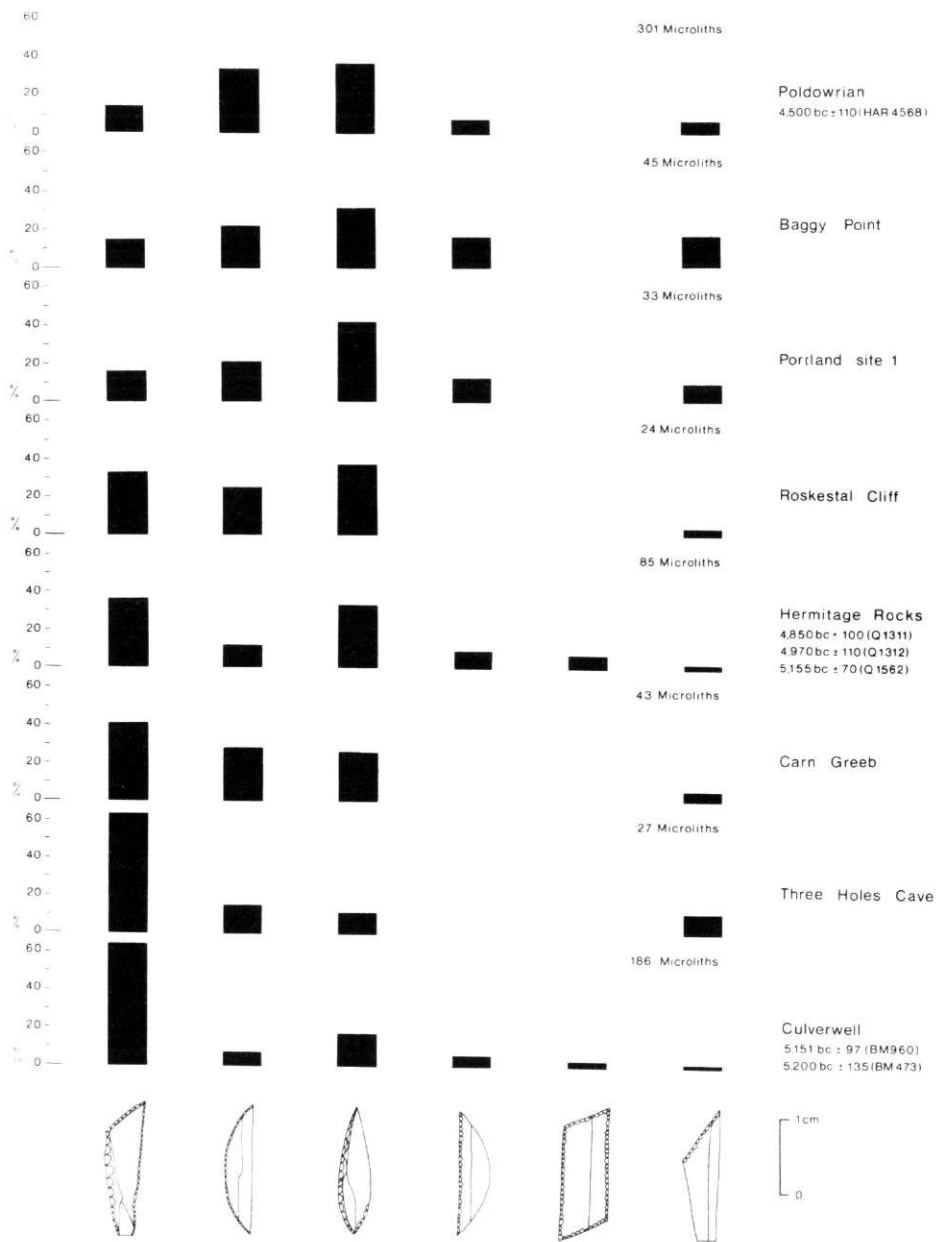


Fig. 20
Poldowrian, Area 2. Poldowrian microlith assemblage inserted in suggested seriation of microlith assemblages of the 'southern English' social territory (Jacobi and Tebbutt, 1981).

Jacobi has pointed out in recent publications (Jacobi, 1979; Jacobi and Tebbutt, 1981) that there seems to be a 'southern English' later Mesolithic social territory where microlith assemblages occur that have either (or both) convex-backed and lanceolate microliths outnumbering obliquely backed pieces. Furthermore, in Devon and Cornwall *all* the later Mesolithic sites so far located have assemblages of this type which, it is argued from the few radiocarbon dates available, are all no older than Culverwell, Dorset, with dates of 5200 ± 135 bc (BM-473) and 5151 ± 97 bc (BM-960). Fig 20 shows a suggested typological seriation of later 'southern English' narrow-blade microlith assemblages put forward by Dr Jacobi (Jacobi and Tebbutt, 1981, 26, and used with his kind permission) with the assemblage from Poldowrian inserted in its most appropriate position. The validity of the suggested seriation is supported by the few radiocarbon dates available and would suggest a date for Poldowrian within the fifth millenium which is supported by the date obtained from the hazel-nut shell in Level 2.

However, there are few published assemblages from South West England and none which so far can be accepted as of unmixed single period (eg Trevoise Head, David and Johnson, below pp. 83-6). Poldowrian itself besides having Neolithic material could have been visited at various times throughout the Post-Glacial. Excavation in 1981 on Goonhilly Downs, The Lizard (Smith, forthcoming a.) located an area with earlier Mesolithic 'broad blade' obliquely-backed microliths. Six of the larger Poldowrian obliquely-backed pieces (eg No 1) are closely similar to these and two of them have a distinctly greater patination than the 'narrow blade' pieces although showing no distinct difference in horizontal distribution (see Archive Report, Sheet 13).

The distribution of all the waste flint, burnt flint, microliths, microlithic debitage and pebble tools (Figs 4 and 5) is very similar showing no variations to suggest different areas of activity. This might be because of the small area excavated and any settlement could well be away from the 'working area' with the main concentration of artefacts. The presence of charcoal, burnt flint and burnt serpentine shows that there had been fires within the excavated area but a newly discovered later Mesolithic site at Windmill Farm, Predannack (Smith, forthcoming b.) shows that such hearths are very shallow and exist only within the soil horizon. Overall, the density and homogeneity of the Poldowrian material indicates a much overlaid occupation whether from a long period or numerous visits. This is further illustrated by estimates of the total quantity of worked flint which may be present on the site. The surface distribution of finds spreads beyond the area ploughed in 1980 (Fig 3) with a maximum extent of approximately 70m diameter (3800 sq m). The density of finds drops off sharply to the south, east and west where the ground slopes more steeply but continues further on the flatter ground to the north. The excavated areas (totalling 91 sq m) comprise only 2.4% of the total area of this surface distribution. If we take the density of finds in the excavated area to represent a maximum and that the density falls away evenly from the centre to zero at the edge of an idealized circular area of 70m diameter the material found represents approximately 7% of the total which may be present estimated as eg 4500 classifiable microliths, 11,700 microburins, 8,600 cores, 776 kg of waste pieces.

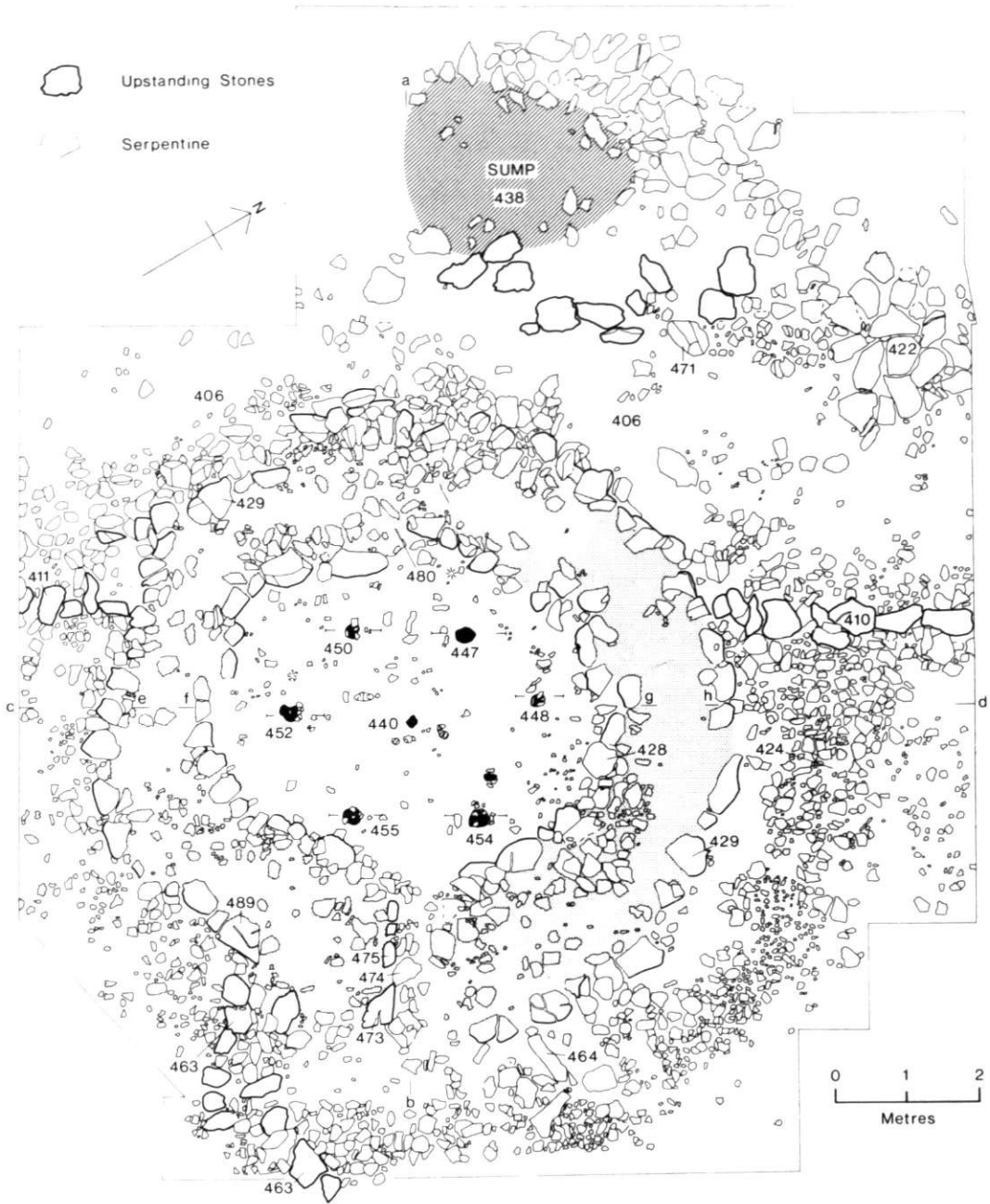
Many later Mesolithic coastal sites in Cornwall, Wales, Ireland and Scotland have assemblages containing 'bevelled' pebbles which have previously been interpreted as flint-working tools (Breuil, 1922) seal-skin preparers (Movius, 1942) or limpet hammers (Livens, 1972) and have been taken somehow to characterise a coastal economy. Experiment has shown (Smith, forthcoming c.) that these elongated pebbles function well as hammers for detaching limpets (which occur on the nearby rocky shoreline) but that the wear produced is rather a general rounding than a sharp bevelling. Perhaps significantly no bevelled pebbles have been reported from Westward Ho! North Devon, the only South Western later Mesolithic site with a preserved shell midden (including limpets) and animal and fish bone (Rogers, 1946 and Jacobi, 1979). The bevelling is

quite neat, at a regular angle and the type of stone used is finely abrasive, similar to that used on later sites for whetstones. The material abraded is unlikely to be skin which, being soft, would not produce a sharp-edged bevel or wood which, being fibrous, is better worked with a cutting tool. Abraded pebbles which had been used as pestles have been found eg for the preparation of ochre colouring (Movius, 1942, 190) but with complementary stone rubbing slabs. At Star Carr pecked pebble tools were found with associated evidence (tarry concretions) suggesting that they had been used as pestles in the preparation of birch bark resin for hafting (Clark, 1949 and Vogt, 1949). The wear on the ochre-preparing pebbles and some of those from Star Carr, however, is not bevelling but flat end facetting (as on Poldowrian type b) and is the type of wear on some of the pebbles of South Western origin found on inland Mesolithic sites in Hampshire, Sussex and Surrey (Rankine, 1949 and Jacobi, 1981). Firm materials which might have been abraded by bevelled pebbles would be bone or antler. For a coastal location there is the possibility that blanks for harpoon points were being manufactured. At the coastal 'Obanian' sites of Scotland eg Caisteal-nan-Gillean, Oronsay (Movius, 1942, 184) both bevelled pebbles and bone harpoon points are found. The early Mesolithic type of barbed point of antler as at Star Carr was manufactured by the 'groove and splinter' technique but it has been shown that the later Mesolithic short, flat barbed point can be manufactured by abrasion alone (Clark, 1956). Clark also pointed out that this could explain the absence of burins from the Obanian sites and thus might do so, similarly, for Poldowrian.

The cliff-top location of Poldowrian is found at many of the other sites of similar period in Cornwall and Devon and, as with the coastal sites of West Wales and Western Scotland, must represent a common utilisation of a particular range of available resources. The concentrations of the late Mesolithic in Cornwall on coastal or high moorland locations (Jacobi, 1979, Fig 17) may, however, be due to collection bias since most finds have resulted from chance discoveries in walking of non-agricultural areas on cliff-tops and moorlands and there has been no systematic attempt to survey areas under agriculture. Where this has been done elsewhere in the country, for example in Hampshire (Shennan, 1981), Mesolithic exploitation has been shown to cover areas beyond those previously recognized.

Jacobi, (1979, 84) has put forward the view that these coastal sites were seasonal with their greatest attraction (in terms of availability of food resources) being in autumn/early winter and in spring. The presence of hazel-nut shells at Poldowrian shows that occupation at least included the autumn and early winter and Jacobi (1979, 83) has pointed out that limpets (the only local shellfish) are at their best at this time of the year. For later, winter occupation, however, a cliff-top location seems a poor choice in the face of frequent south-western gales and we should expect inland locations to be sought. Recent survey in the Lizard (Smith and Harris, forthcoming) has located some inland sites but all still include the coast within their catchment area and are small (in comparison to Poldowrian) and thus seem more like temporary (summer?) encampments than winter home bases.

While sea-level during the Mesolithic occupation of Poldowrian was below that of the present day it was within five metres of it (Churchill, 1965). The steep gradient of the sea bed here means that the coast shape would have been little different and the cliffs (sloping rather than sheer) are not undergoing erosion except in their lower part (Plate I). Although no great area of dry land was exposed here at a slightly lower sea level, the area of rocky shore would have been considerably increased as there is a large reef of rocks (the Caerverracks) in Kennack Bay, to the west, which are submerged at high tide. Also it may be that access to deep water (perhaps for line-fishing) was important. Although the range of food resources available to a coastal location is very varied including fish, shellfish, birds, eggs, seals and seaweed in addition to the land resources it may be that exploitation of the beach flint and chert was the determining factor. It is possible that microliths may have been part of a



POLDOWRIAN 1980 AREA 3

Fig. 21
Poldowrian, Area 3. Plan of house and adjoining field-walls.

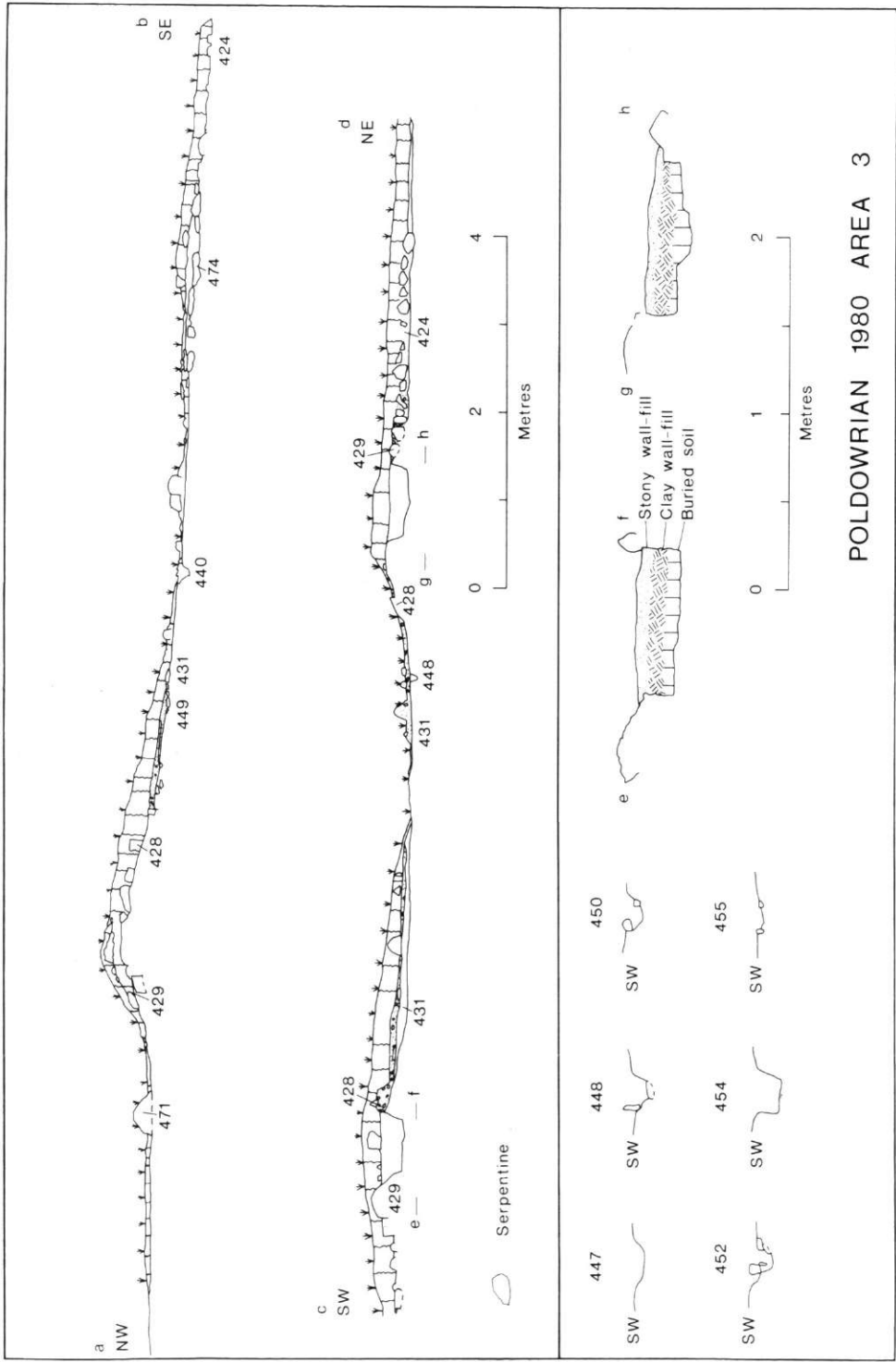


Fig. 22 Poldowrian, Area 3. Sections through the house and post-holes.

coastal economy in manufacture of multiple barbed harpoons. If however they were for arrows then in an area with limited large game resources the site could be seen as a microlith manufacturing site used in the hunting 'off-season' and this is borne out by the unusually high number of microburins in relation to microliths and microlith fragments (Table 4) and the very low proportion of other retouched tools to microliths (and fragments) of 1:10. This can be compared with the only large later Mesolithic inland site excavated by similar methods — Broomhill, Braishfield, Hants. (O'Malley and Jacobi, 1978) — where there were only 32 microburins to 962 microliths (and fragments) but where the proportion of other retouched tools to microliths (and fragments) was greater than 1:2.

II The Bronze Age Settlement (Area 3) by Daphne Harris

Introduction

This stone-walled house on the west side of Poldowrian Farm (SW7475 1694) lies at the southern edge of a field recorded on tithe maps as Castle Close (probably from Kestle — settlement) and coincides with a prehistoric site noted by Henderson on his map of the antiquities of the St Keverne district (Henderson, 1916, 20). It had been rediscovered by the landowner, Mr Hadley, during the annual burning of heath and gorse and he had already excavated three quarters of the interior down to what was left of the floor area. The site was on serpentine, though very close to the gabbro (just to the north), and the visible masonry consisted of serpentine blocks. The house lay on a gentle south-east facing slope (Fig 2), which ran down to the small stream about 200m away (Plate I). The house was linked to the walls of a field system of seemingly ancient but then unknown date, which had previously been planned by Mr Hadley when it was exposed by the burning of the gorse cover. These small irregular fields (Fig 2) covered the land sloping down to the valley, and extended to the cliff edge; field walls often seemed to link outcrops of rock. No fields could be discerned on the level uplands beyond, which may well have been heathland in antiquity as they are usually now. The opportunity was sought, while the Mesolithic site was being excavated, to examine the house, in order to establish its date, and to discover whether or not it was contemporary with the field system.

The Excavation (Figs 21 and 22)

The work was carried out by a small number of Central Excavation Unit staff and Cornwall Archaeological Society members during the week, with sometimes a quite large influx of CAS members at weekends. The site was excavated entirely by hand. After removal of the thick growth of gorse and other small bushes, the site was excavated in quadrants.

The House Wall (Plate III)

The house proved to be a solid stone structure, nearly round, with an internal diameter of about five metres and an external diameter of nine metres; thus the wall was nearly two metres thick. It consisted of an inner face (428) and an outer face (429) made up of large blocks of serpentine (up to 0.80 m in length along the line of the wall), the interstices filled with smaller blocks of the same material. There was only one course left of the large blocks, but the smaller ones were two or three courses high. The inner face had been pushed inwards in places, especially on the south-east side, thus giving the impression that the hut was more oval than it had probably been in fact. The space between the inner and outer faces was packed with stone-free earth, and there was a slight indication that this fill had included turves. Two cuttings were made across the wall (Fig 22), one on the south-west (section e-f) and one on the north-east (g-h), down to a well preserved old land surface. Samples were taken for pollen analysis (by N D Balaam) but proved to contain no preserved pollen grains, probably as a result of the shallow depth at which the soil was buried. There was an entrance to

the house on the south-east side. The earth filling of the wall was of course absent here, being held back by a shallow revetment (475) on the south side; the opposite side of the entrance passage was less clearly defined. Three flat slabs (474) suggested paving in this passage. A large block of serpentine (473), 0.60 m high, stood at the junction of the outer wall face and the entrance passage on its south side, forming a corner of just over a right angle; no corresponding stone remained on the other side.

The Interior (Plate III)

The house lay on a gentle slope running down to the entrance on the south-east side. There was no evidence of any levelling of the interior. When this was cleared of top soil (in the remaining west quadrant) and of the tumble of stone from the wall, no actual floor was found. Immediately below the tumble, in most places, was the natural clay, which kept the original slope of the ground. This clay (431) was a light greyish-brown, with flecks of orange or red. A few sherds of pottery were found on it, and some pebbles and waste pieces of flint; there was also a small amount of charcoal. Six post holes (447, 448, 454, 455, 452, 450) were cut into this layer, the timbers of which must have served to support a roof of thatch or turf. The holes varied in character; 447 was a hollow only 0.05 m deep; 448 and 454 were 0.12 and 0.17 m deep, with packing stones at the sides and a flat stone at the bottom; 455 seemed at first to be shallow with a flat stone, but when this was removed it revealed a vertical packing stone going down to a depth of 0.16 m; 452 was also 0.16 m deep, had seven packing stones and a clearly visible post pipe; 450 was the deepest at 0.20 m, with six packing stones, two of them low in the hole. There was no central post hole, but a small hole with sloping sides (440) could have been a stake hole. A hollow (480) at the inner edge of the house wall on the north-west side, formed by a concave wall stone and two others, could have served to support the outer end of rafters. No other similar holes were found, but they could have been concealed by the inward slip of the wall stones. On the western side of the interior a patch of grey-brown silty soil (449 Fig 22) had been deposited on the clay (431); this was characterised by a strong growth of plant roots. A small amount of charcoal was found in this layer. No hearth was located in the house.

The Exterior

Outside the house, the site was cleared down to an old land surface (406). This was a greasy, light brown soil, and embedded in the top of it, on the west side, was a large sherd of cord-impressed Bronze Age pottery (Fig 23 No 92). A similar sherd (Fig 23 No 93) was found nearby in a cranny of the exterior face of the house wall. Over the land surface was an area of cobbling (424). This consisted of medium sized angular bits of serpentine, forming a band of just over a metre wide which surrounded the house on the north-east, east, south-east and south sides, usually close to the house wall, except on the east where there was half a metre's gap between the wall and the cobbling.

This band of cobbling curved round from the north-east to the house entrance, where it led into a structure interpreted as a porch (463). This was a wall made of large blocks of serpentine, with an inner and an outer face and left the house wall to the south-west of the entrance, at a point where an exceptionally large block (489) formed part of the outer house wall. It then curved round to the north, parallel with the house wall, and may well have overlapped the entrance, but at this point the structure was cut away by a modern drainage ditch. Near the house wall just to the north of the entrance was a large recumbent slab of serpentine (464), broken at the outer end, apparently weathered, and showing signs of wear; it was firmly embedded across the cobbled path, and could have served as a sill marking the northern extremity of the porch area.

The Sump (Plate IV)

To the north-west of the house was a curious and very wet feature (438). It was marked off from the house area by a line of large serpentine boulders (471). Beyond this the level dropped, and here a band of flat stones (422), resembling paving, curved

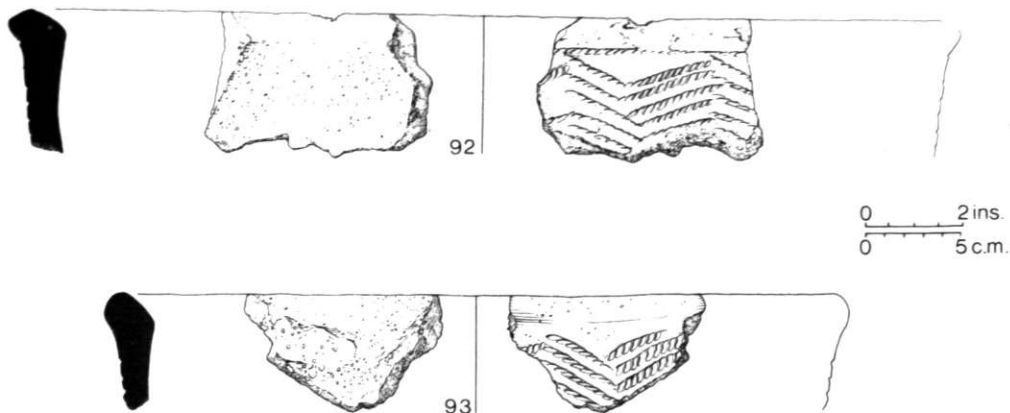


Fig. 23
Poldowrian, Area 3. Pottery from the house.

round a sunken area of light grey clay which in normal conditions was under water. A trench dug 0.20 m deep by the excavators for drainage purposes did not reach any bottom to the clay. The exact purpose of the feature is not clear, but it could have collected water draining from the slope above to the west, and prevented it from running through the house; it might even have provided a source of water for domestic purposes.

The Field Walls

One of the main aims of the excavation was to establish the relationship between the field system (Fig 2) and the house. Field walls touched the house at two points and consisted of lines of serpentine boulders, sometimes only one deep, but often packed by smaller stones to form a continuous wall. One wall (410) left the house wall on the northern side, where nine of its large stones came within the excavation cutting (Plate IV); it continued in the same direction, and two cuttings were excavated across it further on; in cutting N2 (Fig 2) it showed four large stones with a tumble of smaller stones on either side, and in cutting N3 one large stone with other smaller ones. The wall (411) leaving the south-west side of the house showed one large boulder, six slightly lesser ones and also smaller stones within the excavation cutting. It was sectioned in cutting S2, where it was seen in its most massive form. It contained six very large boulders (up to 0.50 × 0.45 × 0.40 m), together with smaller stones, some of which lay underneath the big boulders.

Both these walls butted on to the wall of the house, and there was no bonding. The cobbling round the house fitted tidily up to the field walls and did not underlie them. The base of the house walls, the cobbling, and the field walls were all on the same level and it seems clear that the house and the field system were contemporary.

The Finds

1. Stone

Small pebbles were found at all levels down from the topsoil. They included twenty-three pebbles of flint or chert, nine of quartzite (two broken), and six others; and there was one piece of slate. A larger quartzite pebble (c.10 cm in diameter), with one slightly worn face, which could have been a hammer-stone or pounder, came from post-hole 452.

2. Worked Flint

Seven pieces of burnt flint, nine waste pieces, and one microlith core came from the

topsoil in cuttings across the field walls away from the house site. In the round house itself, the majority of flints also were found in the topsoil. The presence of a microlith and a microlith core implies the neighbourhood of an earlier culture than that of the round house, but that is not surprising at Poldowrian, where Mesolithic material is widespread; a microlith was found in the Beaker period mound (Area 1) in 1978 (Harris, 1979, 21). Ten burnt flints were found in the topsoil, seventeen on the clay floor (431) of the house interior, and a very large collection of burnt fragments numbering several hundreds had been deposited close together on the north side of the house in the tumble of stone just outside the house wall. It would be interesting to know the reason for this concentration; could the flints have been used as pot boilers, and fragmented in the fire?

Waste-pieces: apart from those in wall cuttings these numbered 85, of which 60 came from the topsoil layer; seven of them were from the clay floor (431) of the house interior. One core was found in the topsoil, one in the stone tumble inside the house, and one from the stones just outside.

Retouched and utilised pieces (not illustrated):

- a. Utilised piece. Butt segment of a long narrow flake with utilisation or fine retouch on the ventral face of one long edge, and polish on the opposite face of the same edge; fine green-brown flint; from topsoil.
- b. Retouched pieces. One flake with fine retouch on one long edge of dorsal surface; some pebble cortex remaining; poor grey-brown flint; from stone tumble outside the house wall. Two fragments with retouch on dorsal surface of a straight edge, from topsoil.
- c. Microlith fragment. Probably part of a narrow blade convex-backed microlith; fine green-brown flint; from topsoil.

3. Pottery (Fig 23)

Two decorated sherds were found. The first, No 92, lay on the old land surface (406) to the west of the house. It was the rim of a large vessel, of reddish brown, fairly coarse, gabbroic fabric; the rim had a smooth inward bevel. The decoration was very clear, and consisted of cord-impressed chevrons made by one single-twisted cord, each chevron having at least five lines, with one horizontal cord-impressed line immediately under the rim. The second sherd, No 93, was found in the same layer, but wedged into the stones of the outer wall face. It was very similar to the first, but was not from the same vessel, as the angle of the inward bevel was different, and it lacked the horizontal line of cord impressions. Both these vessels are similar to those of Style 1 or 2 of the Trevisker series (for example Fig 14, 4, ApSimon and Greenfield, 1972) but the fabric seems more like that of Style 1. Similar decoration can be found also on funerary urns, such as those from Chapel Carn Brea, Crig-a-mennis or Rosecliston (all in Truro museum).

One more rim sherd was found, and fifteen body sherds, all of undecorated, reddish brown, medium coarse gabbroic fabric (not illustrated). The rim and two sherds came from the old land surface (406), two sherds from the floor level (431) inside the house, two from a soil layer (449) and nine from the stone tumble, both immediately above 431.

Discussion

Not enough charcoal was recovered to obtain a radiocarbon date for the round house. A C14 date of 1110 ± 95 bc (calibrated to about 1380 BC in historical years) from the floor of House A at Trevisker is probably associated with the end of the Bronze Age occupation at that site (ApSimon and Greenfield, 1972, 356): as the two cord-impressed sherds from Poldowrian come typologically early in the Trevisker pottery sequence, the last stage of the round house occupation should be before that date. Gwithian provides a comparable date of 1120 ± 103 bc from a cremation pit in layer 5, which

should indicate a general *terminus post quem* for this level of ploughed fields and cultivation (Megaw, 1976, 51); some of the pottery from this layer is decorated by twisted cord as at Poldowrian (Megaw, Thomas and Wailes, 1960–1, 214). At Gwithian this level is stratigraphically later than layers 7 and 8 which produced pottery decorated with plaited cord, as well as Beaker sherds and an early house; on the other hand, the Gwithian layer 5 is earlier than layer 3 which produced pottery with incised decoration (as Trevisker 3 or 4), and two bronze pins and part of the mould for a socketed axe, which have been assigned to a Penard phase of the Middle Bronze Age dated round the tenth century bc in radiocarbon years (Burgess, 1976, 75). If therefore the Poldowrian round house is broadly contemporary with early Trevisker and Gwithian layer 5, it should have been in use within Colin Burgess's Knighton Heath period, somewhere in the twelfth century bc in radiocarbon years, or in the fourteenth century BC in historical years (Burgess, 1980). It is interesting to note that the mound at Poldowrian which was excavated in 1978 and produced sherds of five beakers, and which was situated only 200 metres from the round house, provided radiocarbon dates of 1540 and 1410 bc (Harris, 1979); but there was no definite link between the two sites, and the Beaker mound lay just outside the field system into which the round house was integrated. It would seem however that occupation of the round house must have followed that of the Beaker site with a gap of not more than a few centuries.

Whereas timber built Bronze Age houses occur in other parts of the county as at Trevisker (ApSimon and Greenfield, 1972), in the rocky areas of West Cornwall and the moors buildings are usually of stone. Most of the hut circles which proliferate on the heathlands have not yet been examined, and their date is uncertain; but a few have been excavated, and some show strong similarities to the Poldowrian house.

Already before the last war Trewey Foage, above Zennor, had proved to be a Late Bronze Age settlement (Dudley, 1941). Three houses were excavated. They had an internal diameter of about five metres; their walls were one metre thick, and were built of an inner and an outer face of granite blocks, filled in with stones and earth. Houses 2 and 3 had preserved their entrances, and 'both doorways opened on a little cobbled path'. Moreover the plan of house 3 shows a line of stones leaving the house wall and curving round in front of the entrance, and although not much is made of this in the report, it bears a strong resemblance to the porch at Poldowrian. The houses at Trewey, too, were linked to a field system, and house 2 was bonded in with, and so contemporary with, one of the field walls.

At Bodrifty (Dudley, 1956) the late Bronze Age sherds were 'insufficient in number to denote an occupation', though the Iron Age inhabitants seem to have maintained the same tradition of house building. An emergency excavation of the houses on Smallacombe and Trewortha Downs, arranged by the Ministry of Works in advance of afforestation (Dudley, 1963) found most of the houses completely ruined; 'the smaller ones appear to have been well-built, with double walls, and sometimes possessed raised paved floors. Houses and pounds were shown to be contemporary and, by analogy with houses on other parts of Bodmin Moor, were probably Late Bronze'.

Four houses at Sperris Croft and three at Wicca Round in West Penwith were excavated in 1956–7 (Dudley, 1957). They were all of the same basic pattern, with walls formed of an inner and outer face, infilled with rubble or in one case very probably with turf; house 4 had a smaller round house built on to it; here the internal diameters were 8.25m and 6m, with walls 1.25m and 1m thick. The larger house showed seven post holes, one metre from the wall, though it would need two more to complete the circle. The entrance was paved. The houses at Wicca Round had suffered some later remodelling, but produced pottery including some with twisted cord decoration. A curious feature was a sump outside the houses, which collected water from the hillside above; a drain brought this water into a trough inside house 3, and then led it round the inside of the house and out under the wall at the far side; this however may not have been an original feature.

The more recent excavation of the houses and field system on Stannon Downs (Mercer, 1970) provided eight more examples of Bronze Age round houses of much the same pattern. Some were built of rubble core, faced on both sides with massive stone blocks, but this technique was varied as required, and dry stone walling, large blocks laid in courses, and earthen (partially turf) walls sometimes faced with stone, were all found. The houses were larger than that at Poldowrian, the internal diameter varying between 5.80 and 10 m. All had an internal ring of post holes, but also a central post, which was presumably not needed in the smaller Poldowrian house. In at least two of the Stannon houses (3 and 4) a timber porch was constructed which gave access to the entrance from the side; it is of interest that a similar structure in stone could be seen in one of the unexcavated houses.

An even closer parallel to the Poldowrian house can be found on Dartmoor at Shaugh Moor (Wainwright and Smith, 1980). Here the houses in enclosure 15 are also stone built, though they have a rubble filling between the inner and outer faces of the walls instead of the earth filling of Poldowrian; the roofing timbers are set in a ring of post holes inside the houses; and the internal diameters are comparable with that at Poldowrian, three of the houses being slightly smaller and two bigger. House 66 has a simple stone porch with its entrance on the east side; house 67 in its first phase was approached by a cobbled hollow-way which curved round the outer face of the house wall, and in phase 2 a substantial stone porch was constructed which turned into the entrance with its flagged passage between the wall terminals.

All these settlements seem to have had field systems associated with them, although in some cases they have not been located, perhaps because of afforestation as at Smallacombe, whilst any fields close to enclosure 15 at Shaugh Moor would now be under china clay waste. (However, survey in the upper Plym Valley, Dartmoor has shown many (pastoral?) settlements of probable Bronze Age date with no associated fields — K.R. Smith, pers. comm.). Whereas at Shaugh Moor and Stannon the fields tend to be rectangular, with divisions pendent on a main reave, in West Cornwall as in other places on Bodmin Moor they are irregularly shaped. At Poldowrian the field boundaries near the cliff tend to be determined by the position of rock outcrops. The Poldowrian fields are small, usually less than one acre, but even so they are slightly larger than those at Trewey, and considerably larger than the fields close to the houses at Wicca Round and at Stannon.

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Plate I Poldowrian. Topography of the site looking east.
Photo: Aerofilms Ltd.

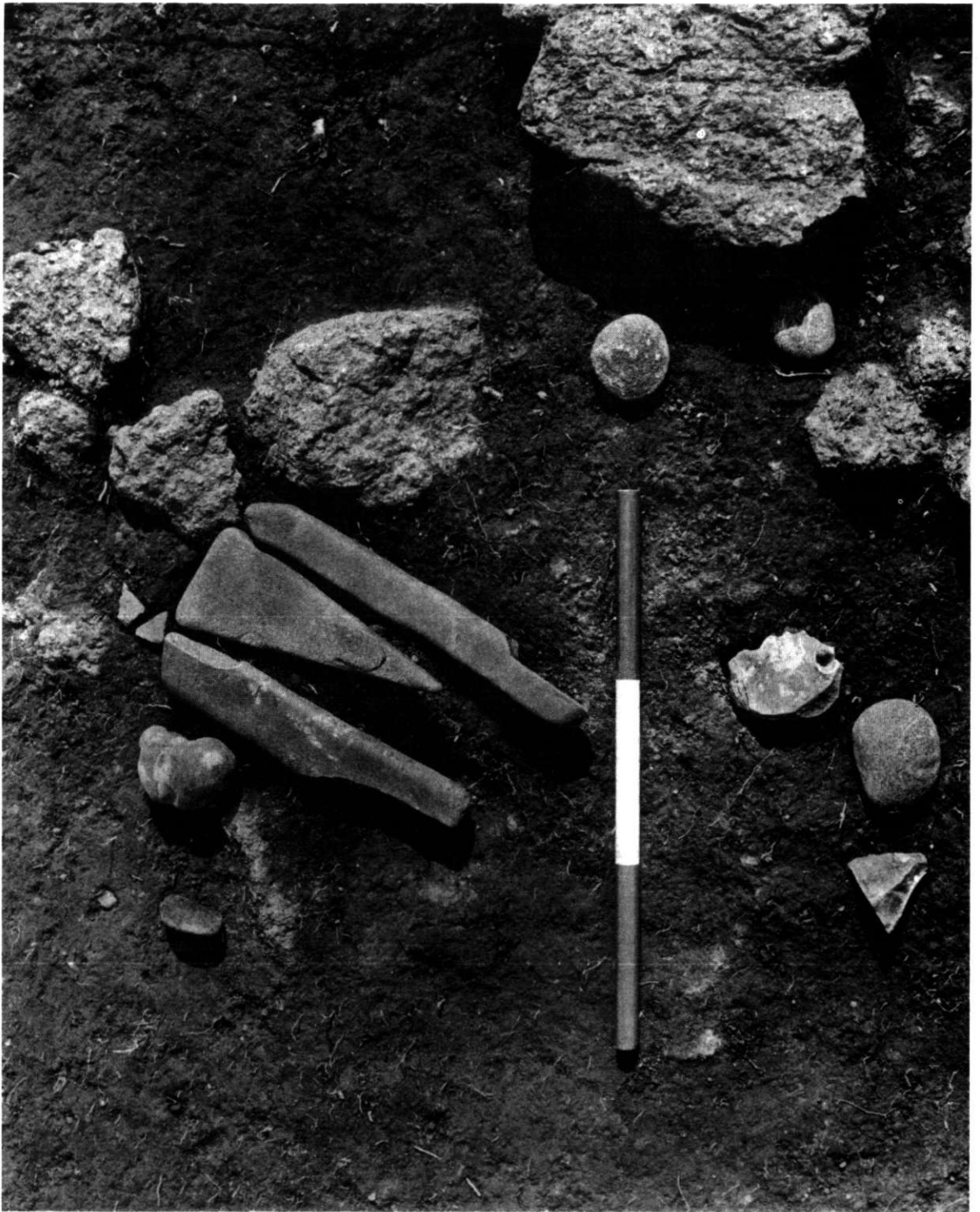


Plate II Poldowrian. Area 2. Pebble tool group in situ. Scale with 10 cm divisions.
Photo: George Smith

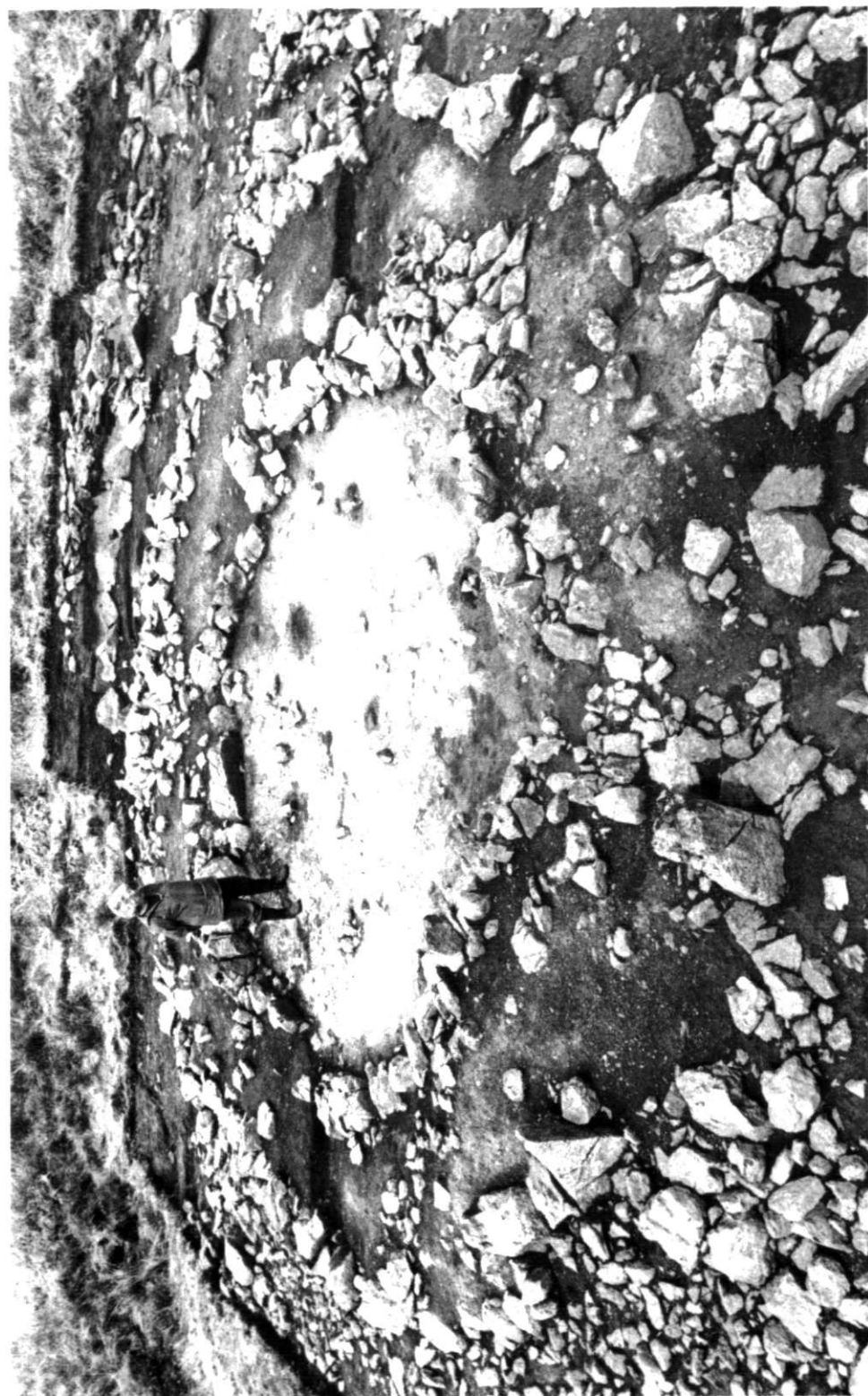


Plate III Poldowrian. Area 3. The house after excavation looking north-west.
Photo: George Smith.



Plate IV Poldwrian. Area 3. General view of house, field walls, sump and paving looking south. Scale with 50cm divisions.
Photo: George Smith.

A MESOLITHIC SITE ON TREVOSE HEAD AND CONTEMPORARY GEOGRAPHY

Nicholas Johnson and Andrew David

Summary

Few areas in Cornwall can rival Trevoze Head in the number of flint-scatters in its immediate locality, although the recording of these and the artefacts from them has often been cursory or confusing. Recent fieldwork in the area, including the identification and surface grid-collection of flints from an apparently fresh site, provides an opportunity to record this and nearby flint-scatters for future reference. Prehistoric activity on the headland may extend over at least six millennia, and an account of the Mesolithic flint industry at the new site is accompanied here by discussion and detailed reconstructions of the Flandrian shoreline as it advanced towards its present position. The evidence from submerged forest deposits plays an important part in this and also in any attempt at environmental assessment, and where possible comments have been offered on local hunter-gatherer activity as seen against its contemporary habitat and geography.

Introduction

The various concentrations of flint artefacts and debris to be found at and around Trevoze Head have attracted the attentions of archaeologists and collectors for very many years, but with few exceptions the material that is now widely dispersed amongst private and museum collections is wanting of precise provenance and such details as are now seen to be necessary for adequate description and qualification. However, it was clear to Clark when compiling his account of the Mesolithic in Britain (Clark, 1932) that this period was well represented here by a 'broad blade' microlithic industry alongside a more 'evolved' variety with shorter and narrower small geometric forms of microlith. The implication that two disparate Mesolithic occupations are involved at one or more neighbouring sites is supported by the recent identification and accurate recording of one such site at Trevoze by Nicholas Johnson, giving us the opportunity to consider this proposition in the light of a large and well provenanced assemblage. In discussing this site we shall also take the opportunity of bringing up-to-date the record of other find-spots nearby with brief reference to former collections and accounts where appropriate.

The Site

The site (TV1) lies in a ploughed field at the head of a small stream some 75 metres from the rocky but low cliff. The land slopes gently to the SE towards Booby's Bay and Constantine Bay. Behind to the NW the land rises towards the dominating promontory of Dinas Head, capped by a Bronze Age cairn, and the rugged cliffs of Trevoze Head. Fig 2 shows the site in its geographical context and for reasons which will become clear, the names of the various topographical features have been noted. A great deal of flint collecting has gone on in this area since the early part of this century mainly due to the popularity of this stretch of coast with holiday makers; indeed OGS Crawford who recorded many of these sites in this area (1921) was staying in this part of Cornwall whilst convalescing from action on the Western Front. Many of the collections were made along the coastal path, where cliff and path erosion reveals traces of flints almost continuously between Trevoze Head and Treyarnon Bay, a mile to the south. It is now impossible to provenance much of this material due to the imprecise use of site names, thus for some, 'Trevoze Head' means the whole headland including Dinas Head and much of Booby's Bay, whilst for others, 'Dinas Head' includes Trevoze Head, Round Hole and part of Booby's Bay. Due to the great number

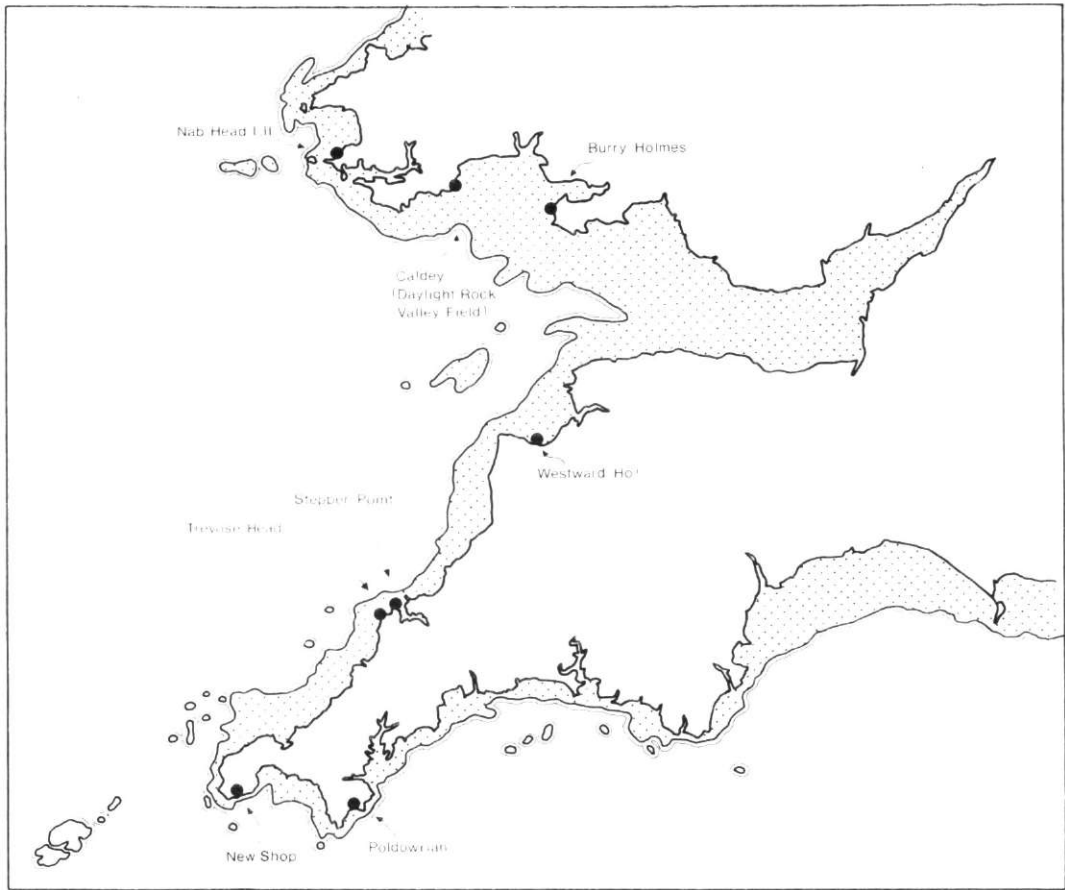


Fig. 1
 South West Britain showing sites mentioned in the text, and suggested coastline at c.8,300 bc.

of find spots it is evident that a more precise form of provenancing is necessary. To this end the Appendix lists all known flint collections in the Trevoise Head to Pentire Head area (more than 70 collections) — the area covered by Fig 13. This is compiled from the Cornwall Sites and Monuments Register and made up of entries from the Council for British Archaeology research report on Mesolithic sites (Wymer, 1977) as well as Ordnance Survey records, information recorded by Jacobi (1979) and others active in this field. Jacobi has already (1979) attempted to provenance several of the major collections at Trevoise Head and nothing of significance can be added here.

The collection that forms the basis of this report (site TV1) and many other collections formed over many years by NJ and family were not formed in any systematic manner before 1978, and only site TV1 has been examined systematically since. Virtually all the fields on the Trevoise Head peninsula are ploughed at varying intervals with the exception of several caravan sites and areas of long ley grass. The area has not been comprehensively field walked and would provide an important area of study, cut off as it is to the South, by a continuous area of stable sand dunes that stretch from Constantine Bay to Harlyn Bay. The major collections covering the Trevoise Head area formed by Haddon, Kendall, Munro, Gibbs, Relph, Raistrick, Croft

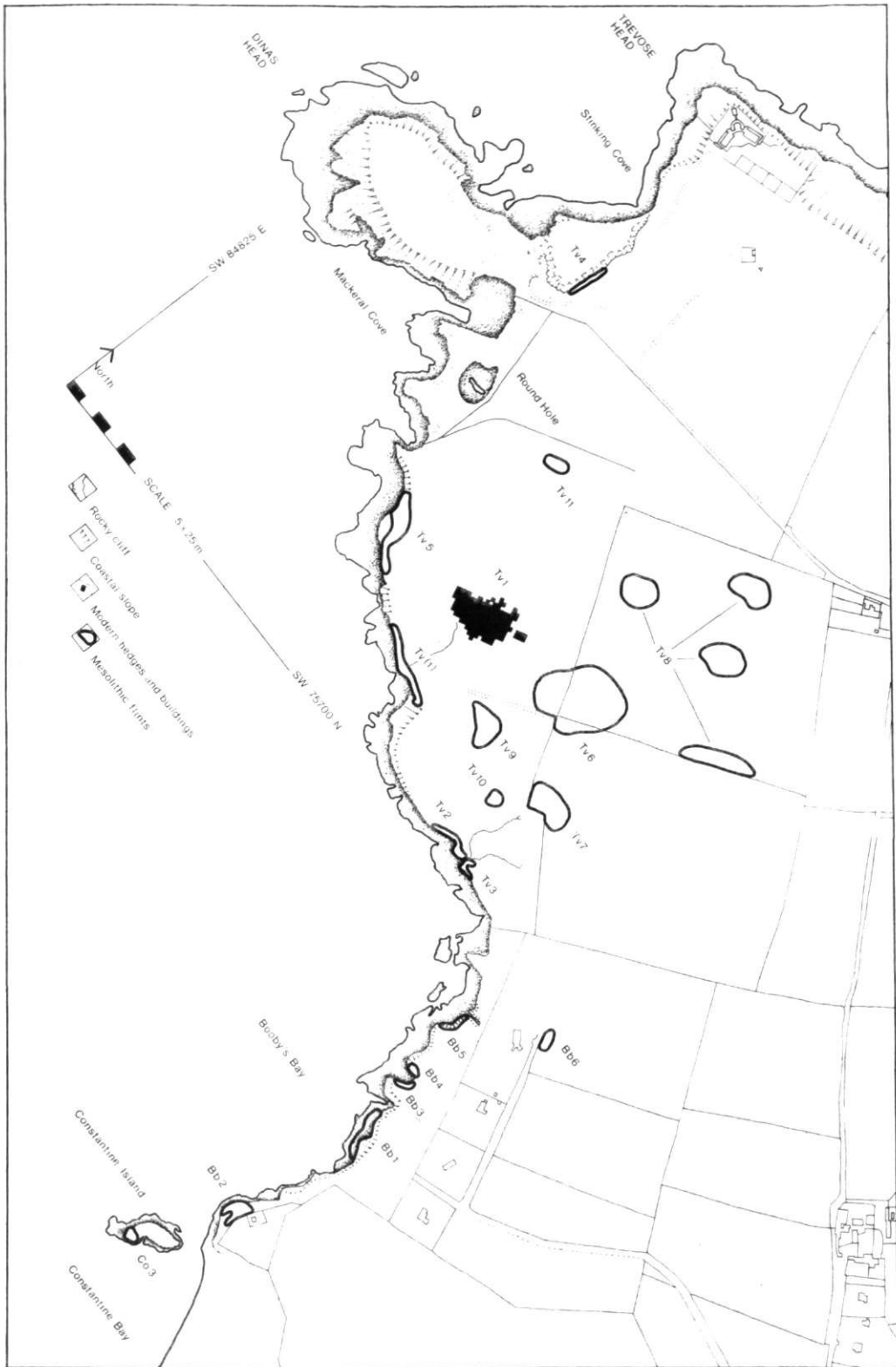


Fig. 2
 Trevoise Head — Constantine Bay area, showing recently identified sites and the grid collected area. TV1.

Andrew, Rugby School, Whitehead, Norman, Eastmond and Johnson as well as several other untraced collectors (see Appendix for further details) indicate extensive Mesolithic activity in the area. All the fields that lie immediately adjacent to the coast as well as exposures along the footpath and the cliffs have been examined within the area covered by Fig 2. There are no signs of any other site as prolific as TV1 and it must be assumed, as Jacobi points out (1979, 54–5), that the larger collections (Kendall, Haddon, Relph) probably came from here. The site has been ploughed for many years, is accessible from the coastal path and is remarkable for its concentration of flints within a visibly definable area.

In 1978, 1979 and 1980 the site was gridded at 5 metre intervals by NJ's family (1978) and Cornwall Committee for Rescue Archaeology assisted by Dr Jack Hart (1979, 1980). Two permanent base pegs provided the base for the grid and all flints and other relevant stones were collected. One person searched each 5×5 metre square and each bag given a grid reference and date. The positions of cores, cracked flint and stone pebbles were noted within each square. No flints were found outside the grid limits as shown on Figs 2 and 9.

Undoubtedly, efficiency increased over the 3 year period and understandably the smaller flint artefacts, such as Microliths and Microburins are under-represented in the collection. It was not thought worthwhile to continue the systematic collection on the site after 1980 since the collection already formed an adequate base for study and further collection would not add significantly to the picture but add greatly to the problem of storage. Excavation with adequate sieving facilities would undoubtedly produce a truer artefact collection although an occupation horizon is already being damaged by the plough and similar densities of flint can still be found at the site even after 3 years of total collection. In an attempt to resolve the nature of the site a Geophysical survey by the Ancient Monuments Laboratory on behalf of the Cornwall Committee for Rescue Archaeology, was carried out in March 1982.

The unusually compact and dense character of parts of the flint scatter raised the possibility that, unlike so many of the more diffuse and badly disturbed flint sites, there might here be the possibility of preserved features relating to the lithic distribution. As over much of the Devonian geology of Cornwall, the magnetic susceptibility of the topsoil at TV 1 is very considerable (values averaging 197×10^{-8} SI Units/Kg.), suggesting that features such as hearths, pits, occupation scoops or hollows might provide variations in local magnetic field strength detectable by detailed and sensitive magnetometer survey. Preliminary coverage of 5,400 sq. m., aligned over the site grid, with fluxgate gradiometer traverses plotted by chart recorder (by A. David and D. Bolton of the Ancient Monuments Laboratory) has already provided promising results where soil disturbance, including possible features, coincides with the flint distribution. Spurious 'noise' from the irregular texture of the ploughed surface has however marked potentially significant detail, and full interpretation will have to await a repetition of the survey, along with fuller soil susceptibility coverage, at a time when the field surface is as smooth as possible.

The article is divided into two main sections; the description and analysis of the collection (by A.D.); and the consideration of the contemporary geography of the area with a discussion of the relevance of submerged forest remains, (by N.J. see Annexe). A concluding section is not provided since it was felt that conclusions are adequately covered in the main text.

The Flint Assemblage

The assemblage from TV 1 totals 8091, of which 5766 were recorded on the grid. The remainder were collected more selectively and with less precise provenance during casual visits over many years.

The raw material is good quality beach-pebble flint now mostly patinated white or bluey-grey. A very few pieces are cherty, but with one exception (a possible 'pick': see

below), they do not appear to have significance. The original flint pebbles were substantial in size, from approximately 10 cms. in diameter and 350 gms. in weight downwards, and have given rise to a predominantly robust debitage with large primary flakes, nuclei and cores along with preparation and rejuvenation flakes. These combine with a frequently successful but mostly fragmentary flake and blade element, reflecting the good textural and workable quality of the flint.

The flints are scattered over a large and irregular area of some 60 m. by 100 m., but, as can be seen from Figure 9, the great majority are located in dense and very clearly defined concentrations within the general spread. There are two main foci, sub-circular to oval in shape, of some 100 and 200 sq. m. with densities of up to 18 flints/sq. m., accounting for approximately 15% and 40% respectively of all the recorded flints. Lesser concentrations are detectable adjacent to these and up to 50 m. away. Despite ploughing, the principal clusters of the scatter have retained their spatial identity with remarkable clarity, such that the drop in density between adjacent 5 m. sq. units is 70 - 90% in places.

Table 1 divides the industry into several broad categories to give an impression of its constituents and their relative representation within the assemblage. The small number of tools, and their often rather intermediate character makes further subdivision of limited value, and the mass of waste material suffers for lack of suitably detailed comparative data, and all the uncertainties of a plough-damaged surface collection where the contributions of at least two occupations may be involved. Although the debitage might possibly benefit from more detailed analysis, this has been waived at present in favour of a brief consideration of the cores as a general index to the overall character of the assemblage within this and amongst related sites.

Microliths:

The least fragmentary of the microliths are illustrated in Figure 3, and although several pieces are incomplete there is a distinct bias towards large and broad forms mostly with simple oblique or straight retouch (nos. 1-20), amongst smaller numbers of narrower forms of straight-backed (nos. 21-24), lanceolate (nos. 25-28), and convex-backed (nos. 29-33) pieces. These are accompanied by a series of thirty-one micro-burins and 'mis-hits', correspondingly varied in size, of which a sample is illustrated (nos. 34-39). TV 1 microliths collected before 1978 and whose provenance is less exact than the others and includes the immediately adjacent cliff exposures are indicated with triangles on Figure 3.

The division of these few microliths into two main elements, 'broad' and 'narrow', immediately introduces the tentative suggestion that two Mesolithic phases may be involved, earlier and later, and that these correspond with those widely recognized elsewhere in the British Isles (Jacobi, 1973; Mellars, 1974) and whose manifestation in the South-Western peninsula has been recently exhaustively reviewed by Dr. Jacobi (1979). Although no Carbon-14 determinations for these separate episodes are available from Cornwall, the earlier is likely to pre-date a watershed at c. 6500 bc (with perhaps an initiation before the mid-eighth millennium suggested by the similarity between the early assemblage at Dozmary Pool, Bodmin, and those dated at Thatcham I, III and VII), whilst the later may occur at c. 5000, or before (related assemblages from Culverwell and Westward Ho! being $5,200 \pm 135$ (BM 473), $5,149 \pm 97$ bc (BM 960) and $4,860 \pm 140$ (Q 1212), $5,005 \pm 140$ bc (Q 1211), respectively).

The earlier, large and simple microliths are a recurrent feature in the Trevoze Head area, and these forms are frequent amongst the material in the Truro Museum (Kendall collection), the British Museum (Relph collection), and the Cambridge Museum of Archaeology and Ethnology (Haddon collection), (see Clark, 1932, pp. 42-44, 157, 159, figs. 22, 23). Closely similar microliths also characterize the collections from Stepper Point to the south and Polzeath, to the north of the Padstow estuary. None of the Trevoze Head find-spots can however be relocated exactly,

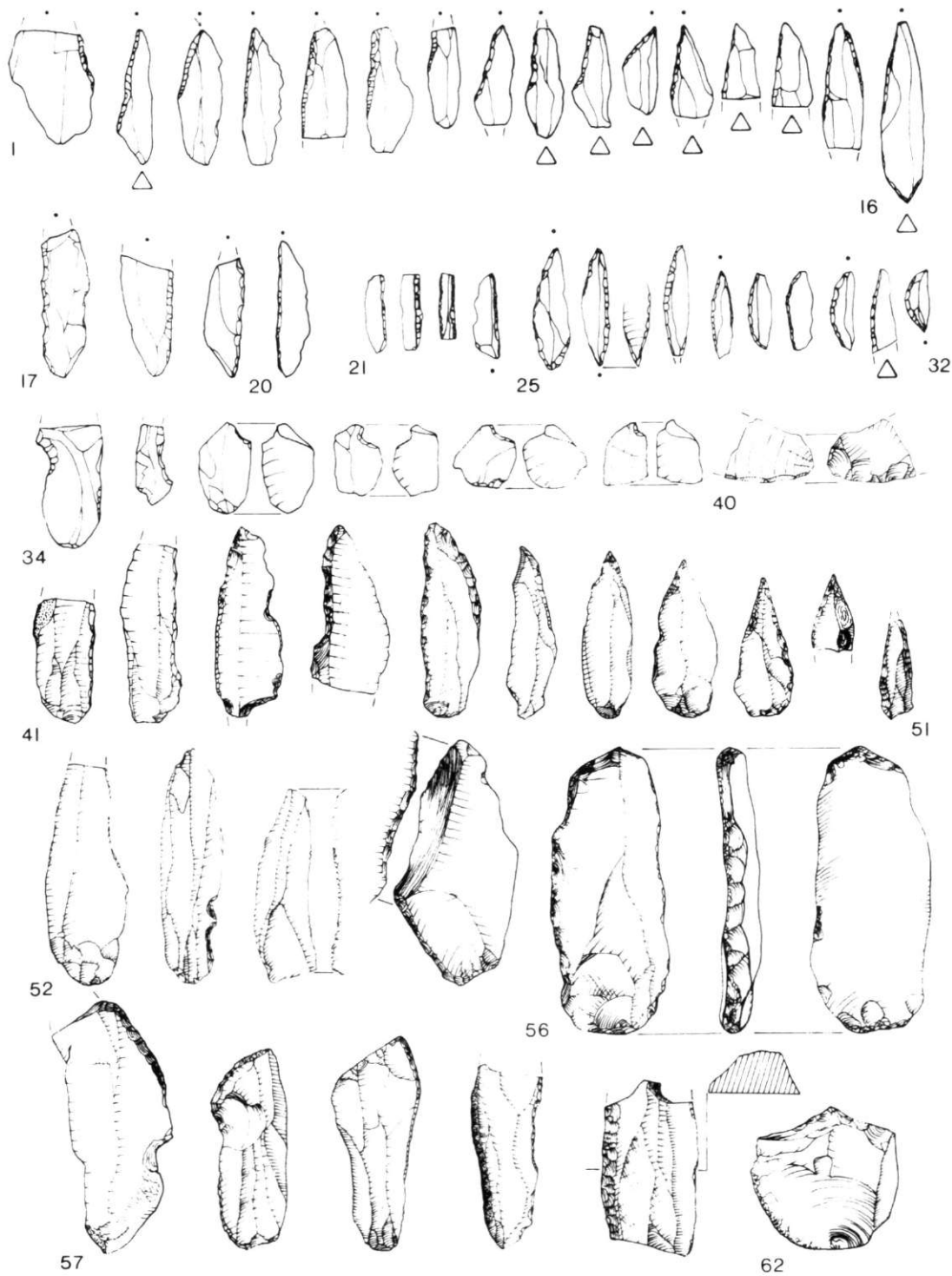


Fig. 3

Flint artefacts: Nos 1-32 microliths; 34-5 mishits; 36-9 micro-burins; 40? axe sharpening flake; 41-4 retouched blade fragments; 46-8 obliquely retouched pieces; 49-51 awls; 45, 52-62 retouched and/or utilized pieces. Open triangle indicates microliths, unprovenanced but collected before 1978 from both TV1 and TB(1).

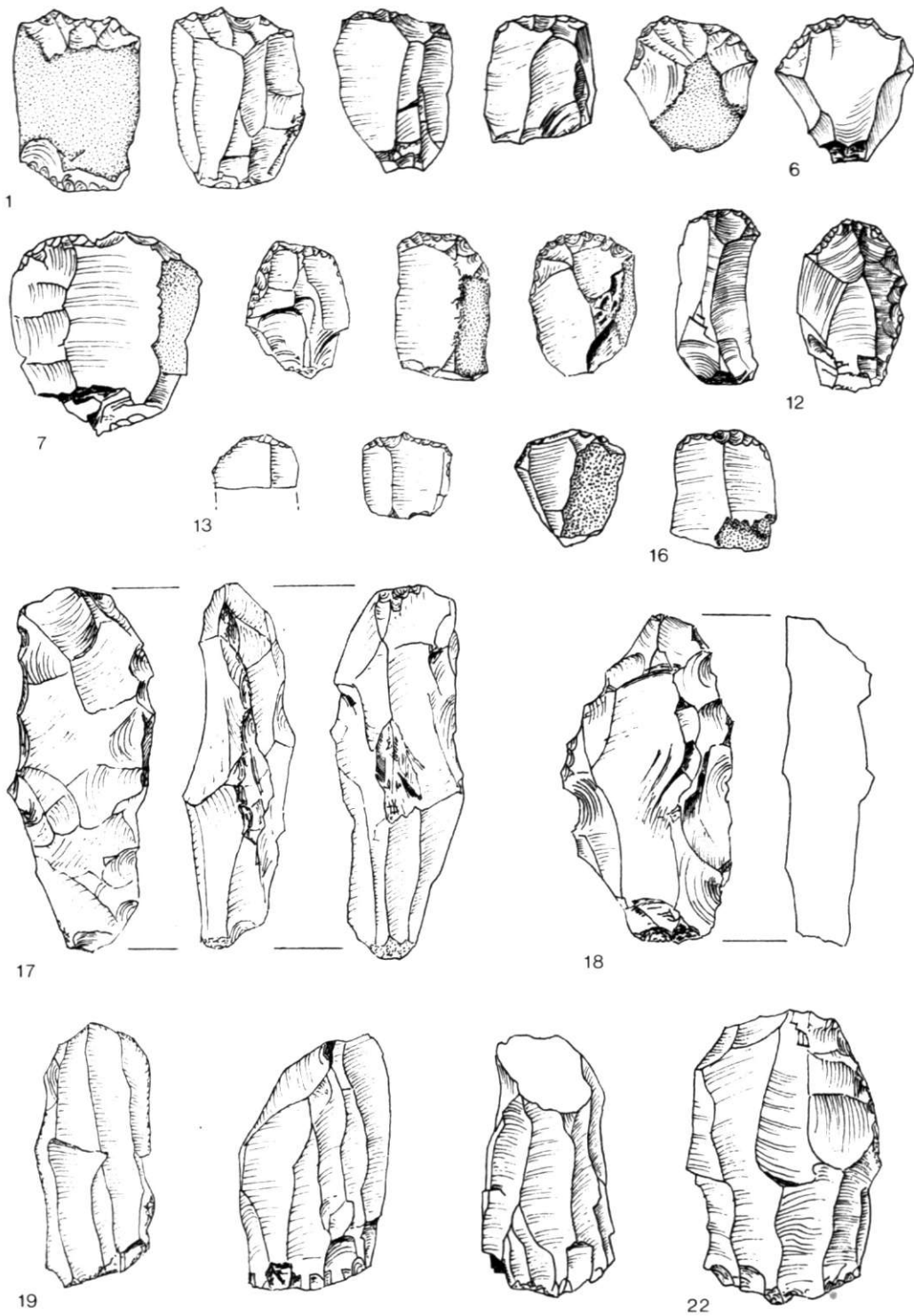


Fig. 4

Flint and Chert artefacts: scrapers/cores/pick. 1-5 straight ended scrapers; 6-16 convex scrapers; 17 'pick'; 18 retouched flake; 19-22 cores.

although Dr. Haddon evidently collected many flints in the area between TV 1 and the cliff-top (Haddon ms. at the Cambridge Museum of Arch. and Eth.; Crawford, 1921, Fig 1).

Clark also drew attention to the presence of small geometric forms of microlith amongst the Relph collection (1932, fig. 23), among the broader types, and marked simply as 'Trevoze Head, Constantine Bay'. Included amongst them are straight-and convex-backed microliths with lanceolates and scalene triangles, all of which are consistently represented in the later period assemblages of the South-West (Jacobi, 1979, 56-76; Smith, above, p. 51-2, fig. 19). Jacobi's cluster analyses suggest that assemblages where convex-backed and lanceolate microliths combine to outnumber straight-backed and scalene triangle forms, and where inversely retouched pieces are absent, form a discrete late Mesolithic grouping. Neither the Relph collection, with its lack of documentation, nor that from TV 1 with such a small sample of geometric forms represented (the presence or absence of scalene triangles yet to be established), can usefully contribute to such analysis, but the strong suspicion remains that a later Mesolithic industry consistent with others in the South-West is present here and in the immediate locality. That this is so, and that the earlier Mesolithic is also present finds further support from the remainder of the flint assemblage.

Scrapers:

These are the most frequent tool type encountered on the site, and differences amongst them, like the microliths, can again be used to argue for separate Mesolithic occupations.

Discounting miscellaneous retouched/utilized flakes and blades, scrapers comprise 61% of the tools from the grid-collected assemblage, and 32 or 53% of these are steeply and coarsely retouched primary flakes, D-shaped in section, and often retaining large areas of pebble cortex (Figure 5, nos. 1-14). The secondary flaking usually leaves a denticulated outline which may be confined to the end of the support or extend around much of its circumference. Some of these undoubtedly also grade into, and once served as, cores, giving rise to forms intermediate between the two (eg. nos. 15-21) and whose exact status as core or scraper or both necessitates a flexible identity. The small size of the cores and the consequently small bladelets struck from them suggest that these and related scrapers complement the presence of the geometric microliths at TV 1 — a combination which is found commonly on western coasts and especially to either side of the Bristol Channel, in west Wales (Jacobi, 1980 a), Devon, and elsewhere in Cornwall (eg. Poldowrian, Lizard: Smith, above, p. 34, fig 8, nos. 7, 8).

Less well represented amongst the scrapers are convex forms on the ends of flakes and blades (Figure 4, nos. 6-16) which in their turn can be interpreted as complementing the obliquely-backed microliths of the earlier Mesolithic. These two tool types are usually the commonest amongst Maglemosian assemblages and one only has to look as far as Dozmary Pool for a convenient parallel, although the TV 1 scrapers are neither as neat or as profuse as these. Two convex end-scrapers are in the Kendall collection at Truro, and the type is also present in the Haddon collection at Cambridge (Clark, 1932, fig. 22, no. 16).

Scrapers intermediate between the denticulated and convex extremes noted above are also present at TV 1 although their affiliation must remain uncertain. They are made on thick oblong flakes with steep retouch at one end forming a more or less straight working edge (eg Figure 4, nos. 1-5). The coarse, occasionally indented retouch on the robust and often cortical flakes, suggest that some of these at least should be counted with the denticulates, giving yet further emphasis to this later Mesolithic component.

Since we are now more or less committed to seeing the flints from TV 1 as representative of two occupations, it may be appropriate to discuss the remaining principal tool types as they appear to respect this separation.

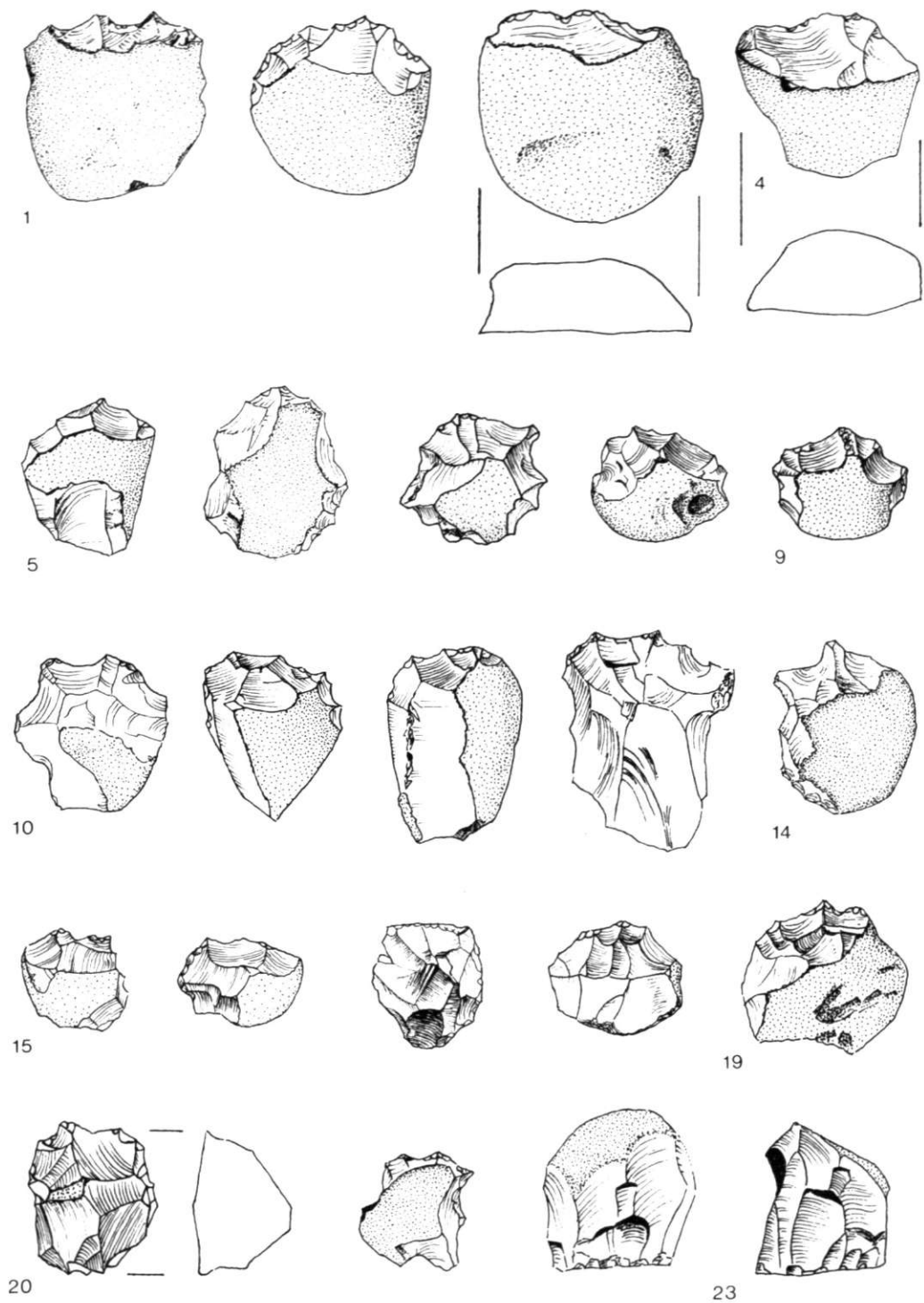


Fig. 5
 Flint artefacts: 1–14 denticulated scrapers; 15–21 cores/scrapers; 22–3 cores.

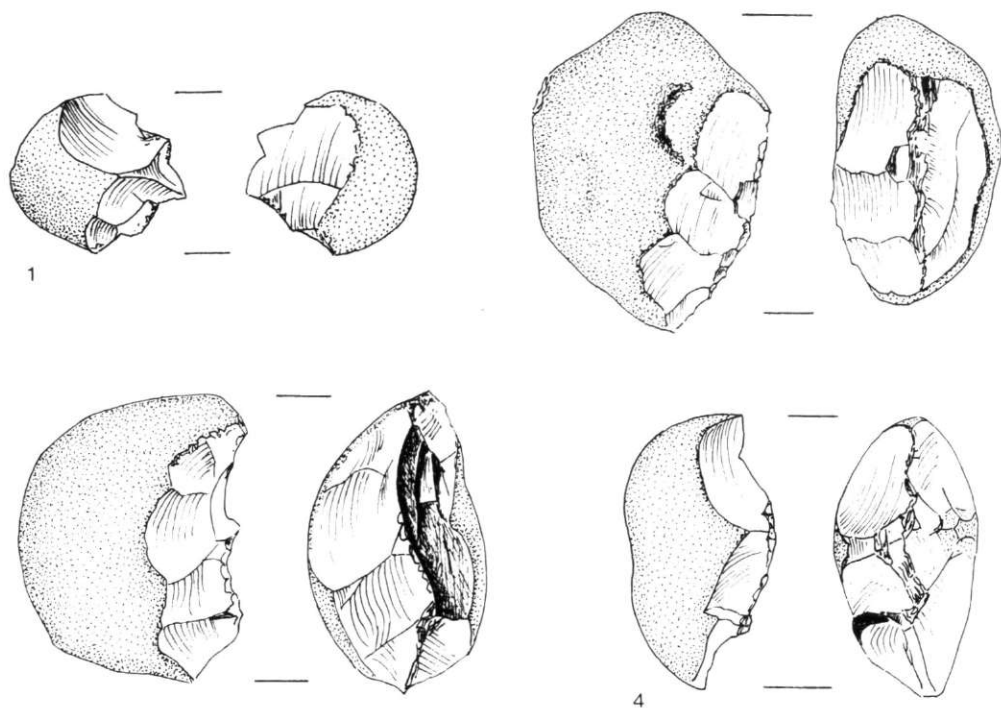


Fig. 6
Flint artefacts: pebble choppers.

Other tools:

The least satisfactorily assigned pieces, as in most collections, are the retouched and/or utilized flakes and blades of which there are 77, most of which cannot be usefully classified any further (eg. Figure 3, nos. 52–55, 57–62). There are, however, four fragmentary blades (nos. 41–44), which are steeply retouched along one edge, and in the case of no. 43, even with the suggestion of a tang. Although the presence of Late Glacial human activity has yet to be demonstrated westwards of the cave groups in south-east Devon, it seems unlikely that the area was not exploited from c. 9800 bc when evidence for a human presence with a backed-blade (Federmesser/Azilian) flint technology is widespread elsewhere in England and Wales (Jacobi, 1979, 1980 b). A small number of backed blades here at Trevoze cannot be taken as demonstrating a Later Upper Palaeolithic occupation, occurring as they do amid an overwhelmingly Mesolithic technology (cf. Whitehead, 1973, 15–17). Whilst admitting that such a presence is probable in Cornwall, in this case these flints might rather be explained as a small but integral part of the range of Mesolithic forms, with a probable bias to the suggested earlier component.

Truncated blades and awls are represented by nos. 46–51 in Figure 3, the three lattermost (49–51) somewhat resembling the awls or *mèches de forêts* identified at Star Carr, N. Yorks. in such large numbers (Clark, 1954, 1975), and also present as single specimens or in very limited numbers on several other Early sites. In addition to Star Carr, they occur in correspondingly large quantities in the early Mesolithic assemblage at the Nab Head (site I) see Fig 1, across the Bristol Channel from Trevoze, and it may be no coincidence that they are there also associated with shale beads. The preparation of beads might have been just one of several functions of such tools, and must remain speculative here at Trevoze where no such articles have yet been picked

up. No. 49 is of fresh unpatinated grey flint, in contrast to most of the assemblage, and may therefore even belong to post-Mesolithic activity. The remaining truncated blades/awls, whilst probably Mesolithic, do not point to any more detailed affiliation. No. 45 is another unspecific tool, but notable for its much-used edges and glossed ventral surface.

The Haddon collection, parts of which were certainly collected from close to our TV 1, contains finely serrated blades or microdenticulates (Clark, 1932, fig. 22, nos. 14, 17, 18) which can be compared with examples from many of the well-known early Mesolithic sites, such as Star Carr, Thatcham, and Oakhanger. One or two pieces (Figure 3, nos. 52, 54) show comparable edge-utilization, if not such definitive serration, suggesting that such tools might be present and associated with the earlier range. It must also be acknowledged that serrated blades occur also in the later Mesolithic (for instance at Oakhanger, site III) and the Neolithic (Smith, 1965).

The Haddon collection also contains a heavily abraded long flake with coarse vertical retouch along both edges, and crushed and rounded at both ends. The type is exactly paralleled from TV 1 by no. 56 (Fig. 3), although the Haddon specimen has in addition small and worn burin spall removals from its distal end. Such tools, although of unknown function, would not be out of context in an early assemblage. Another large flake (Figure 4, no. 18), without the abrasion, and with a somewhat indented outline might be more happily associated with the denticulated scrapers.

Wear comparable to that on the pieces just mentioned is also present on no. 17 (Fig. 4). This is a rod-like prismatic core-tool of brown-stained Greensand chert, slug-shaped, and sub-triangular in section with rounded and abraded ends. A few of the surface flake removals, including a possible tranchet blow at one end, are fresher than the remaining surface of the implement, supporting Dr. Jacobi's suggestion (pers. comm.) that the piece is an *objet trouvé*, carried to the site in antiquity and at some time re-worked. Its patina suggests discovery in or on river mud or gravel perhaps indicating exploitation of a river valley in the area. Its attribution must thus remain ambiguous and rather anomalous in the assemblage, whilst noting that similar core tools occur early in the Mesolithic amongst the 'fabricators' (eg. from Oakhanger site V: Rankine, 1952, fig. 8), and more convincingly perhaps in the later Mesolithic as 'Portland picks' which are rare in Cornwall, but with which this particular artefact is most probably identifiable (S. Palmer, 1977, and pers. comm.).

The evidence of tranchet axes or adzes is limited to a single fragment of a possible re-sharpening flake (Figure 3, no. 40). This is disappointing in that the presence of tranchet adzes with their implied dating within the eighth millennium is attested at Trevoze by the good example from Dinas Head (Smith, 1963, Jacobi, 1979, fig. 4). Although an early date is probable for such objects, it should be noted that adze re-sharpening flakes have also been encountered at the later Mesolithic site at Culverwell (Palmer, 1977), and at Windmill on the Lizard (G. Smith pers. comm.).

Returning to the later Mesolithic, along with the narrow-blade microliths and the denticulated scrapers may be placed the two remaining categories of tools: the pebble choppers and the bevelled pebbles or 'limpet scoops'. Both types are common features of coastal sites (Palmer, 1977) with a later Mesolithic technology, a combination recently demonstrated at Poldowrian, Lizard, and discussed above by Smith (pp. 45-7).

Long and narrow water-worn pebbles with one or both ends modified and faceted by abrasive bevelling, and frequently also by flaking or pecking, are numerous at TV 1 (Figure 7 and 9, no. 4) as they are on other coastal sites, up to a mile or so inland, that include a later Mesolithic technology. Although there may be considerable variation in the breadth and extent of bevelling, presence or absence of flaking, breakage, pecking and decoration, with the implication of a variable role, these tools and their bone analogues suggest a more or less common purpose within a coastal economy practised from western Scotland to Devon and Cornwall. Until the perishable materials against which these stones were used can be recovered *in situ* their function



Fig. 7
Stone artefacts: bevelled pebbles.

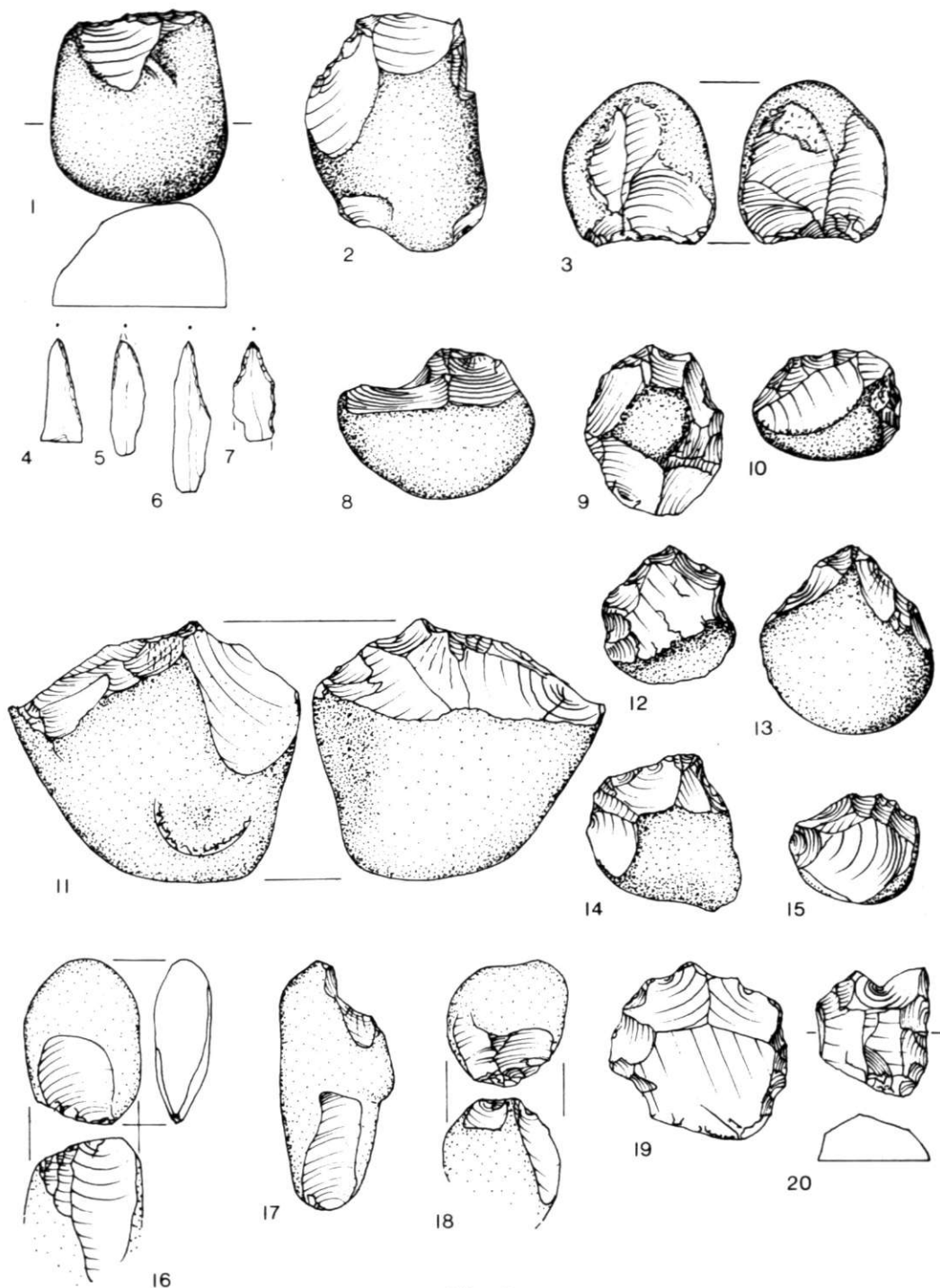


Fig. 8

1-2, scraper (TV 9); 3, 'outil écaillé' (TV 6); 4, microlith (TV 9); 5-6, microliths (TV(1)); 7, 'mèche de forêt' (TV(1)); 10, core-scrapers (TV 6); 11, chopper (TV 11); 12-15 denticulated scrapers (TV 8); 16-18, 'outils écaillés', 19-20, scrapers (Constantine Island, Co3).

must remain one of the most intriguing questions of the period.

Plain and unworked elongated pebbles are also found at TV 1 and may be interpreted as unused bevelled pebbles where the two are associated, although such plain pebbles have also occasionally been noted on earlier Mesolithic sites, for instance, at Trwyn Ddu, Anglesey, which is coincidentally also sited on the coast at present (White, 1978, fig. 19). (See also references to utilized pebbles, of probable South-western origin at Oakhanger V, Rankine 1952, fig. 9; Oakhanger VII, Rankine 1960; Star Carr, Clark 1954).

The flint choppers, often found amongst the same assemblages as the bevelled tools, are frequently made from the larger pebbles and have a straight, indented, or pointed working edge formed by crude inclined flaking on one, or more usually, both sides. They are heavy-duty tools, and the working edge is often damaged and blunted. Several functions might be considered, and in some cases there has probably been overlap between these, cores, and the larger denticulated scrapers. Although poorly represented in the TV 1 material, the more pick-like pebble tools are present in the Haddon collection, and both these and the less pointed choppers are recorded from Poldowrian.

To summarize so far, the interpretation of these flints and stones from TV 1 has been towards dividing them into two groups characterized at either extreme by large simple microliths with convex scrapers; and smaller 'geometric' microliths with denticulated scrapers, choppers, and bevelled pebbles, respectively. Less well represented tool forms fall between these limits but have tentatively been allocated to one or the other. Some types that might be expected to be present, such as axes and burins, do not appear to be so, adding further uncertainty to the already rather ambiguous nature of many of the artefacts.

Cores:

Finally, and as a basis for discussion, the cores, which form a prominent feature of the collection have been examined in the context of the above proposed bipartite arrangement in the hope that trends in their size might substantiate the hints from the remainder of the lithic assemblage.

There are some 328 cores from TV 1 from which a sample of 122 have been measured along their axis of blade removal as an index of height. The measurement has in each case been that distance between the centre of the platform and the apex of the core. Measurements were only made when this axis was clearly identifiable, with separate measurements being noted when two such axes were present (and unopposed) on the same nucleus. Cores from other comparable sites in Devon, Cornwall and south Wales have also been included in this study and the results are tabulated together in histogram form in Figure 10. The other sites included are as follows:

Stepper Point, Padstow, Cornwall: surface collection (Rougemont House, Exeter) High-grade patinated flint, with obliquely-backed points. Most probably early Mesolithic (information from R. Jacobi; Jacobi 1979).

New Shop, St. Buryan, Cornwall: assemblage with obliquely-backed points (information from R. Jacobi; Jacobi 1979).

Daylight Rock, Caldey, Dyfed: an excavated early Mesolithic assemblage closely resembling that from Nab Head I, below (information from R. Jacobi; Jacobi, 1979; Lacaille and Grimes, 1955).

Valley Field, Caldey, Dyfed: surface assemblage, early Mesolithic in character (information from R. Jacobi; Jacobi 1980 a).

Nab Head I, Dyfed: recently excavated assemblage clearly containing earlier and later Mesolithic elements (information from A. David).

Burry Holmes, Gower, W. Glamorgan: surface collection, largely early in aspect but with later admixture (information from R. Jacobi).

Westward Ho! Barnstaple, Devon: from midden and associated sediments, various collections (information from R. Jacobi; Churchill, 1965).

Poldowrian, Lizard, Cornwall: recently excavated later Mesolithic site with predominantly geometric forms (information from G.H. Smith; Smith, above, p. 23).

Nab Head II, Dyfed: adjacent to site I. Later Mesolithic (information from A. David).

The cores from the three apparently unmixed later Mesolithic assemblages: Nab Head II, Poldowrian, and Westward Ho!, are all predominantly small, and average between them a height of 29 mm. This size corresponds generally with the production of bladelets for manufacture of the geometric microliths from these sites, and is also related directly to the small size of the raw material pebbles. A few larger cores are present, but these are probably exceptions, at least some of which owe their larger size to their manufacture from non-flint raw material.

Larger cores than the majority from the three latter sites form, however, a substantial proportion of each of the remaining assemblages, and it is very tempting to associate these with the 'broad blade', obliquely-backed point industries found with them.

Where the artefact typology suggests that both 'broad' and 'narrow' or geometric elements are present, as is clearly the case for instance at the Nab Head I (information from recent excavations, 1979 and 1980, by the Dyfed Archaeological Trust), the core dimensions embrace a correspondingly wide range. At the Nab Head I, some 56% of the cores fall alongside the majority of those from the three later sites mentioned above, and may similarly be associated with the substantial numbers of small microliths, denticulated scrapers, and bevelled pebbles found amongst all these sites (with the reservation that only small numbers of tools exist from Westward Ho!, and no bevelled pebbles have yet been recorded from this site). The remainder of the cores at the Nab Head I, exceeding the average of 35 mm. correlate with the generally more elegant blade production of the earlier period, associated with obliquely-backed points, large scalene and equilateral triangular microliths, *mèches de forêt*, convex-ended scrapers, and tranchet adzes. The difference between the two types is also emphasized here by contrasts in the physical condition of the flint, although this distinction is not a fully reliable one.

The average value at Nab Head I, at 35 mm., coincides with a subjectively chosen dividing line (see Figure 10) about which it may be very tentatively suggested, the two main assemblage types may be separated. At the risk of over-simplification, such a division does at least provide a basis for further speculation.

The cores from TV 1 vary from about 20–62 mm. in height, and are generally well-defined conical or prismatic, with one and often two (opposed) platforms. The distribution of heights shows a roughly symmetrical unimodal range with an average of 41 mm., well exceeding that from the Nab Head I with its slightly more extended and less symmetrical range. The implication seems to be that the cores from TV 1 suggest a bias towards the proposed early component of the assemblage, with the smaller and perhaps later cores present but not so strongly represented.

With varying degrees of emphasis, TV 1 shares the combination of large cores and early Mesolithic tool types with four other sites on the diagram. Stepper Point and New Shop are both small assemblages but the cores all well exceed 35 mm. (averaging 53 and 47 mm. respectively), and are associated with obliquely-backed microliths (Jacobi, 1979, 54–55, and pers. comm.). On the other side of the Bristol Channel are two sites on Caldey Island, again where overwhelmingly larger cores are represented, and in the case of Daylight Rock convincingly associated with an exclusively early Mesolithic tool kit with a close resemblance to that from Nab Head I. A third Welsh site, Burry Holmes on the Gower peninsula, although with a predominantly early Mesolithic appearance, also includes a geometric microlith element and small cores.

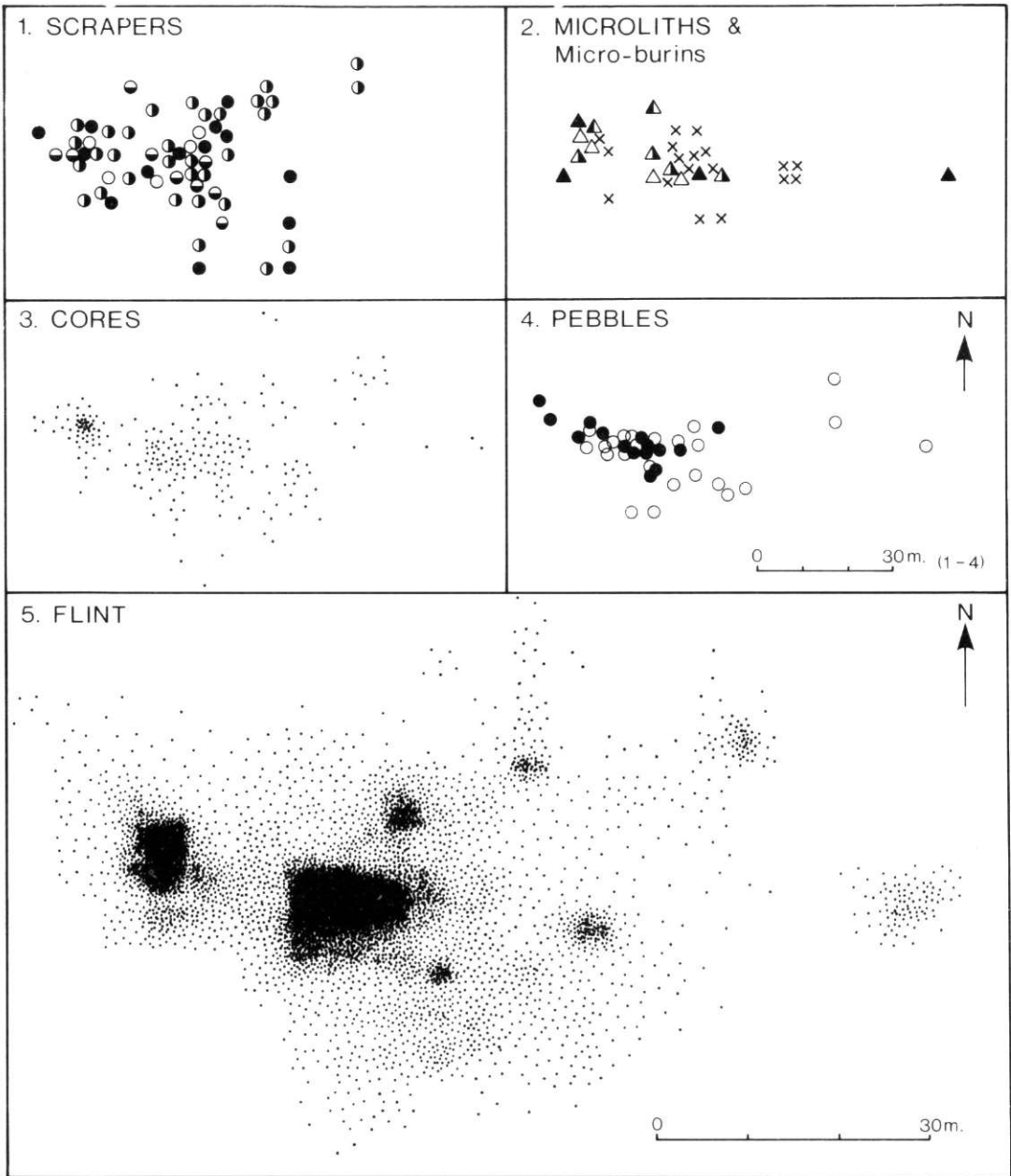


Fig. 9

Flint and stone distributions: 1, scrapers; 2, microliths; 3, cores; 4, pebble tools; 4, total flint. Except in the case of some of the bevelled pebbles, each artefact has been placed within its recorded 5 m. grid square, evenly or clustered, according to the dictates of densities of neighbouring squares. This has given a more 'realistic' and improved visual impression than that obtained by strictly randomized plotting for each unit (computer plots of the latter were kindly prepared by A. Bartlett, Ancient Monuments Laboratory).

KEY

SCRAPERS: ● convex ◐ denticulate ◑ straight-ended ○ other	MICROLITHS: ▲ obliquely-backed △ straight-backed ▲ convex △ lanceolate	PEBBLES: ● bevelled ○ plain/frags. × micro-burins
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Key to Fig. 9

Discussion

This evidence from comparative core measurements is suggestive but a conclusion is thwarted for lack of a detailed knowledge of contemporary raw material procurement and the influence of this on the character of the assemblages. With the lower sea levels of the early Post-Glacial it may well be that Early communities had access to larger and better quality flint than was subsequently available to their later Mesolithic successors. As vegetation, alluviation and a rising sea level covered and obscured such hypothetical sources of flint, the later Mesolithic hunter-gatherers would have been forced to the use of poorer raw material, and frequently to working with the debris from earlier sites. Perhaps more complex social conditions and competition existed as populations grew and rare resources of good flint dwindled and were worked out (Pitts and Jacobi, 1979). As choice became more restricted, greater use appears to have been made of the less tractable materials such as chert.

At TV 1 the wide range of core sizes supports the proposed dual nature of the occupation of the site, but with an emphasis on larger, and by implication, earlier material. To confuse the issue, however, is the considerably larger number of later Mesolithic tool types, with their convincing concentration on the site, and the possibility that the smallest microliths might be under-represented. We might therefore have here a predominantly later site the occupants of which had access to unusually good quality flint. Scarce raw material is not necessarily the only determining factor behind the manufacture of small microliths, as on some later sites such as Poldowrian, the shorter axis of the nucleus is frequently chosen for bladelet removal rather than the longer. Also, one might note here that obliquely-backed points, although the most frequent form of microlith from Maglemosian locations, are by no means uncommon on later sites, but in smaller numbers and with a trend towards a shortening of individual lengths over time (Pitts and Jacobi, 1979). That there was at some moment a shortage of raw material at TV 1 during a subsequent occupation can at least be demonstrated by a few flints which show two periods of working on the same piece. For instance, varying degrees of patination of the removal scars on a small core (Figure 5, no. 20), suggest at least two separate periods of activity, the more recent of which may be Mesolithic or even later in date.

Such observations emphasize the problems of drawing reliable conclusions from an apparently mixed surface assemblage, and speculation may progress no further than the acknowledgement that such a mixture exists.

The discrete spatial clustering of the artefacts into clearly defined foci with such implications as episodic occupations, separate working areas, or even hut sites, suggests that such concentrations might in turn reflect some sort of typological and perhaps chronological identity. With this in mind, the main artefact types from the

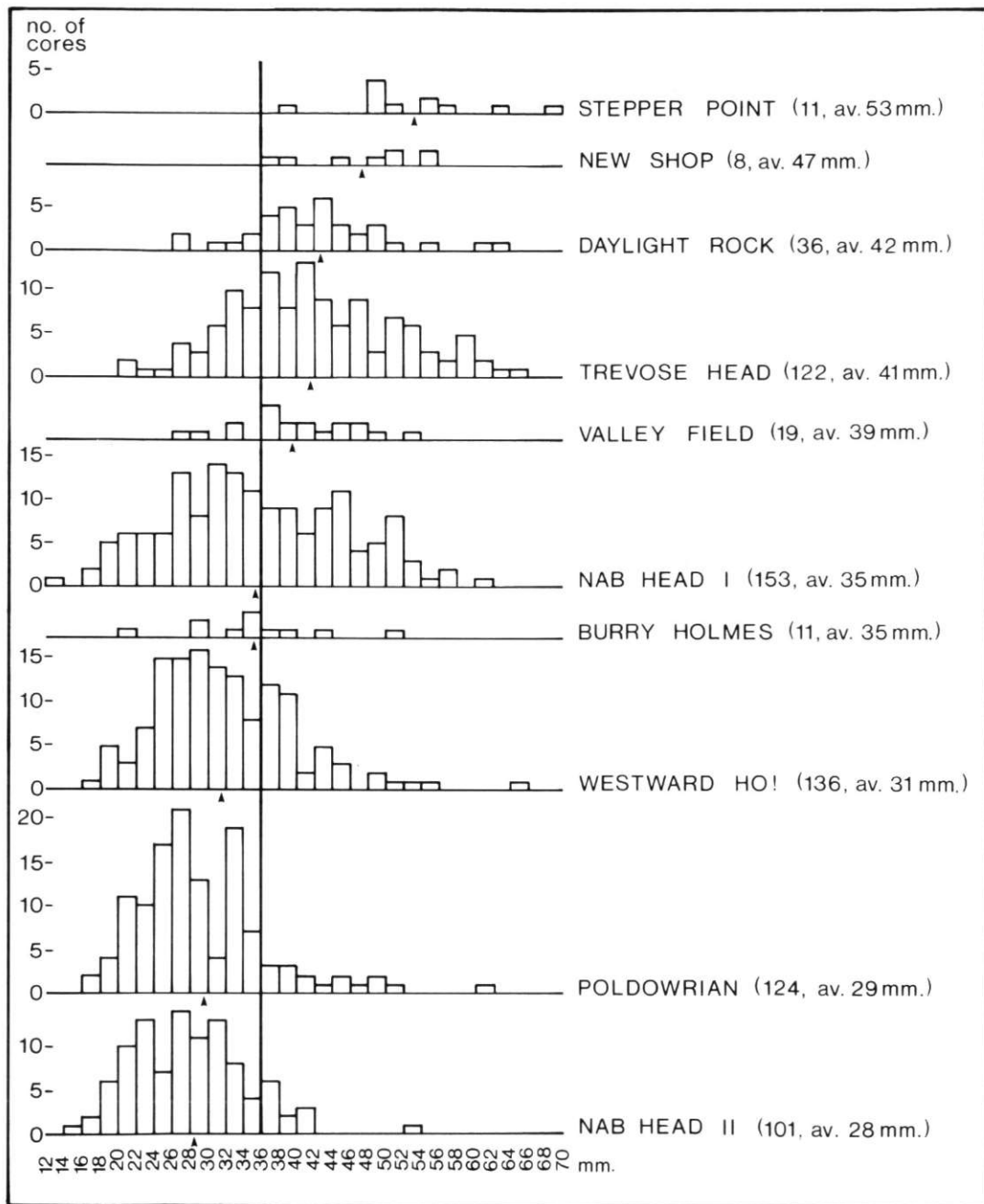


Fig. 10

Core dimensions: histograms showing the representation of different core sizes in samples from both early and late mesolithic sites in Cornwall and South Wales. (see text).

grid-collected assemblage have been plotted (Figure 9, nos. 1–4), but the different microliths (few though they may be), the scrapers and the bevelled pebbles appear to show no preferential distribution among themselves, although the predominance and concentration of the later types is impressive. A maximum density of 18 flints/sq. m. may be high for a surface collection, but short of excavation to recover a full and representative assemblage, associated with carefully controlled Carbon-14 analysis, the problem will remain unresolved.

It seems to be the rule rather than the exception that large surface sites are frequently of a multi-period nature, and even in the rapidly changing geographical conditions of the Post-Glacial, Trevoise Head has exerted attractions for hunter-gatherer communities over very many generations. By repeated visits over many seasons, for whatever reasons, agglomerations of sites and their debris must have accumulated, covering much larger areas than were ever necessarily occupied at any one time. Large coalescing sites of this sort are common occurrences throughout the Mesolithic, especially in lowland and coastal regions where often enough one phase is found intermingled with another. Such sites may have formed parts of a seasonal rotation of economic opportunism, exploiting rich coastal and terrestrial resources in spring and autumn, perhaps involving several locations, and complementing summer camps covering the higher ground inland (Jacobi, 1979, 76–78).

TV 1, with its sub-clusters of flints is itself one of several sub-sites in the immediate vicinity (see Figure 2), some of which have undoubtedly produced many of the finds in the museum collections and reported in the literature. The early material in the Haddon collection almost certainly comes from various points near and including the eroding cliff-top, close to TV 1, and not far from where flints of early character have also been noted by Whitehead (1973). Geometric microliths appear to be absent, but present are obliquely-backed forms (Figure 8, nos. 4–6; and at least some of those indicated by triangles in Figure 3), and a *mèche de forêt* (Fig. 8, no. 7), along with a generally blade-like debitage. The industry lies at the base of the soil profile, resting on frost-shattered and soliflucted material, a position also suggestive of an early Post-Glacial status. It is possible that this and the main TV 1 site were perhaps coterminous, during Maglemosian occupations, with a original focus now either eroded away or concealed under the present turf.

Around and superimposed on these primary flint scatters appear to be further sites (sites TV 1–11; Bb 1–5; Co 1–3. See Appendix for details.) from which small amounts of material have been collected during recent fieldwork. None of these samples are large enough to be diagnostic, although the presence of bladelet cores, denticulated scrapers, and choppers (Figure 8, nos. 1, 2, 8–15) suggests a proliferation of later Mesolithic exploitation in the area, one or more units of which certainly seem to account for most of the TV 1 site.

When sea level approached its present limit during the final Mesolithic, and with the emergence of settled agriculture, the stringency of raw material became even more marked, especially here and elsewhere along the coast where the now diminutive beach pebbles were splintered between hammerstone and anvil with little pretence at controlled blade or flake production. The resultant splintered and scaled nuclei (*outils écaillés*) are common along western coasts, and although strictly undated, may feature from the latest Mesolithic to the Bronze Age. There is at least one such piece amongst the TV 1 material, and there are examples from TV 6 and TV 8 close by (eg Figure 8, no. 3). An *écaillé* technology with many splinters and nuclei (eg Figure 8, nos. 16–18) characterizes the flint site on Constantine Island (Whitehead, 1973, 1975), but little can be added to Norman's account of the site and its technology (1977). Examination of a further 920 pieces from here emphasizes the highly distinctive nature of the material, but with the exception of the scraper-like pieces in Figure 8 (nos. 20–21), the assemblage is still quite exceptional in that it has so far failed (*pace* Whitehead) to produce a satisfactory number of really diagnostic tools. In south Wales, however, an

identical technology is associated with quantities of Neolithic–Bronze Age type thumb–nail scrapers at Stackpole Warren and Freshwater West (Benson et al. forthcoming). Scaled pieces are also common in the Poldowrian material, on the Lizard (averaging at 36 mm. the same length as that for Constantine, and reflecting the same inadequacies of raw material), and may possibly here be associated with the Neolithic pottery and pressure–flaked artefacts, rather than the more numerous Mesolithic pieces.

TABLE I Main artefact categories and their relative representation among the collections from TV 1.

artefact categories:	grid collection:		casual collection:		total collection:				number of pieces
	% of total tools	% of tool type	number of pieces	% of total tools	% of tool type	number of pieces	% of total tools	% of tool type	
Microliths:									
obliquely-backed	3.2	12.5	4	7.1	41.2	7	4.9	22.5	11
straight-backed	3.2	12.5	4	1.0	5.9	1	2.2	10.2	5
lanceolate	3.2	12.5	4	1.0	5.9	1	2.2	10.2	5
convex-backed	1.6	6.2	2	3.0	17.7	3	2.2	10.2	5
unclass./fragments	14.4	56.3	18	5.0	29.3	5	10.3	46.9	23
TOTAL	25.6	100.0	32	17.1	100.0	17	21.8	100.0	49
Scrapers:									
convex	11.2	23.3	14	9.1	33.3	9	10.3	26.4	23
straight-ended	7.2	15.0	9	5.0	18.6	5	6.3	16.1	14
denticulated	25.6	53.3	32	9.1	33.3	9	18.3	47.1	41
other	4.0	8.4	5	4.1	14.8	4	4.0	10.4	9
TOTAL	48.0	100.0	60	27.3	100.0	27	38.9	100.0	87
Retouched and/or utilized									
flakes and blades	22.4		28	49.5		49	34.4		77
Truncated pieces	0.8		1	0		0	0.4		1
Awls	3.2		4	1.0		1	2.2		5
Pick	0		0	1.0		1	0.4		1
Choppers	0		0	4.1		4	1.9		4
TOTAL TOOLS (% of grand total)	(2.2)		125	(4.3)		99	(2.7)		224
Debitage and waste:									
adze-thinning flake						?1			?1
microburins	(0.4)		23	(0.3)		8	(0.4)		31
cores	(4.2)		242	(3.7)		86	(4.1)		328
other debitage	(93.2)		5376	(91.7)		2131	(92.8)		7507
GRAND TOTAL	(100.0)		5766	(100.0)		2325	(100.0)		8091

The Mesolithic Environment

In order to put the site into its geographical context an attempt may be made to discuss the contemporary environment, the effects of sea level change and natural resources that may have been available to Mesolithic groups in the area.

The results of field walking are notoriously difficult to interpret beyond a description of the material gathered, with comparisons of material found elsewhere. Without excavation the exact provenance of the finds is unknown, and the spatial relationship of finds in the context of activity areas and the chronological development of the site, all become a matter of reasoned conjecture. This must not mean however that an attempt should not be made to reconstruct the wider geographical and environmental

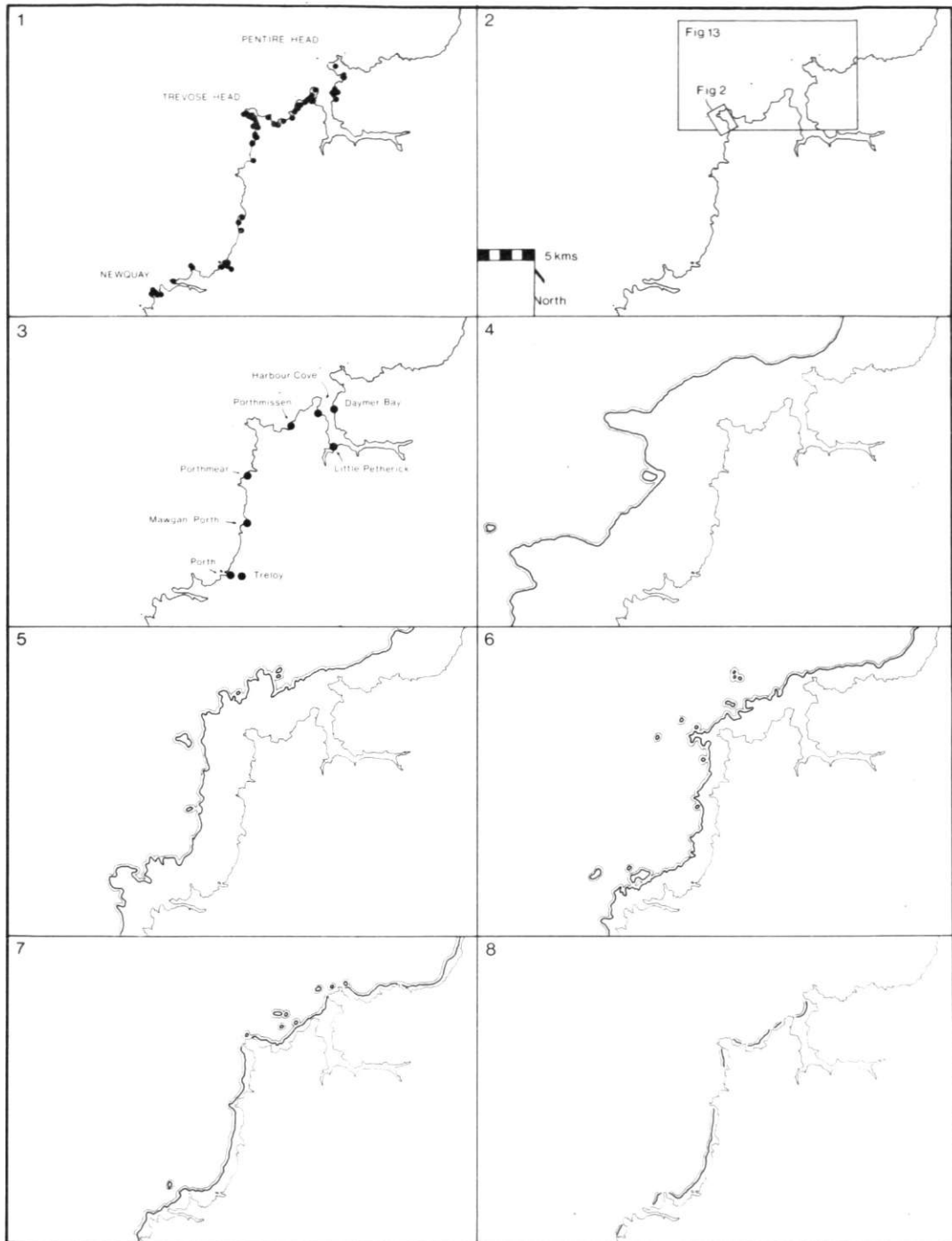


Fig. 11
Padstow-Newquay area: 1 Flint scatters; 2 location of Figs 2 and 13; 3 exposures of submerged forests; 4 coastline c.8,300 bc; 5 coastline c.7,750 bc; 6 coastline c. 6,650 bc; coastline c.3,750 bc; 8 coastline c.750 bc. (coastline data from Kidson and Heyworth 1973).

context of the site. We already have a picture of a popular campsite occupied periodically both in the early and late Mesolithic period. We also know from a large number of other find spots that this area was extensively visited throughout this period. With this in mind we can examine several aspects of the contemporary environment in more detail in an attempt to provide a geographical backdrop to the artefact assemblage.

1. The Flandrian marine transgression

The sea-level began to rise at the end of the last glaciation through progressive melting of the glacial ice-fields. Despite the consequent isostatic readjustment of the land due to the decreasing weight of ice, the sea level continued to rise relative to the land, quickly at first with an exponential configuration and slackening off until by circa 4,000 bc the sea level was only 6 metres below that of today. When considering 'coastal' sites it is important to note that the earlier the site, the further it really was from the sea. At Trevoze Head the early occupation was a long way inland relative to the contemporary coast, whilst only at the end of the Mesolithic can the site be regarded as truly 'coastal'.

The potential of a location changes in character, and therefore in value, as its location changes relative to the position of the coast. The dry land/marine resources ratio changes as the coastline recedes towards the site. In order to clarify this change it is necessary to examine first the evidence for sea-level change and secondly the effect that this may have on our conception of the Mesolithic environment in Cornwall and more particularly in the Trevoze Head area.

1.1 Evidence for sea level change — The scale of the Flandrian marine transgression has long been the subject of debate, but recently work in the Bristol Channel area by a number of researchers (Godwin 1943, 1948; Godwin *et al* 1958; Churchill 1965; Kidson and Heyworth 1973; Kidson 1977; Gilbertson and Hawkins 1980) has produced a sea-level curve that can be used with confidence. Kidson and Heyworth's (1973 580 Fig 7) curve is used here, and despite local differences, such as the Isles of Scilly (Fowler and Thomas, 1979, 180-1), it can be applied to the south west in general. The picture is of an initial rapid rise in sea level from 36 metres below present levels at circa 8,300 bc to 20 metres at circa 6,650 bc, to 6 metres at circa 4,000 bc. After this there is an even more gradual rise up to today's level. Indeed the sea level is still rising slowly at the rate of approximately 25 centimetres per century.

In order to illustrate this, Fig 1 shows the sea level at c. 8,300 bc around the coast of South Wales and Southwest England. Figs 11 and 13 are an attempt to show the sea level changes in the Mesolithic period with the topography of what may be termed the 'marine lowlands' — those areas of land once dry but now below the sea. By combining the sea level curve of Kidson and Heyworth with known submarine contours it is possible to produce these Mesolithic topographical maps. The information for the submarine contours (isobaths) has been drawn from standard Admiralty charts for the Padstow area. The depths have been uniformly converted from fathoms and feet to metres. The Admiralty charts are based on Chart Datum (the Low Water Astronomical Tide Line), from which isobaths are drawn whilst land contours on OS sheets are measured from the Ordnance Datum, at Newlyn Pier, some 2.91 m above Chart Datum (Fowler and Thomas, 1979, 181). The isobaths used in Figs 11 and 13 are based on Chart Datum whilst Fig 13.1 is a combination of isobaths based on Chart Datum and land contours based on Ordnance Datum. The small discrepancy between the two sets of contours has been ignored due to the difficulty in re-drawing one type of contour to fit in with the Datum level of the other. The diagram seeks to give an overall impression of the local topography at c. 8,300 bc and given the obvious uncertainty in extrapolating modern contour data so far back in time, this discrepancy will not significantly affect the general overview.

Some of the most useful evidence for marine transgression, and certainly the most

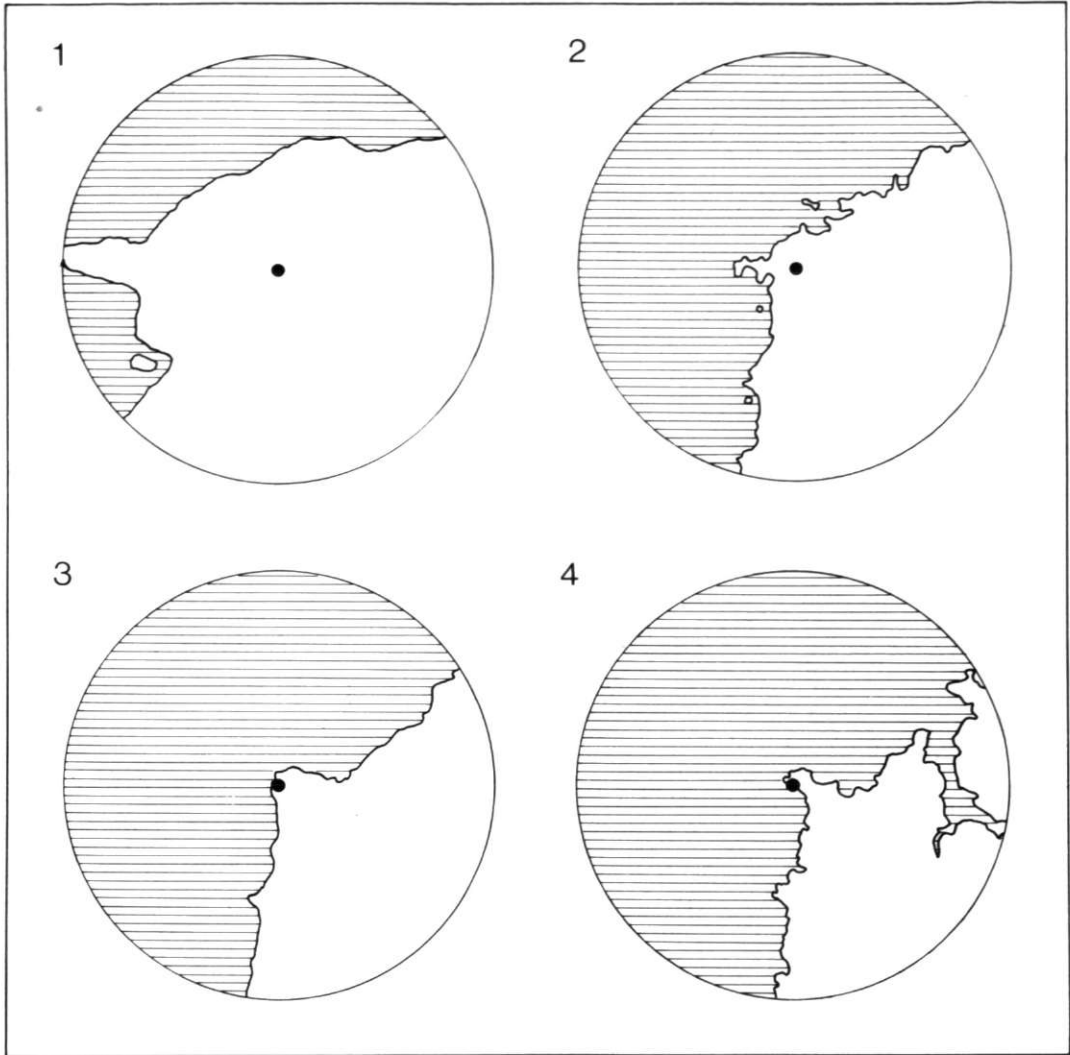


Fig. 12

Site catchment of 10 km radius centred on Trevoze Head (site TV1) at: a. c.8,300 bc; 2. c.6,650 bc; 3. c.3,750 bc; 4. present day. Shaded area shows the sea.

relevant to archaeology, comes from the presence around our coasts, as well as inland, of the extensive remains of submerged forests. These organic remains, consisting of tree trunks, tree stumps, branches and other floral detritus, lie buried in peaty deposits below sea level.

The evidence for submerged forests in Cornwall is extensive and this has been summarised in an Annex to this paper entitled 'Submerged forests in Cornwall'. All known sites are listed and their potential for archaeology is discussed. Their use is two fold; firstly they provide the necessary data for computing the rates of sea level change. The deposits are radiocarbon dated and their depth, relative to Ordnance Datum, computed and the sea level curve built up. Secondly, the floral, faunal and artefactual remains found within the deposits give us a rare and direct insight into the character of the environment of a large part of prehistory. In order that this is relevant to the

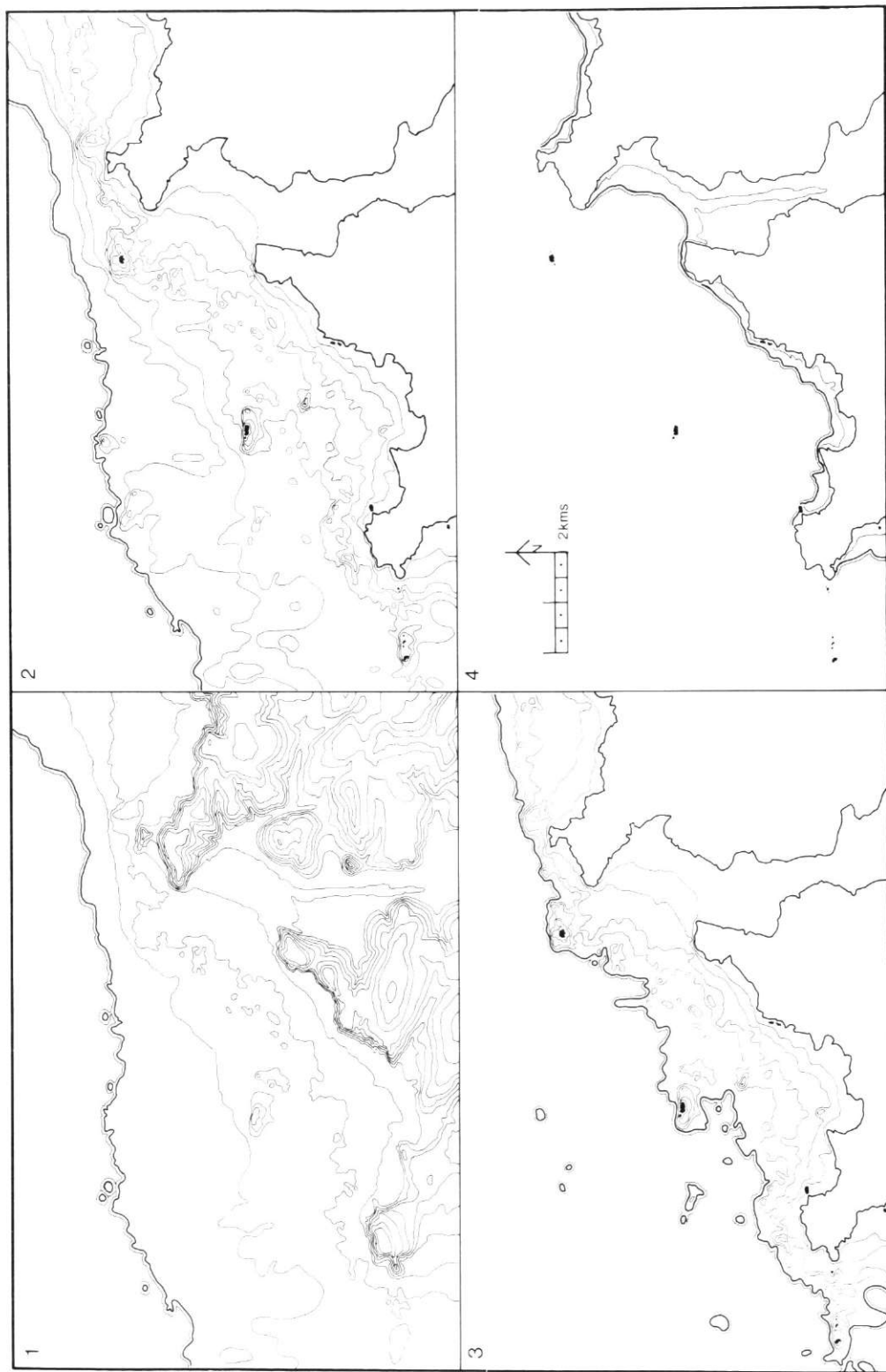


Fig. 13
Trevoze Head — Pentire Head area; post glacial topography c. 8,300 bc (see text for explanation)
 1. dry land topography c. 8,300 bc. 2. marine lowland topography c. 6,650 bc. 3. marine lowland topography c. 3,750 bc. 4. marine lowland topography c. 3,750 bc.

Mesolithic period we must consider deposits that are at least 6 metres below present Ordnance Datum. On beaches these would be deposits below Low Water Astronomical Tides or Chart Datum (2.91 metres below OD, Fowler and Thomas 1979. 180. Fig 4) and therefore these would be invisible from the shore. Many of the submerged forests both on beaches and in the lower reaches of river valleys do in fact lie below Chart Datum. We can therefore use with confidence the evidence that they have produced to help build up a picture of the Mesolithic Environment.

1.2 The Mesolithic geography of the Trevoze Head area —In discussing an economic model for the southwest, Jacobi (1979. 76ff) emphasises the general effects on food resource availability caused by the rising sea level prior to c. 5,000 bc. His model for dry land (deer density) resources, in the Penhale Headland — Trevoze Head — Stepper Point area, envisaged four families being able to exist all year round within a 10 km radius around these points during the early period. Fig 12 uses this hypothetical territory of 10 km in radius to illustrate the dramatic change in the dry land/marine ratio between the early period when the Trevoze Head site overlooked a largely terrestrial territory and the later Mesolithic when it overlooked a largely marine territory. The diagram is used to illustrate the change in coastline position over time rather than being an attempt to suggest the location of an *actual* territory around the site.

Local topography. We can see from Figs 11 and 13 that the marine lowlands in the Trevoze Head area were gently sloping with undulations that rose to hills that are still visible today as offshore islands. The hills (modern islands) are igneous intrusions that survived the pre-Flandrian denunciation of the more widespread Devonian slates. These islands that came and went (and in some cases remained until today) throughout the Mesolithic period and beyond have been shown on Fig 14 for discussion later. They have been given their names as marked on Admiralty charts, either as islands or undersea reefs, and only those formed in the Mesolithic period are marked on Fig 14. It is difficult to establish whether the Padstow Estuary was beginning to be formed in the late Mesolithic period without detailed knowledge of the submarine river bed depth. Whilst the submarine contours, as shown in Fig 13, are too insensitive to show obvious evidence of a river valley we must assume that one existed and that this was significant, if less dramatic than that of today, in the later period. The effect of the local topography on the Mesolithic sites in the area is tentatively examined in Fig 14. Fig 13.1 forms the basis for this and it has been drawn to show at 30 metre contour intervals, the topography of the area at circa 8,300 bc using Admiralty isobath data. In Fig 14 it is assumed that the present coastline represents, in broad outline, the pre-Flandrian coast which must have presented, in some areas, a substantive obstacle to easy access to the marine lowlands. Although they have undoubtedly been cut back substantially over the last few thousand years, (witness the way in which the cliff castle at Trevarnon a mile to the south of Trevoze Head has been divided into three separate areas by sea erosion since the Iron Age) it is assumed that the areas of steep and high cliff today would have been similar, although degraded, in the Mesolithic period. We should picture an undulating marine lowland backed by steep wooded bluffs broken in places by areas of much lower scarps and river valleys offering easier access out towards the Mesolithic coast. The areas of presumed steep bluffs as well as the areas of lower scarps are indicated on Fig 14 for the Trevoze Head — Pentire Head area. The main concentrations of known Mesolithic sites are marked, as are present day streams and springs. The Trevoze Head site lies adjacent to fresh water, as do many of the sites, and an area of easy access to the marine lowlands. We would suggest that access to the lowlands is a significant factor in choice of location during the early occupation of the site when extensive areas of marine lowland existed, and that as the coastline retreated towards the site, so this sort of location became convenient for direct access to marine resources. We concede that access to a permanent water supply,

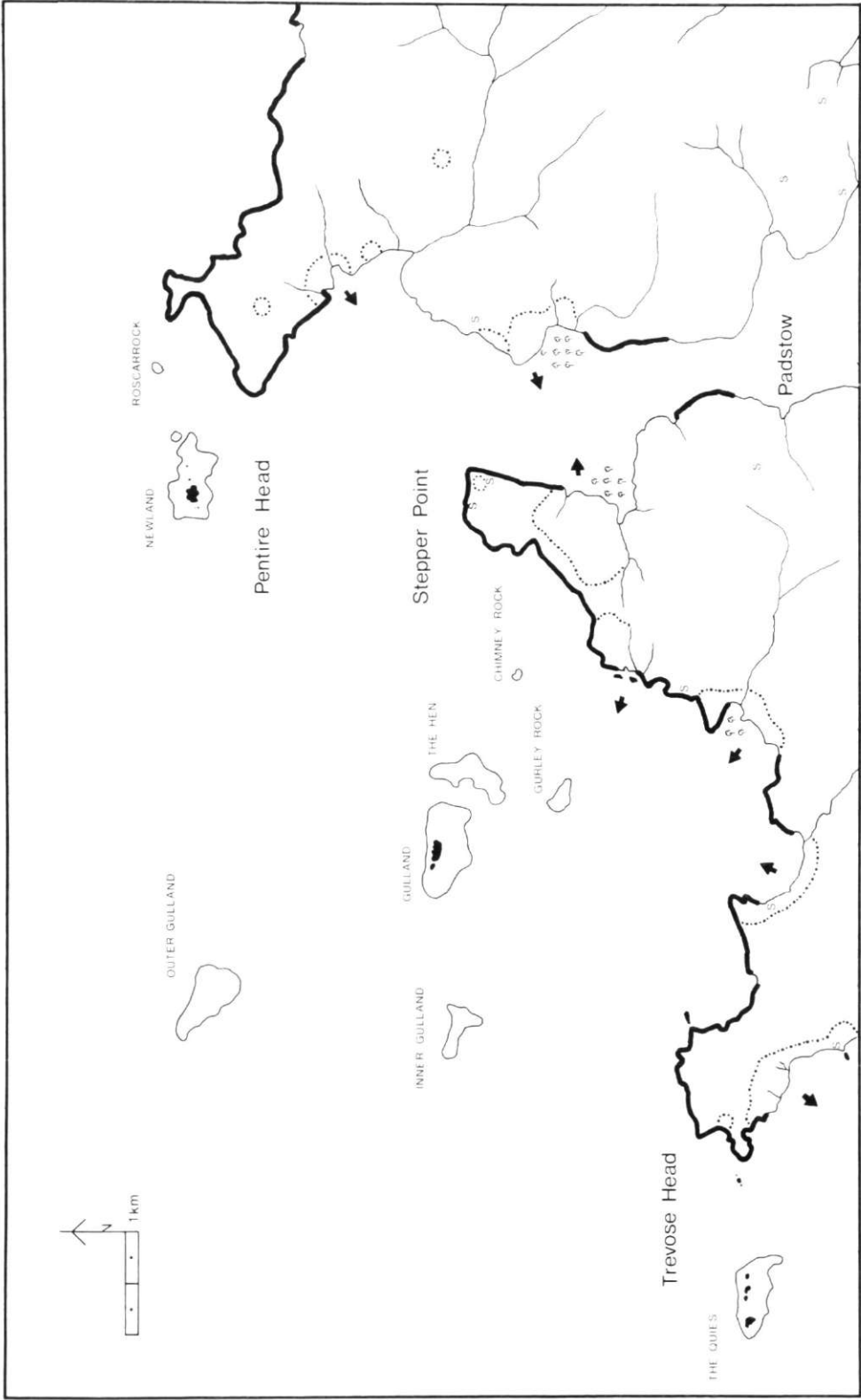


Fig. 14

Treose Head — Pentire Head area: mesolithic sites and their contemporary landscape — Dotted areas surround flint scatters. Arrows suggest direction of access to marine lowlands. Springs marked 'S'. Submerged forest remains marked as trees.

as most of the sites have, would have also been an important factor in location and perhaps the most important. Fresh water is an important attraction for animals as well as humans. Not only is TV 1 adjacent to a spring but it has a commanding view of a very large area of land including an expanse of sea that was once forest. It also has a sunny southerly aspect.

Food resources

The descriptions of the organic remains detailed in the Annexe do not allow us to be precise in outlining the flora and fauna of the Mesolithic period. A great deal of work elsewhere has been done on this subject, but very little in Cornwall. The evidence from the submerged organic remains can only give us a general view supported by evidence from deep, and therefore early, deposits in some of the better documented tin works. For example in the Carnon Valley stream works (Henwood 1832; Barton 1964) at one of the heads of the Fal estuary, many remains were found at a depth of over 40' below low water mark in the early part of the 19th century. This lies in places directly on the tin ground, and is therefore assumed to be Mesolithic in date. Not only were several varieties of wood, moss and leaves, as well as hazelnuts found, but also numerous red deer antlers and several human skulls. Through the good fortune of observant tin prospectors we are able to picture a forested marine lowland that included many of the following identified trees: Pine, Oak, Birch, Hazel, Holly, Alder, Willow, Ash, Beech, Elm. The imprecise nature of the early reports do not allow us a more specific identification. However it is interesting that many of the sites produced hazel nuts from all depths, some still attached to their branches, indicating that inundation might be associated with winter storms and tidal surges. Jacobi (1980. 178) suggests that Lime might have been a significant component of the forest canopy, but there are no reports of it having been found in any of the Cornish deposits. When considering the type and density of the forest surrounding Trevoise Head it should be assumed that as the site became more coastal so wind exposure would have limited the growth of trees closest to the coast.

Assuming a mixed deciduous forest for the area, the fauna most appropriate to this environment would include Red deer, Roe deer, *Bos*, Pig, Fox and Wolf, as well as a variety of birds. In fact remains of Elk (presumably from very early contexts) Red deer, oxen (some with drooping horns) horse(?) and pig have been identified. Red deer in particular were recorded from sites in the Padstow estuary. In view of the importance of mammals in the Mesolithic diet it is appropriate to note that the remains of several stranded whales have been recorded in submarine deposits (Flower 1875). Clark has noted (Clark 1947) that whale bones in the Forth valley in Scotland have been found in intimate association with perforated antler implements suggestive of Mesolithic opportunism when food is presented so conveniently. Jacobi lists (1979, 1980) many of the main species of food available. It is clear that with careful exploitation the potential food resource was enormous, ranging from edible coastal plants such as sea beet, *Beta vulgaris*, and Rock Samphire, *Crithmum maritimum* and sea weed, to many additional varieties of bivalve and shellfish not mentioned by Jacobi, common around the Cornish coast. (Mussel, cockle, limpet, clam, scallop, winkle, whelk, razor shell, oyster). *Crustacea* are also common around the coast with the Edible Crab, Blue Lobster, Crawfish, Spider Crab, and the various species of prawn being the main types; for the experienced shore fisherman these are all relatively easy to catch. Salmon and Sea Trout may have been more common than today, but as with much of these food resources we do not know, in the absence of remains of fish, which were actually harvested. The list of fish that abound the coast of the south-west is long and varied and it is tempting to think of these as a major source of food. Other sources such as bird's eggs and nestlings would provide a relatively easy spring supplement to the diet. Whilst stranded whales may have provided a bonus addition, it is likely, as Jacobi suggests, that seal was exploited for food, oil and pelts. Perhaps the many islands

shown on Fig 14 may have supported seal colonies. Doubt over the exact topography of these islands leads us to doubt also the wisdom of trying to reconstruct an estuarine environment for the Padstow area with its shellfish, salmon and trout when it is still unclear whether an estuary actually existed in the Mesolithic period. It is clear however that potentially, especially during the later Mesolithic, Trevoze Head was an important location from which both marine and dry land resources could be exploited. There was easy access to both the marine lowlands and the hunting grounds inland.

Having outlined the food resources that may have been available and the environment in which the resources may have been harvested, we are unfortunately unable, in absence of excavation, to be more specific about the nature of the activity that went on at TV1. The tool kit appears standard for this type of mixed site. Most of the tools are multi-purpose and can be used for a wide variety of hunting and gathering. Even the bevelled pebbles which have often been thought to be associated with coastal sites in the later Mesolithic are not so certainly connected with harvesting limpets and the like.

Another suggestion often put forward is that the tools were used for skin preparation in the same way that Beaker 'sponge-finger' stones were used. The bevelled pebbles show a great deal of wear in some places (Fig 7 nos. 1, 3, 4, 7, 8), and in other cases are battered (Fig 7 nos. 2, 5, 6) at the ends, or have been pecked (Fig 7 no. 8, this is pecked on both faces) and in others they have been snapped (Fig 7 nos. 1, 2, 7, 8). This sort of use wear and damage does not seem to tally with either of these suggested uses. Excavation, in the hope of finding a true context for the tools, may be the only hope for an explanation. Whatever their use they are found on sites that must have been still some way from the contemporary sea shore. If they were used to exploit a sea resource and this resulted in the distinctive bevelling then it is odd that broken pieces have obviously been brought back to camp. It seems more likely that they were used about the campsite for some purpose and we are collecting the tool blanks, the used and broken tools discarded or lost at the point of use.

In summary, as Jacobi's figures for food potential might suggest (1979, 76-7), the early phase at Trevoze Head may represent a hunting band that could be supported entirely on dry land resources such as Red deer, *Bos*, pig and gathered vegetable food. The lowland areas of Cornwall would have been more productive of animals in the autumn and spring with the marine lowlands presumably supporting adequate browse to support a healthy animal population. Inland upland areas were more attractive in the summer months. There is no reason to suppose that this seasonality changed significantly in the later period when it is assumed that marine resources played an increasingly significant part in the diet of inhabitants at Trevoze; indeed spring and autumn are the optimum times of productivity along the rocky coast and (Jacobi, 1979, 83-86) estuaries. Following Jacobi's model, Trevoze Head was a seasonal camp occupied in the spring and autumn and vacated in favour of inland and more upland hunting grounds in the summer. Whatever the economic régime the site was sufficiently attractive for it to be visited over a considerable period. Despite many years of casual collection and three years of intensive collection the site still yields as much flint as ever as witness to its longevity or intensity of use.

Without further work there is little that can be added to what has been discussed here. It is suggested that in order to provide the information needed to interpret the relationship between contemporary sites, the nature of the sites themselves, and their resource base, it will be necessary to attempt the following:— an area must be chosen, and for practical reasons it should not be too large (e.g. Trevoze Head peninsula); it should be field walked completely; geophysical surveys carried out on sites found; sites to be excavated and dated as well as using palaeoenvironmental back-up where appropriate; a close study made of contemporary (Mesolithic) topography and the probable flora and fauna. Whilst undoubtedly ambitious, a long term study such as this appears to be the only way of breaking free of the study of individual sites, that

cannot be related to the exploitation over several millennia, of a specific geographical area. Sites do not lie in isolation, they must have been influenced by the activities of others that surrounded them. It is an unfortunate, but inevitable fact, that as archaeologists stumble toward a more purposeful and rational approach to the study of the past, so the length, breadth and cost of such projects increases alarmingly. With the tempting economies of more radical sampling procedures before us we are in danger of losing the opportunity of providing sufficiently comprehensive studies on which to build our models.

Acknowledgements

We would like to thank Dr Jacobi for much helpful discussion over the flints and allowing us to make use of his measurement data for several of the sites included in Figure 10. George Smith discussed the Poldowrian material and kindly loaned cores for measurement. Mr D G Eastmond also made his flint collection from Constantine Island freely available. Thanks are also due to staff of the British Museum, the Plymouth City Museum, the Museum of Archaeology and Ethnology at Cambridge, and the Royal Institution of Cornwall at Truro for giving access to material in their collections. N.J. would like to thank the Tummon family of Trevoze Farm for giving permission to walk the Trevoze Head area and carry out the Geophysical Survey. Thanks must also be given to the Johnson family as well as Dr Jack Hart, Peter Rose and Barbara Hunt-Davies for assisting in the gathering of material from TV1 and other sites in the area.

Submerged Forests in Cornwall

Submerged forests have fascinated people for many years, nowhere more so than in Cornwall. They have often been regarded as proof of the occurrence of The Flood, and more locally as proof of the existence of the legendary lost land of Lyonesse. In the South West, the main interest over the last 100 years, has focused on the light that these deposits shed upon the problems of the rate and effect of post-glacial rise in sea level (or the Flandrian Marine Transgression). A large number of papers were written in the 19th century concerning submerged forests, by local geologists and mining engineers. This important source of information has not been adequately exploited, despite more recent work further up the Bristol Channel at Westward Ho! (Churchill 1965) and Bridgwater Bay and the Somerset Levels (Godwin 1948; Godwin et al 1958 and Kidson 1977).

The rapid melting of the glacial ice sheets caused the sea level to rise, and despite the compensating rise in land due to the lessening weight of the ice, it rose rapidly at first and after *circa* 4,000 bc the rate has been progressively slower. Several types of data have been used by geologists to compute the rate of sea-level rise: the presence of submerged coastline features such as cliff lines and beaches; and more importantly for archaeologists, the close study of submerged organic remains. These deposits represent dry land vegetation, which included forest, scrub, marshy vegetation and peat bogs. Fowler and Thomas (1979) suggest that in order to remain habitable, structures would have had to have been built at least 2 metres above the highest storm beach line. (High Water Astronomical Tide). Presumably forest would also only survive at a similar height due to the effect of a flooding water-table and inundation by the sea below this mark. As the sea level rose so the forested land receded leaving the drowned organic remains buried beneath marine clays and sand, in the intertidal zone initially, but below this level eventually. The precise process of inundation is difficult to describe with certainty, but Kidson and Heyworth (1973, 569–71) give a good introduction to the scene . . .

The picture is of a rising water-table, resulting from the rise of sea-level, creeping up around the previously well-drained woodland, and creating a margin of swamp and

carr. In this belt, peat formation would be initiated, and continue until overtaken by increasing salinity. Thus a blanket of basal submerged-forest peat would be developed over large areas of undulating land surface. The peat could go on growing protected from the rising sea by a storm beach until such time that this is breached and the sea level appears to suddenly rise having been artificially halted by the storm beach . . . the peat so formed was covered by clay sediments before being reached by the zone of wave attack, and was thus preserved. They emphasise that . . . It is highly unlikely however, that the process was a smooth and continuous one. A large part of the marine transgression was doubtless accomplished during periods of storminess and by storm surges.

Doubtless conditions may have been different on coasts exposed to Atlantic rollers but even here presumably storm beaches existed and perhaps the gradual migration of sand in front of the advancing sea ultimately pushed them upon and beyond the present coast to form, for example, the extensive dune systems at Constantine Bay, Harlyn Bay and the Padstow estuary. Submerged and buried forest deposits have been found in three types of situation.

1. Deposits exposed within and below the intertidal zone of beaches.
2. Deposits found in Tin Streaming Works in the lower reaches of river valleys.
3. Deposits found in Tin Streaming Works and river beds in the upper reaches of rivers, both on and off moorland areas.

The first two situations are forests overwhelmed by the sea and overlain by marine deposits, and the latter, which will not concern us further here, are forests buried by river action and peat growth. (These phenomena should be distinguished from organic remains found *within* the 'Tin Ground' — tin rich Pleistocene river gravels — that were destroyed whilst the gravels were being deposited under periglacial conditions.)

1. Details are given below of the site where evidence has been found for forests overwhelmed by the rising sea.

Location	Grid Reference	References
1. Mount's Bay	SW 50 31	Carne 1846; Boase 1822, 1828 Borlase 1758; Kidson 1977
2. Perranporth	SW 756 544	de la Beche 1839
3. Maer Lake, Bude	SS 202 072	Pattison 1848
4. Maenporth, Falmouth	SW 791 296	Rogers 1832; Robert 1897
5. Bar Pool, The Moor, Falmouth	SW 808 328	Whitley 1872
6. Porthleven	SW 628 256	Rogers 1818
7. Portreath	SW 655 454	Richards 1925
8. Millendreath, Looe	SX 268 540	Box 1844
9. Portmellin, Mevagissey	SX 016 438	Whitley 1887; Kidson 1977
10. Widemouth Sand	SS 198 024	Freshney et al 1972
11. Gillan Cove	SW 786 252	Flett & Hill 1912
12. Pendower Beach/Gerrans Bay	SW 900 381	Hill & MacAlister 1906
13. Porthtowan	SW 691 481	Henwood 1858
14. Fowey Harbour	SX 118 510	Ussher et al 1909; Peach 1848
15. Restronguet	SW 810 380	Barton 1964
16. Praa Sands	SW 580 279	Kidson 1977
Sites in the Padstow-Newquay are marked on Fig 11.3		
17. Porthmear, St Eval	SW 848 717	Lamb 1909
18. St Columb Porth	SW 830 628	de la Beche 1839
19. Mawgan Porth	SW 848 673	de la Beche 1839
20. Harbour Cove	SW 912 770	Henwood 1858
21. Daymer Bay/Doom Bar	SW 925 775	Henwood 1858; Ussher 1887
22. Little Petherick Creek	SW 925 741	Clarke 1961
23. Porthmissen Beach	SW 890 761	Clarke 1961

N.B. The grid references refer only to the general location.

2. Deposits found in tin stream works or other works in river valleys offer a wider variety of evidence. Many of the stream works lie several miles up river from the

present coast, yet the organic deposits containing, in some cases, many species of tree and animal, are covered by marine deposits. It is clear that there were many other tidal estuaries in Cornwall, and existing ones were much larger, than we see today. These estuary extensions would have been formed, burying the forests beneath them in the later stages of the marine transgression from the late prehistoric period onwards. They would have remained, as estuaries or shallow tidal creeks until at least the medieval period and beyond, when mining works inland and increased agricultural activity within the river watersheds caused huge amounts of silt and debris to wash down river choking them and pushing the sea out to its present position. Valleys in which marine covered deposits have been found inland include:—

Location — River/Site	Grid References	References
1. Hayle Estuary: Trewinnard	SW 555 375	Colenso 1910
2. Red River : Reskajeage Marsh; Nancemellin	SW 590 420	Stephens 1900
3. Marazion River : Marazion Marsh; Tregilso; Huel Darlington	SW 513 314	Cornish 1875; Carne 1846; Henwood 1843
4. Cober River : Loe Pool; Wheal Cober	SW 650 257	Rogers 1863; Whitley 1908
5. Carnon River : Carnon Stream Works	SW 790 394	Henwood 1832; de la Beche 1839; Barton 1964
6. St Austell River : Happy Union Works, Pentewan	SW 020 470	Reid 1907; Ussher et al 1909; Barton 1964; Colenso 1832; Winn 1840
7. Par River : East Crinnis Mine; Poth; Sandrycock	SX 080 530	Rashleigh 1822; Hawkins 1822; de la Beche 1839; Ussher et al 1909
8. St Columb River : Treloy Stream Works	SW 830 628	Henwood 1832; de la Beche 1839; Reid & Scrivenor 1906

N.B. The grid references refer only to the general location.

Only the major references to the sites have been given although many are mentioned in more than one article and book. There are also many newspaper articles that have not been included.

The use of this evidence for archaeological studies is undoubtedly great, but more work must be done before the exact depth and date of the deposits is known sufficient to provide a chronological framework for analysis. The deposits reveal direct evidence of the flora and fauna of the era stretching from the early Mesolithic to the post-prehistoric period. Evidence of worked wood has been found in several stream works at levels that suggest at least a prehistoric date and of course the presence of human skulls at Carnon and Pentewan are also of great interest. It is clear that many late prehistoric, Roman, post-Roman and Medieval sites were located adjacent to tidal creeks, navigable for several miles inland.

Many of these creeks no longer exist due to sedimentation and the significance of access along these former inlets has not been adequately discussed before. Work has started (by N.J.) on detailing the evidence from submerged forests in the area and examining the archaeological significance of this information on our understanding of the past coastline of Cornwall.

APPENDIX

The collections gathered together here comprise the total known from the area covered by Fig 13 with an extension southwards to include those found around Treyarnon Bay. (SW 857 740). Many of the collections are those gathered by one of the authors (NDJ) and have been given exact locations. Most of the remaining collections are those noted in the Council for British Archaeology Research Report 20. *Gazetteer of Mesolithic Sites in England and Wales* (Wymer, 1977), Ordnance Survey records and the County Sites and Monuments Record (Cornwall Committee for Rescue Archaeology). The large number of collections must overlap in many cases, but due to inadequate provenance it is not possible to cross reference and they have therefore been given separate SMR numbers. It is hoped that in future all flint sites can be referred to using their SMR numbers as all the collections in Cornwall are entered into the SMR. No

attempt is made to describe the collections, and where descriptions exist they can be found in the SMR.

Site Number — County Sites and Monuments Record number

Grid Ref — National Grid Reference (A) Accurate (E) Estimate (G) General area.

Site Description — Nature of site; collection identification and location; method of collection; SMR location written thus. — TREVOSE HEAD; references; ecclesiastical parish (1840).

SMR No.	Grid Reference	Description
SW 87NE/33/1	SW 8523 7592 (A)	Cliff exposure constantly eroded. Casual collection over several years. NDJ collection TV5. TREVOSE HEAD, St Merryn (Fig 2)
SW 87NE/33/6	SW 8561 7572 (A)	Cliff exposure on east side of small stream. Casual collection over several years. NDJ collection TV3. TREVOSE HEAD, St Merryn (Fig 2)
SW 87NE/33/5	SW 8558 7573 (A)	Cliff exposure on west side of small stream. Casual collection over several years. NDJ collection. TV2. TREVOSE HEAD, St Merryn (Fig 2)
SW 87NE/33/3	SW 8553 7593 (A)	Scatter in ploughed fields surrounding a hedge inter-section. Flints collected on one visit. Site not gridded and not systematically walked. NDJ collection. TV6. TREVOSE HEAD, St Merryn (Fig 2)
SW 87NE/33/4	SW 8561 7586 (A)	Scatter in ploughed field around kink in hedge. Flints collected on one visit. Site not gridded and not systematically walked. NDJ collection. TV7. TREVOSE HEAD, St Merryn (Fig 2)
SW 87NE/33/11	SW 8548 7585 (A)	Scatter in ploughed field. Flints collected on two visits. Site not gridded and not systematically walked. NDJ collection. TV9. TREVOSE HEAD, St Merryn (Fig 2)
SW 87NE/33/12	SW 8556 7580 (A)	Scatter in ploughed field. Flints collected on two visits. Site not gridded or systematically walked. NDJ collection TV10. TREVOSE HEAD, St Merryn (Fig 2)
SW 87NE/33/14	SW 8512 7630 (A)	Cliff exposure. Slow erosion. Casual collection over several years. NDJ collection TV4. TREVOSE HEAD QUARRY, St Merryn (Fig 2)
SW 87NE/33/7	SW 8555 7622 (A)	Scatters in ploughed field. Flints collected on one visit.
33/8	SW 8560 7613 (A)	Site not gridded or systematically walked. NDJ collection. TV8.
33/13	SW 8546 7610 (A)	TREVOSE FARM, St Merryn (Fig 2)
33/9	SW 8570 7607 (A)	
33/10	SW 8554 7600 (A)	
SW 87NE/33/2	SW 8537 7595 (A)	Concentration of flints in ploughed field at the head of a small stream. Casual collection over many years. Gridded at 5 m intervals 1978, 1979, 1980. NDJ collection. TV1 TREVOSE HEAD, St Merryn (Fig 2) Many of the collections given below probably come from this site, as it has been ploughed for many years. (Jacobi, 1979, 54)
SW 87NE/33/15	SW 8535 7582 (A)	Cliff exposure around small stream. Casual collection over many years. Regarded as same site as the major scatter at the head of the stream (TV1). Now given a separate SMR number. NDJ collection TV (1); Steele collection (SW 87NE/33/15/1); this site also recorded by OGS Crawford (C.G. Lamb of Cambridge). OGSC also notes that many of Haddon's flints come from here. (See SW 87NE/33/21) OS Index SW 87NE4. (Jacobi, 1979, 54) TREVOSE HEAD, St Merryn.
SW 87NE/33/16	SW 84 76	(G) Kendall collection in Truro Museum. Tranchet axe in Truro Museum (Wymer 1977, 44; Smith 1963) BOOBYS BAY/DINAS HEAD. (Wymer 1977, 43; Jacobi, 1979, 54)
SW 87NE/33/17	SW 85 76	(G) Raistrick collection in Skipton Museum; Gibbs collection in Truro Museum (sites 1,2,3). (Wymer, 1977 43) BOOBYS BAY (not necessarily from the same site. (Jacobi pers comm))
SW 87NE/33/18	SW 84 76	(G) Munro collection in Truro Museum. (Wymer 1977 43) BOOBYS BAY/ TREVOSE, St Merryn
SW 87NE/33/19	SW 84 76	(G) 'Mr Gibb's chipping site' (Wymer 1977. 43); Croft Andrew collection in Truro Museum. (Arnold, 1913; Kendall, 1913). BOOBYS BAY/ TREVOSE HEAD, St Merryn. (not necessarily all from the same site (Jacobi pers comm))
SW 87NE/33/20	SW 85 74	(G) Haddon collection in University Museum of Archaeology and Ethnography, Cambridge. (Wymer 1977. 43) CONSTANTINE BAY, St Merryn. (this provenance is not certain. (Jacobi pers comm))
SW 87NE/33/21	SW 848 762	(G)Haddon collection in University Museum of Archaeology and

		Ethnography, Cambridge. (Wymer 1977.43). See SW 87NE/33/15 above. (Jacobi, 1979. 54). BOOBYS BAY, St Merryn
SW 87NE/33/22	SW 858 745	(G) Plymouth Museum collection (Wymer, 1977, 43). CONSTANTINE, St Merryn
SW 87NE/33/23	SW 858 745	(G) Collections in Truro Museum and Manchester Museum (Wymer, 1977, 43) CONSTANTINE BAY, St Merryn
SW 87NW/3	SW 84 76	(G) Croft Andrew collection in Truro Museum; OS Index SW87 NW3. DINAS HEAD, St Merryn. (This may be the same site as SW 87NE/33/19 (Jacobi pers comm))
SW 87NE/33/25	SW 850 762	(G) Gibbs collection in Truro Museum. (Wymer 1977.44) ROUND HOLE/DINAS POINT, St Merryn.
SW 87NE/33/26	SW 850 760	(E) Raistrick collection in Skipton Museum (Wymer 1977.44) ROUND HOLE, St Merryn
SW 87NE/33/27	SW 86 76	(G) Rougemont House Museum, Exeter collection. (Wymer 1977.44) TREVOSE, St Merryn. (this could be any of the sites mentioned above (Jacobi pers comm))
SW 87NE/33/28	SW 850 760	(G) Rugby school collection in Ashmolean Museum, Oxford (Wymer 1977.44) TREVOSE, St Merryn. (this could be any of the sites listed above (Jacobi pers comm))
SW 87NE/33/29	SW 852 766	(G) British Museum Collection. (Wymer 1977.44) TREVOSE HEAD, Constantine Bay, St Merryn. (part of this Relph collection passed via H. Fawcett to Bristol City Museum (Jacobi pers comm))
SW 87NE/33/30	SW 863 758	(G) Haddon collection in Museum of Archaeology and Ethnography, Cambridge (Wymer 1977, 408). TREVOSE FARM, St Merryn
SW 87NE/43	SW 8580 7540	(A) Cliff exposure, slow erosion, casual collection over several years. NDJ collection Bb1. BOOBYS BAY, St Merryn (Fig 2)
SW 87NE/44	SW 8577 7524	(A) Cliff exposure, slow erosion, casual collection over several years. NDJ collection Bb2; Whitehead collection (Whitehead 1973, 1975). BOOBYS BAY, St Merryn (Fig 2)
SW 87NE/45	SW 8577 7550	(A) Cliff exposure, slow erosion, casual collection over several years. NDJ collection Bb3. BOOBYS BAY, St Merryn (Fig 2)
SW 87NE/47	SW 8576 7552	(A) Cliff exposure, slow erosion, casual collection over several years. NDJ collection. Bb4 BOOBYS BAY, St Merryn (Fig 2)
SW 87NE/49	SW 8575 7560	(A) Cliff exposure, slow erosion, casual collection over several years. NSJ collection Bb5 BOOBYS BAY, St Merryn (Fig 2)
SW 87NE/57	SW 8584 7567	(A) Scatter in ploughed field, collected on one visit. Site not gridded or systematically walked. NDJ collection Bb6. WESTWINDS, St Merryn (Fig 2)
SW 87NE/58	SW 8572 7567	(A) Whitehead collection (Whitehead 1973, 1975). BOOBYS BAY, St Merryn
SW 87NE/59	SW 8572 7511	(A) Cliff exposure, rapid erosion, casual collection over several years, NDJ collection Co3; Munro collection and National Museum of Scotland collection in Truro Museum (Wymer 1977.44); Eastmond Collection; Norman collection (1977); OS Index SW 87NE4. CONSTANTINE ISLAND, St Merryn (Fig 2)
SW 87SE/34	SW 8571 7440	(A) Cliff exposure, slow erosion, casual collection over several years, NDJ collection, Co2 CONSTANTINE BAY, St Merryn (Fig 2)
SW 87SE/35	SW 8579 7450	(A) Cliff exposure, slow erosion, casual collection over several years, NDJ collection, Col CONSTANTINE BAY, St Merryn (Fig 2)
SW 87SE/36	SW 8570 7427	(A) Cliff exposure, slow erosion, casual collection over several years. NDJ collection, Ty 2. TREYARNON BAY, St Merryn (Fig 2)
SW 87SE/37	SW 8576 7414	(A) Cliff exposure above disused quarry, slow erosion, casual collection over several years. NDJ collection, Ty1. TREYARNON BAY, St Merryn (Fig 2)
SW 87SE/38	SW 8556 7392	(A) Scatter in ploughed field. Flints collected on two visits. Site not gridded and not systematically walked. NDJ collection. Ty3. TREYARNON BAY, St Merryn (Fig 2)
SW 87NE/67 /19	SW 870 750 SW 8725 7605	(G) Raistrick collection in Skipton Museum; Gibbs collection in Truro Museum (Wymer 1977.43). This may be the same site as NDJ collection. Cat 1. In ploughed field not systematically collected or gridded. CATACLEWS, St Merryn ('near Harlyn Bay' in Wymer 1977, 43)
SW 87NE/68	SW 870 750	(G) Sandy collection in City Museum and Art Gallery, Birmingham; Gibbs collection in Truro Museum; Raistrick collection in Skipton Museum; (Wymer 1977.43; Crawford 1921; Bullen 1913) HARLYN BAY, St Merryn

SW 87NE/69	SW 8872 7576 (A)	Scatter of flint on coastal footpath. Collected casually, not gridded or systematically walked NDJ collection Nt1. NEWTRAIN BAY, Padstow
SW 87NE/70	SW 8973 7706 (A)	Concentration of flints in ploughed field. Collected casually over several years. Not gridded or systematically walked. NDJ collection Tg1 and various other local collections. TREGUDDAR COMMON, Padstow
SW 87NE/71	SW 8946 7699 (A)	Flints from cliff exposure. Collected casually over several years. Traces of possible hearth in cliff section. NDJ collection Tg2 TREGUDDAR GORGE, Padstow
SW 87NE/72	SW 8951 7707 (A)	Flints from cliff exposure. Collected casually over several years. NDJ collection Tg3 TREGUDDAR GORGE, Padstow
SW 87NE/73	SW 8972 7726 (A)	Scatter of flints in ploughed field. Collected casually, not gridded or systematically walked. NDJ collection Tg4. TREGUDDAR (or FOX-HOLE, GUNVER HEAD), Padstow
SW 87NE/74	SW 8989 7724 (A)	Scatter of flints in ploughed field. Collected casually on two occasions. Not gridded or systematically walked. NDJ collection Tg5. TREGUDDAR, Padstow.
SW 87NE/77	SW 858 751 (G)	Flints found between 1898 and 1903, 100 yds inland from Constantine Island (Kendall, 1913, 440). Exact location unknown. OS Index SW 87NE 28. CONSTANTINE GOLF COURSE, St Merryn. (presumably part of the Kendall Collection that includes SW 87NE/33/16 (Jacobi pers comm))
SW 87SE/39	SW 8652 7487 (G)	Flint scatter, found close to a building near St Constantine's Chapel. (Arthur, 1904, 138) CONSTANTINE GOLF COURSE, St Merryn
SW 87NE/41	SW 891 762 (G)	Flint collection in Plymouth Museum (Ref No. 4664) Exact location not known. TREVONE, Padstow
SW 87NE/76	SW 891 762 (G)	Flint collection in Rougemont House Museum, Exeter. Exact location of site not known. TREVONE, Padstow
SW 97NW/92	SW 9086 7756 (A)	Scatter of flints in ploughed field on one occasion. Not gridded or systematically walked. NDJ collection 1980. L.I. LELLISSICK, Padstow
SW 97NW/91	SW 9084 7783 (A)	Flints found on coastal footpath above BUTTER HOLE, Padstow. Not systematically walked. NDJ collection Bh.1.
SW 97NW/64	SW 9038 7736 (A)	Flint scatter in ploughed field. Not gridded or systematically walked. OS Index SW 87NE6. LELLISSICK, Padstow
SW 97NW/62	SW 9100 7779 (A)	Flint scatter in ploughed field. Not gridded or systematically walked. Hellyar collection OS Index SW 97NW 3b. LELLISSICK, Padstow
SW 97NW/63	SW 9098 7745 (A)	Flint scatter in ploughed field. Not gridded or systematically walked. OS Index. SW 97NW 3a. LELLISSICK, Padstow
SW 97NW/59	SW 915 785 (G)	Flints from general area. Exact location of site unknown. Plymouth Museum collection Ref No. 4509. STEPPER POINT, Padstow
SW 97NW/91	SW 915 784 (G)	Rougemont House, Exeter collection (Jacobi, 1979, 54) STEPPER POINT, Padstow
SW 97NW/87	SW 930 780 (G)	Munro collection (?) in Truro Museum. Exact location not known. (Wymer 1977, 44). POLZEATH, St Minver Lowlands.
SW 97NW/88	SW 945 785 (G)	British Museum Relph collection. Exact location of site not known. POLZEATH (Wymer 1977, 44). St Minver Lowlands (collection may have been purchased by Relph (Jacobi pers comm))
SW 97NW/8	SW 9272 7819 (A)	Arkeil collection in the British Museum. (Arkeil 1943 149). OS Index
	SW 9284 7765 (A)	SW 97NW27. TREBETHERICK POINT, St Minver Lowlands. Notes as DAYMER BAY In Wymer (1977, 44)
SW 97NW/89	SW 935 780 (G)	Flints found at TREBETHERICK, St Minver Lowlands. Exact location unknown. (Wymer 1977, 44)
SW 97NW/90	SW 9332 7878 (A)	Flint found whilst building a bungalow (Windy Hill, Higher Tristram, Polzeath 1978). Eastmond collection. POLZEATH, St Minver Highlands
SW 97NW/54	SW 93 79 (G)	Relph collection found immediately south of Pentire Head. OS Index SW 97NW 38. (Clark 1932) HAYLE BAY, St Minver Highlands. (this is probably the same as SW 97NW/88 (Jacobi pers comm))
SW 98SW/3	SW 931 804 (G)	Hellyar collection. Flints plentiful in this area. Exact location of site(s) not known. OS Index SW 98 SW 2. PENTIRE HEAD, St Minver Highlands
SW 98SW/6	SW 924 805 (G)	British Museum collection. Exact location of site not known. (Wymer 1977, 44). PENTIRE HEAD, St Minver Highlands. (this is probably the same as SW 97NW/88 (Jacobi pers comm))

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A NEW BRONZE AGE RAPIER FROM THE RIVER FOWEY, AND THE BRONZE AGE WEAPON TRADITION IN CORNWALL

Susan Pearce

The River Fowey Rapier

During the summer of 1980 dredging work in the River Fowey off Mixtow Quay (at O.S. SX 12705294), brought to light what turned out to be a Bronze Age rapier. The piece was complete when found, but the blade was bent at a sharp angle, and efforts to straighten it resulted in the fracture of the rapier into two pieces. When it was complete and straight, the rapier measured 443mm in length. It is 49mm across the widest part of the butt, and 23mm across the widest part of the blade.

The hilt of the rapier is abraded, but two rivet holes or rivet notches are visible. Its most interesting feature is its mid-rib. This is wide and flat for some 130mm under the hilt, and then as it runs down the blade it takes on a rounded section unusual in the south-west, giving a blunt lozenge section to the blade (Fig. 1d).

The details of the mid-rib are important because it is generally agreed (Burgess 1968) that rapiers are best dated by the shape of their blade sections. Lozenge section blades with sharp mid-ribs belong within the Taunton phase of manufacture, running from about 1450 BC to 1100 BC. Flat mid-rib blades with stepped sections followed in the Penard period, and were manufactured between about 1100 BC and 950 BC, although in the south-west, at least, the use of stone moulds encouraged a conservative approach to design, and lozenge section rapiers may well have been in use after 1100.

The River Fowey rapier shows something of a hybrid design, suggesting that it belongs within the Penard tradition.

The Cornish Weapon Tradition

Only one of the earlier lozenge-section rapiers is known from Cornwall, that from North Crofty, probably found with a Crediton type palstave (Fig 1, b and a). However, the stone mould from Bodwen would have produced rapiers of this type (Harris, Pearce, Irwin 1977). The short dirk from Parsmoor, St Erme, should be broadly contemporary. A fragment of a similar rapier survives in the mixed bag of Bronze Age metal found around 1813 in the debris above a tin stream deposit at Lanhearne. The saw blade, socketed chisel, palstave and 'bar of bronze' from this find suggest that the rapier fragment was being used as a tool, and this tool assemblage would be at home in the late Taunton/Penard traditions.

Contemporary with these weapons are the side-looped spears, although these, also, run on into the Penard period. A single side-looped spear comes from Porthallack Cave, Mawnan. The domestic scatter of tools, ornaments, smelting debris and pottery at Tredarvah, Penzance, contained a side-looped spear (Pearce, Padley 1977). Similar finds from Tregear and Pentewan were accompanied by tools, and seem to be like the group from Lanhearne.

The range of Penard style finds is smaller. The rapier from Benallack, Par, which should probably be placed in the flat rib group, is the weapon most like the River Fowey piece (Fig. 1c). The early, Ballintober type, sword from Carn Pessack, St. Keverne, should be contemporary (Fig. 1e). With these belongs the important group of spears, found in 1803, in the Loath to Depart streamworks at Roche. These survive only in drawings in the Rogers Portfolio (Royal Institution of Cornwall), which show that the find contained at least three spearheads, two with side-loops and one with peg holes in its socket, an innovation of the Penard smiths.

No developed swords or spear types of the Wilburton styles which succeeded the Penard, and which were manufactured between about 950 and 800 BC, are known from Cornwall. Nevertheless, the very large, but mostly lost, bronze finds from St Hilary, near St. Michael's Mount, and Lanant (Lelant), which apparently contained a

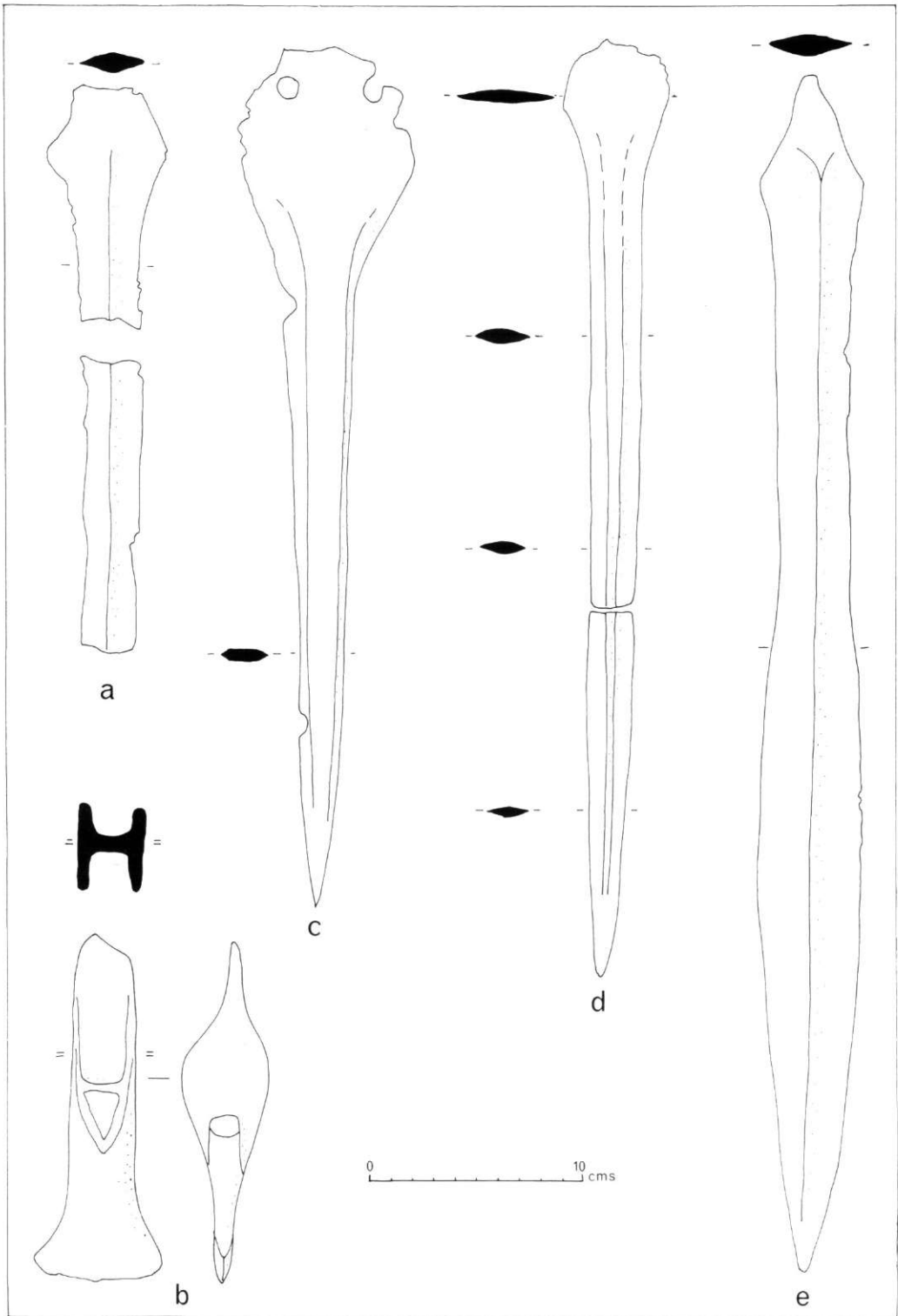


Fig. 1
a, b North Crofty; c, Benallack; d, R. Fowey; e, Carn Pessack.

range of broken swords, spearheads, and socketed axes, would no doubt have told us a great deal about the weapon tradition in the Wilburton phase, and in the succeeding Stogursey phase (c.800–600 BC).

The Significance of the Weapons

The social context of the Taunton phase spearheads and rapiers is the farming community which lived in the round huts, and worked in the landscape of permanent fields and carefully defined grazing lands which have been revealed in work at Trevisker (ApSimon, Greenfield 1972), at Gwithian (Megaw, Rowlands, Burgess 1976), and on Bodmin Moor and Dartmoor. Bronze scatters which include a side-looped spear and tools, like those from Tredarvah, Tregear, and Pentewan are typical of the phase. They unite with the finds from excavation, and from the closed groups of axes and ornaments which can properly be called 'hoards' to suggest that such pieces were available to many Taunton period farmers. It is quite possible that the spears were the normal hunting and fighting weapon of the ordinary clansmen.

Taunton phase rapiers, by contrast, are never found in such scatters, but occur singly, or, in the case of the North Crofty find, with a palstave. Significantly, they are never found with spearheads. Rapier-men cannot fight spear-men effectively: rapier-men can only fight each other. The rapiers look as if they were the prestige weapons of socially superior elements in the community.

The weapons of the Penard tradition are better designed for the task of fighting. The spearheads are bigger, with crisper lines, and the peg-holes are an improvement on the looped varieties. The thicker mid-ribs of the rapiers gave added strength, and the new swords provided a blade which could thrust and slash more effectively. At the same time, bronzes other than weapons became very much rarer than they were in the preceding Taunton phase.

The development of weaponry and the eclipse of most other bronze types suggest a society in which a warrior elite was paramount. The weapons belonging to such warriors might have names of their own, and they would be heirlooms and trophies in their own right. They are contemporary with the reappearance of gold ornaments, like those from Towednack in west Cornwall, and the beginning of sheet bronze working, like, perhaps, the lost cauldrons from Broadwater, Luxulyan. At the same time the first Bronze Age hill-top settlements, some probably defended, begin to appear, although none of these are known in Cornwall. All these things point to a society under stress, partly because the preceding period seems to have been one of population growth, and partly, probably, because the onset of poorer conditions and the growth of peat on the uplands was reducing the available area of arable and grazing.

Penard and Wilburton phase weapons were sometimes deposited in hoards, like the spearheads from Loath to Depart. Perhaps some of the single finds were not just casual losses, but equally careful deposits. These look very much like ritual offerings to the gods of war. Sometimes the weapons were placed in pools or bogs, like the spears from Bloody Pool, South Brent, Dartmoor. These seem to be part of a water cult, a natural development during the onset of adverse conditions. Conceivably, the River Fowey rapier was thrown into the river upstream from Mixtow, and belongs in this context.

Note

I am very grateful to the staff of the Royal Institution of Cornwall for access to this rapier. Full details of all the weapons discussed here are included in the corpus of Bronze Age metalwork from South-West Britain which is substantially complete, and will, I hope, be published in due course. Detailed references are, therefore, omitted here.

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EXCAVATION AT CASTLE GOTHA, ST AUSTELL

Andrew Saunders and Daphne Harris

The bank and ditch of the round were sectioned in three places and areas inside the earthwork examined, revealing several timber constructions and one stone-walled oval hut. The excavation suggests that the site was occupied mainly in the first century AD, with an overlap into the centuries before and after. Some Glastonbury and cordoned wares were found, a few Roman traded wares, and much local Romano-Cornish pottery. Brooches and other bronze objects were recovered, and there are indications of some slight industrial activity.

Introduction by Andrew Saunders

Castle Gotha (SX 0276 4964) is a small earthwork enclosure overlooking St Austell bay, half a mile south-west of the village of Porthpean (Fig. 1). It is sited on sloping ground five hundred yards from the cliff edge, between the 300 and 350 feet (91 and 107 m) contours (Fig. 2). It is oval in shape (Fig. 3), measuring approximately 280



Plate I Aerial view of Castle Gotha, with the adjoining crop marks. Photo by Hunting Surveys Ltd, copyright by English China Clays.

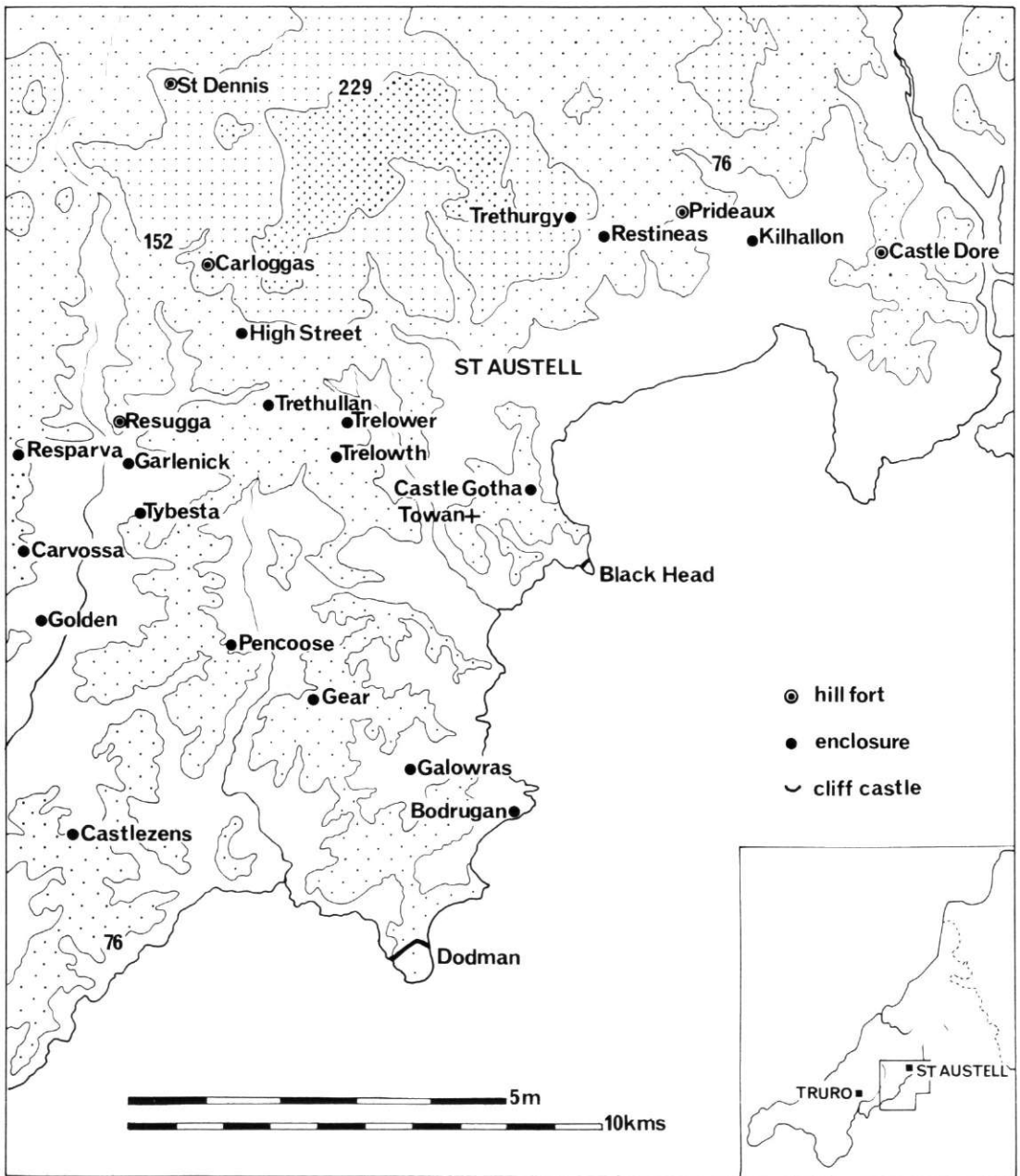


Fig. 1

Location map of Castle Gotha, showing other earthworks of approximately the same period. Drawing Mary Irwin.

by 200 feet (72 by 60 m) internally, and enclosing an area of about 1¼ acres (0.5 hectares). It commands imposing views across St Austell bay to the Gribben Head and the south-east Cornish coast, as well as to the Hensbarrow Downs to the north, but there is higher ground nearby, so that the site does not seem to have been chosen primarily for defensive purposes. It lies on the slate of the Meadfoot Beds of the Lower Devonian, referred to as shillet. A small stream flows to the sea from near the site, and

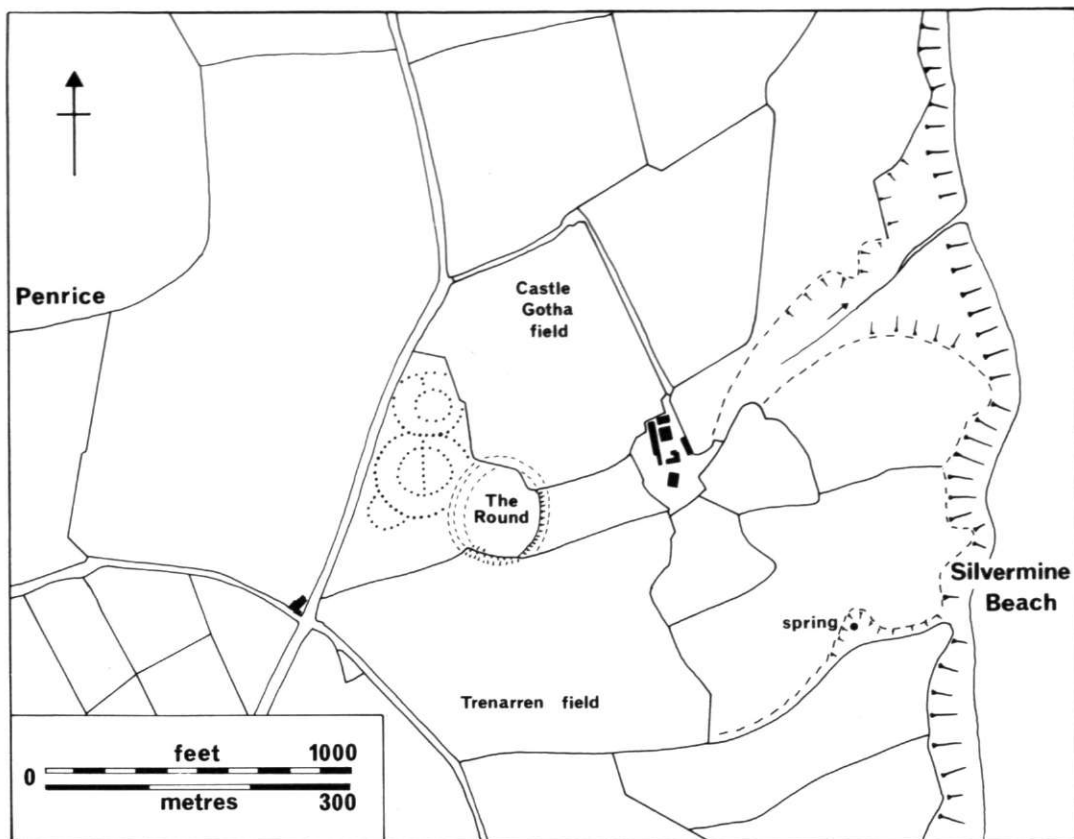


Fig. 2
 Castle Gotha earthwork. Dotted lines represent crop marks detected in the air photograph.

another just to the south. The land has been cultivated fairly continuously since the late Middle Ages, as pottery in the plough soil indicates. This ploughing has levelled the bank all along the west side, has destroyed much evidence of earlier occupation including floor levels, and has created a plough soil about two feet deep. There was no indication of an entrance to the earthwork before excavation. Modern field hedges use the line of the enclosure, and have preserved much of it; they run either along the bank, or, at some points, along the ditch. The Ordnance Survey MS map of 1811 shows the bank complete and continuous. Between that date and the drawing of the tithe map of 1840 the bank and ditch on the west had been levelled and the enclosure brought into the large field which took its name from the enclosure and was called 'The Round'. An air photograph taken some years after the excavation (Hunting Surveys Ltd 1433) indicates the possibility of ploughed-out enclosures between the round and the road to the west.

The site is close to Towan, the head farm of the Saxon royal manor of Tewington. The present farm of Castle Gotha is below the earthwork, 130 yards to the east. The first documentary mention of a settlement here is found in the Earldom of Cornwall Accounts of 1296-7, where in the section on the Manor of Tewington there is a reference to Matthew de Kestelgorrow. There are other references to it during the fourteenth century, and in 1341 a Roger de Castelgothan was a reeve of the Manor of Tewington.

Excavation commenced with a preliminary fortnight in 1957 and continued during four three-week seasons between 1959 and 1962. The objectives were to examine the defences of a round, to sample the interior to assess the degree of occupation, surviving structures if any and their date range. At the time a good deal of research was being carried out on Cornish hillforts and promontory forts and on unenclosed Iron Age settlements on the moors of Bodmin and West Penwith. The apparently contemporary class of earthwork enclosures known as 'rounds', which survive in great numbers in Cornwall and to a lesser degree in Devon, had received little attention. Additional reasons for choosing Castle Gotha (apart from its proximity to the writer's home) were the suggestion made by R.H.M. Dolley and F. Elmore Jones in the *British Numismatic Journal* of 1956 that Castle Gotha might be the site of the unlocated Late Saxon mint of *Gothabyrig*, its closeness to the head of the Saxon Royal Manor of Tewington and the record of the place-name in the thirteenth and fourteenth centuries. These factors suggested the possibility of continuity of settlement from the Iron Age into the early Middle Ages. This was not however to be the case and the Saxon mint name *Gothabyrig* does not seem to refer to Castle Gotha (Appendix, below p.).

Permission to excavate was graciously given by the late Mrs R. Cobbold Sawle of Penrice, St Austell, the tenant of Castle Gotha farm Mr L. Lobb and, because the site was a scheduled monument, the then Ministry of Works. The excavation was carried out on a limited scale owing to the lack of resources other than the assistance of friends, relatives, colleagues and local people. I am particularly grateful to Mr Desmond Bonney of Wadebridge and the Royal Commission on Historical Monuments (England) for his close association with the project, practical help and advice and for surveying the site. The late Miss Marjorie Somerscales ran the finds shed for several seasons. Many senior members of what has become the Cornwall Archaeological Society such as Mrs Florence Nankivell, the late Mrs Judy Minter and Mr Peter Sheppard, generously gave their efforts as well as many helpers from Cornwall and beyond. Messrs Selleck Nicholls and Co Ltd, Western Excavations Co Ltd both of St Austell and St Austell UDC loaned tools and equipment at no or only a nominal charge. I am most grateful for their assistance. The late Miss D. Dudley, Lady Aileen Fox, Professor A.C. Thomas and Mr L. Douch visited the site on many occasions and gave much good and helpful advice.

Finally, the delay in bringing the results to publication led to a suggestion within the Cornwall Archaeological Society that its members might collaborate in using the records as a training project in archaeological publication under the general supervision of Mrs Henrietta Quinnell, of Exeter University's Extra-Mural Department and former editor of *Cornish Archaeology*. The bulk of the work and its co-ordination has been shouldered by Miss Daphne Harris. Other contributors are named individually elsewhere. Twenty years after the completion of the excavation the report has been written and assembled. Without Daphne Harris, Henrietta Quinnell and other members of the Society many more years might have elapsed before the report would be ready for printing. I am greatly in their debt.

The Excavation

Cuttings were laid out to investigate the bank and ditch on the south and north-west sides of the enclosure, and also on the north-east where the causeway was found. Two main areas in the interior were intensively examined, one to the south and the other to the north-east, and part of the central area was also sampled. Cuttings are marked on the detailed plans by capital letters, and features and finds are located by the cutting letter and the layer number.

Occupation before Enclosure

There is some evidence of occupation before the bank and ditch were built. Under the bank in cutting Q (Figs. 3 and 4) was a pit (82) which appeared from the top of the old land surface, and was cut into the natural. In the bottom was a sherd of Bronze Age

CASTLE GOTHA

ST AUSTELL

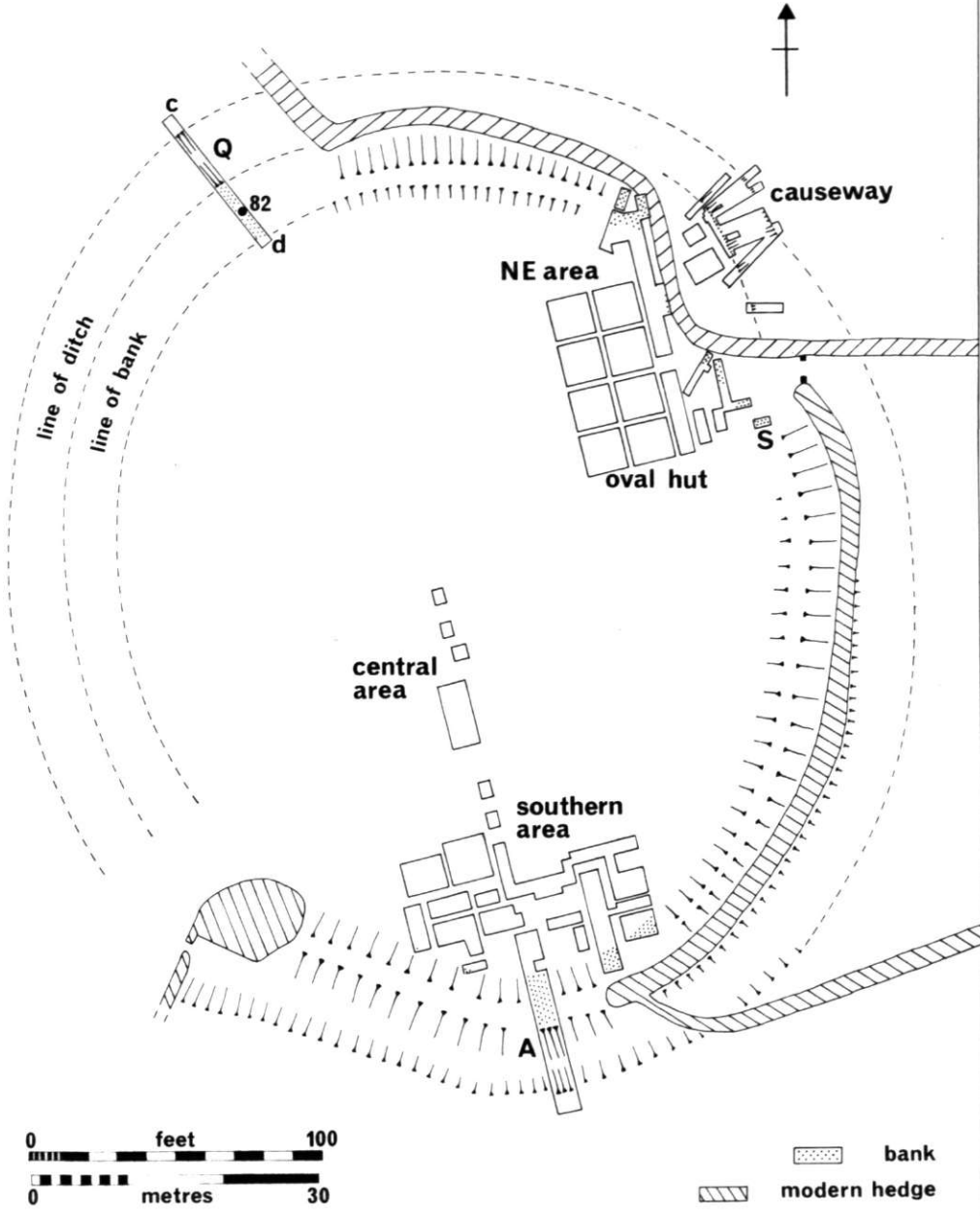


Fig. 3
Castle Gotha: plan of earthwork and excavation cuttings.

pottery (Fig. 12, 1). The pit was filled first by a layer of iron-stained grey and ginger clay with some charcoal, which lay on the hard ginger shillet natural, then by a white or light grey clay, one to one and a half inches deep, with some quartz lumps, and finally by another layer of grey clay flecked with charcoal.

In cutting A (Figs. 5, 4), under the bank, a patch of burning (17) lay on the natural. Nearby were three stake holes: 26 and 27 both sloped eastwards; 28 which can be seen in the section had a black fill. These features appear to have existed for some time before the construction of the bank, as there was a considerable thickness of soil before the bank material was laid over them.

Over on the north-east side of the earthwork, in RH (Fig. 6), a conical hole (231) was found underneath the bank; it was filled with dark brown soil and contained an animal bone.

The Bank (Fig. 4)

The defences were sectioned in the south at A, and in the north-west at Q. Under the bank, in both cuttings, was an old land surface (16, 84) showing as a light brown clay. In Q, where the bank had been ploughed flat, the old land surface and the pit were covered by ploughed out bank material, of mixed brown clay and stone or loose shillet (85). In A the bank was still standing four feet high. At the base of it was the old land surface (16), sealed by bank layers; first by loosely compacted shillet (15), then pinkish shillet (14), and yellow shillet with brown soil (4). The redeposited shillet in both A and Q came immediately under the lower (2) and the upper (1) plough soil. In neither cutting was there evidence for any inner revetment. On the outside, the front of the bank had been cut back to insert the base of a field wall (18). This would have removed any evidence for an original revetment of the rampart. There was no room for a berm.

No other section was cut right through the bank, but where trenches were dug partly into its edge, the shillet bank material could be found *in situ*, as in cuttings X, E, GK, GE, GH, GG, S, RG, RF, RD, GN, R, RA, RL and EA.

The Ditch in A and Q

The ditch was approximately twelve feet deep, and in these sections was cut into rock for its lowest seven feet. Above this it went through the natural shilletty clay, of which the edges were much eroded, giving a present width of about twenty feet at the top. The ditch was V-shaped, sloping gently at first through the eroded clay, and then dropping steeply to a flat bottom, only nine inches wide in A, and about two and a half feet wide in Q. In both sections the primary silt (13, 81) was a soft grey layer, only about three inches thick, immediately covered by a layer (12, 80) of loosely packed blocks of shillet, presumably from the bank. The rest of the fill consisted of various layers of clay and shillet. In A a layer (11) of brown clay covered the first shillet, and was itself covered by a further thick deposit of loose shillet (9). In the central dip of this layer was a lens (8) of light brown silt, sealed by shillet and yellowish brown soil (7), in the middle of which was a lens of yellow clay (10). This must have remained the upper surface for some time, as lying on the top of layer 7, well within the ditch area, were two patches of burnt clay (25). In Q the primary silt (81) and first fill of loose shillet (80) were covered by a layer (79) of yellow brown clay containing the mould for a penannular brooch, by a lens of dark brown soil (77) in the centre of the ditch with a thin layer of burnt clay and some charcoal, and by a little loose shillet (78). The ditch could have remained silted for some time to this level, which would correspond to the similar level in A. In Q some human activity is suggested at this point by the next layers in the section; first some dark or yellow brown clay and shillet (76), on top of which rested a layer of stones (74) containing a late medieval sherd. A greenish brown silt (73) lay over, and in places under, the stones. The remaining infill of the ditch in both sections was due to agricultural activity. In A the dark brown top soil lay immediately over the layer with burning, and still showed a dip in ground level. In the top soil, lying on the natural just below the eroded ditch edge, was the base of the field

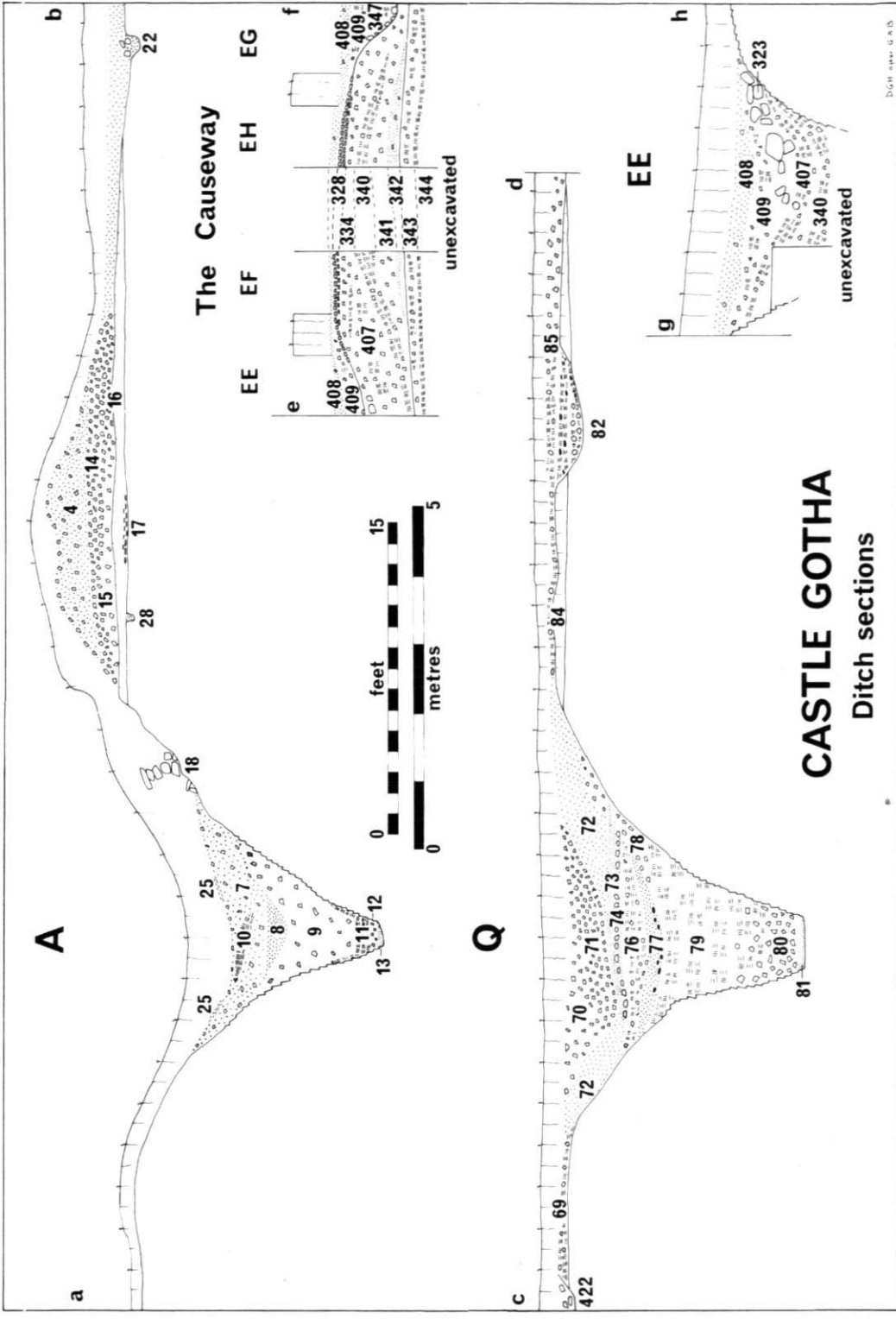


Fig. 4
Castle Gotha: ditch sections

wall (18) which had been cut into the bank. It consisted of three or four courses of horizontal spar stones packed with pitched slabs of shillet; other stones from this wall had been pushed into the ditch by the slip of the bank, and rabbit holes had loosened the gap between the back of the wall and the natural. In Q the ditch had been completely levelled by material ploughed from the bank. First, on the inner slope of the ditch, was a layer of loose shillet covered by a mixed brown soil (72), and on the outer edge this soil reached to the lip of the ditch. More light brown shillet (71) and loose shillet (70) filled the rest of the ditch, and was covered by the plough soil with no visible dip to indicate the presence of the ditch. North-west of the ditch a layer (69) of shillety clay lay between the plough soil and the natural, and at the extreme north-west of the trench this layer and the natural were cut by a feature (422) which may represent the edge of a ditch indicated by circular crop marks in the air photograph (Pl. 1).

The Causeway (Figs. 4 and 6)

To the north-east of the earthwork the modern hedge kinks into the enclosure and the ground surface outside the hedge line hollows over the course of the early ditch. At this point the ditch appeared to be much narrower than it did in A and Q, 13–15 feet instead of 20 feet. The reason for this was that the ditch here was cut into bedrock for the whole of its depth from the base of the plough soil, so the sides were much less eroded and the true ditch profile was preserved. Being at the lower part of the enclosure the ditch accumulated water and the bottom of the ditch could not be reached with the resources available.

The lowest level of the ditch fill seen was a red brown clay and shillet (344), covered by a light grey clay and shillet (343). This could have remained the surface of the ditch silting for a long period, during which time, in this damp position, it was affected by a gleying action. Some time later a causeway was constructed across the ditch at this point. There are various layers in the build-up of the causeway, not all of them seen in every section; first a fine brown silt (342), derived from the top soil, next a loose yellow brown shillet (341), which showed a greyer brown at its eastern edge, and over this, running down from the outer lip of the ditch on the eastern side, a deposit of red-brown clay and shillet (340). On the south side still more red-brown clay and shillet (407) was tipped. The causeway area was then levelled up with several layers of light grey shillet and stones (334) with brownish clay, containing sherds and acting as a ballast, on which was laid the causeway (328), several layers of stone in yellow-brown clay forming a hard surface sloping very slightly down to the north. A shallow gully (331), filled with yellow-brown silt, ran across the causeway from the south, and another gully (329) parallel to 331 cut into the edge of the causeway and into the fill at the eastern edge of the ditch. The gullies seemed to join and drain away to the north-east (324). On both sides of the causeway the deposits which formed it sloped down and tailed off into the normal fill of the ditch. In layer 334, on the outer edge of the ditch in EE and EB, was a tumble of large stones (323), including half of the upper stone of a rotary quern and an unfinished bowl or mortar. To the north, in EG, layer 334 dropped very steeply from the causeway into the ditch, forming a kind of sump (347) three feet deep, which seemed to be lined with shillet and quartz pebbles, and contained some larger lumps of Pentewan stone and some pottery. A layer of yellow-brown clay and shillet (409) covered and partly filled the sump, and was overlain by a brown soil and shillet (408) which appeared as a lighter yellow-brown in EE. These were covered by the base of the plough soil.

The Interior

There was intensive occupation in the interior of the earthwork wherever this was examined. The features cannot always be distinguished stratigraphically. Where there is evidence of relationship, this is described; otherwise features may appear on

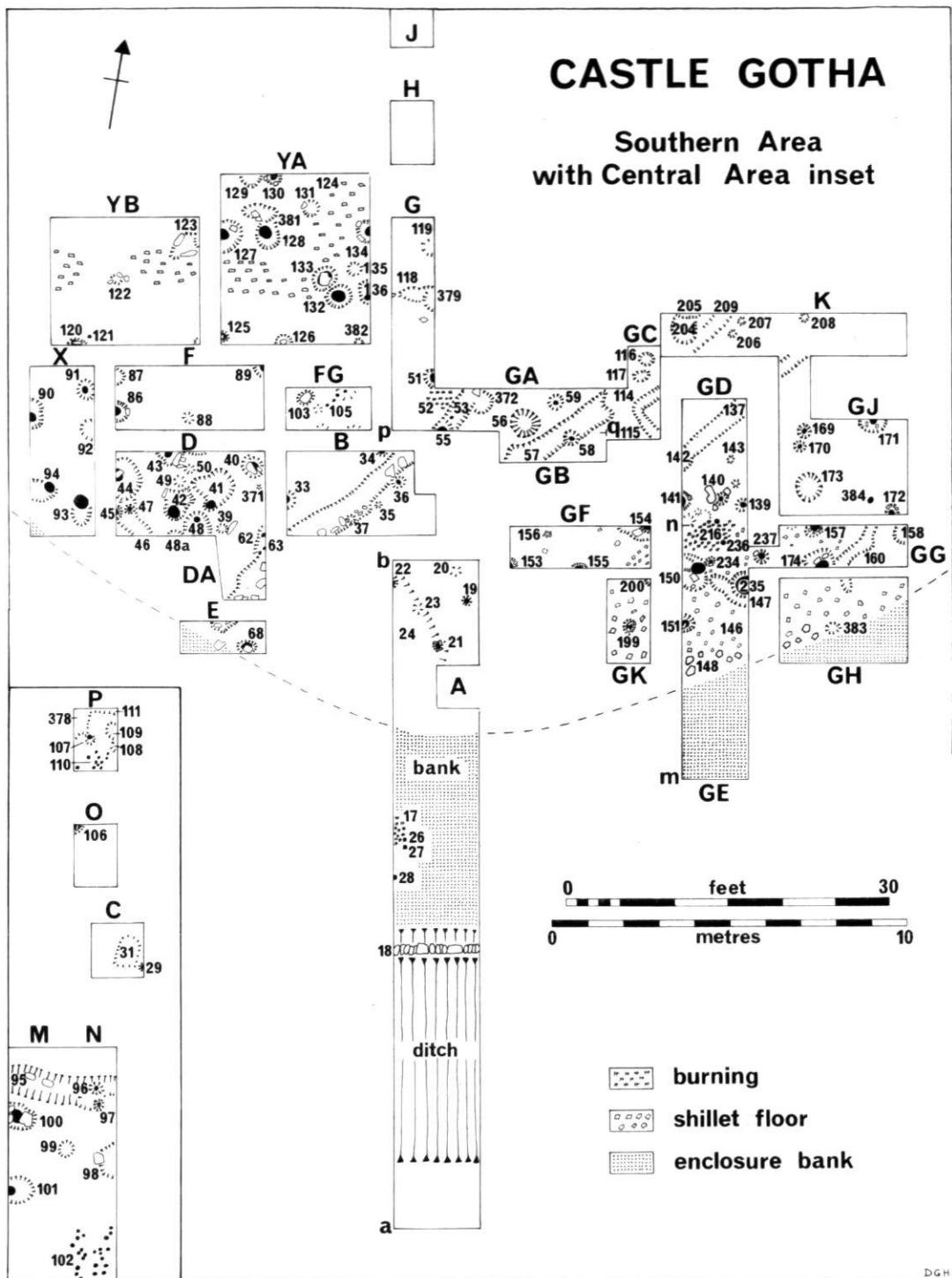


Fig. 5
Castle Gotha: southern area with central area inset.

the plan without description. Post pipes and packing stones are shown wherever they were present. The fill of pits and post holes was normally a dark grey-brown soil; any significant difference is noted. Owing to agricultural activity, the higher levels of some features have disappeared; depths are therefore not always the same as when the feature was originally dug; for all features cut into the natural depths are given in Table 1.

The Southern Area (Figs. 5 and 8)

On the eastern side of this area, the earliest stratified occupation was in GE (Fig. 8, section m-n). Inside the defences, a disturbed old land surface (179) with patches of yellowish green or white clay seemed to extend about twelve feet from the bank. On this was a large patch of burnt and scorched clay (216), with a quantity of charcoal. This burning at the north end of GE extended into the south-east corner of GD, where it was two inches thick. It was associated with two stake holes (236). This level was sealed by a floor (182) of blue slates, which extended into GG and GJ. A large post hole (150), over three feet across and nearly two feet deep, with a packing stone, relates to this floor. Over the floor was a thin layer (181) of grey-brown soil, containing some small pieces of burnt clay.

Overlying all this occupation, and also over the tail of the bank, was a floor (146), two to three inches thick, consisting of three or four layers of yellow shillet mixed with some blue slabs, and earth. A mortarium, some worked and polished stone and Romano-British sherds were associated with this floor. In GE the floor lay directly under the plough soil, which here contained numerous sherds and some charcoal. In GF there was a nest of very small beach pebbles (156) on a patch of gingery clay. Post hole 151, firmly packed with large pieces of Pentewan stone, cut the edge of floor 146. In the south of GD a layer of earth and mixed shillet was considered to represent an occupation and destruction level; it could alternatively be an extension of floor 146. In GE and GH a layer (148) of large pieces of shillet at the bottom of the bank suggested a late revetment of the bank; it had larger quartz or Pentewan stones above it. This layer (148) of large pieces of shillet at the bottom of the bank suggested a late revetment of the bank; it had larger quartz or Pentewan stones above it. This layer (148) may be the same as 198, the tail of the bank in GK, which was cut by a post hole (199). Post holes 155, 199, 151, 237, 172 and 171 all had stone packing, and could be interpreted as part of the outer ring for a house. Post holes 140 and 141, in the centre of this area, had blue slate packing stones.

Just to the north of this area are the remains of a rectangular structure. The shallow gullies 209, 114, 115, 137 were interpreted as sleeper beam trenches; they were between two and five inches deep, and would form a building just over five feet wide internally and more than fifteen feet long. Post hole 142, cutting the edge of trench GD at the south corner, could have held a corner post. The north-east of the structure had been ploughed away. There were no floor levels here, and no finds for dating purposes, but as the feature is of such a different construction from anything else round it, it could well be of a much later period. A rather similar flat-bottomed though broader gully (57), just to the west, contained 16th century sherds, a Romano-British rim, and a flint flake.

On the western side of this southern area less stratigraphical evidence is available. In D, the small gully or post hole 46 is an early feature, as it is cut by post holes 45 and 47, and probably by post pit 44 also. In G and GA, the patch of burning (52) is older than post hole 51 and gully 53 which cut it. Gully 53 also cuts post holes 372 and 55. In DA it cuts the depression 62 with its three stake holes (63), and in B holds post hole or depression 37 which contained carbonised wood under the stones and soil of its fill. The same gully in DA contained a scrap of Samian ware (87 in schedule, not illustrated), and then in E ran up the tail of the bank, postdating it. The spread of the bank had already sealed post hole 68, which is therefore earlier. In D, post hole 48 was earlier than 48a, a circular pit which cut into its side. In YA, the two thick scatters of stone

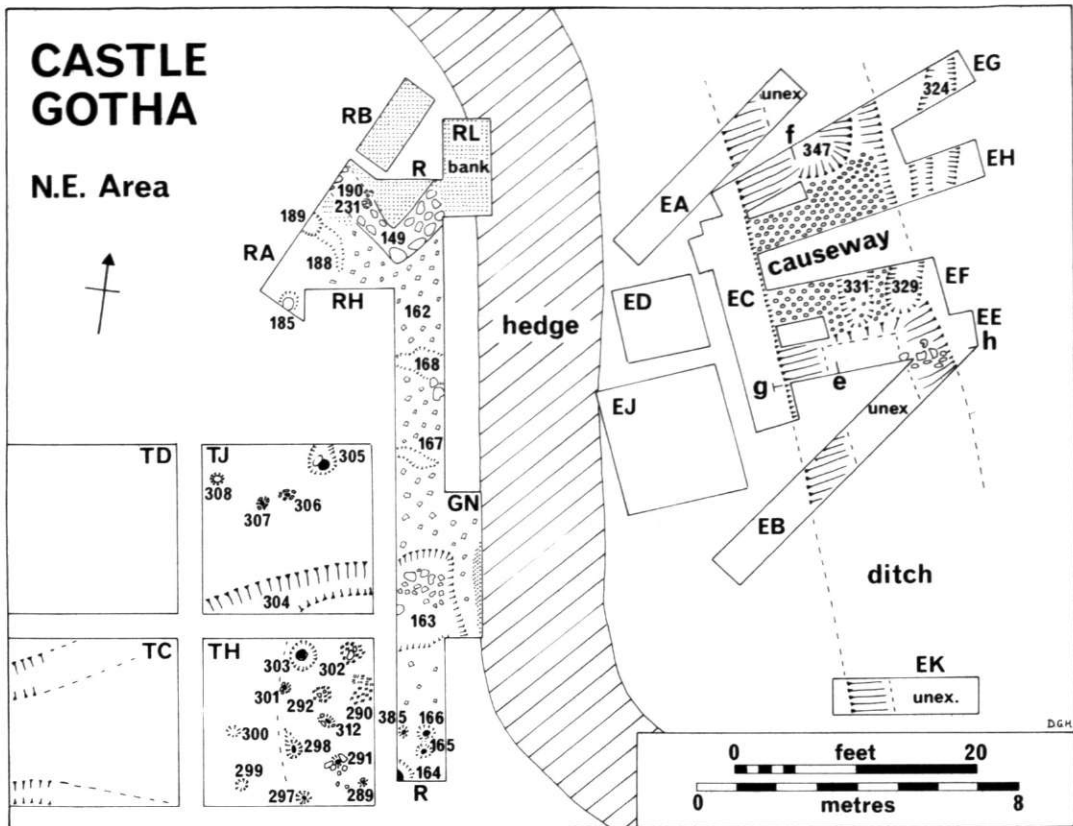


Fig. 6

Castle Gotha: north-eastern area, northern half, with causeway across ditch. Parts of the ditch marked 'unexcavated' were waterlogged.

(124) sealed post holes 131 and 134. Of the many post holes in this area, post holes 90, 94, 93, 42, 33, 34, 51, 132 and 131 had no packing stones, though the post pipe showed clearly in most cases; these could be part of one structure. Others, such as post holes 120, 86, 43, 103, 134 and 130 are packed with stones, and might represent a separate overlapping structure.

In the north of cutting A, a shallow depression (24) with black soil, much charcoal, burning, and fallen slate, contained a post hole (22), a small shallow pit (23) with a large broken slate at the bottom, and a slate-lined post hole (21) also with a slate at the bottom, which had in it large pieces of charcoal and Romano-British sherds. Another post hole (19) nearby, with some stones at the bottom, contained slate, charcoal, and a late medieval sherd. A post hole (153) in the south-west corner of GF, with slate packing and fragments of charcoal, could be associated with these. The shallow depression (20) full of shaley stone seems unlikely to have been structural. Further north in this area, just north of gully 57, was 'working hollow' 56, nearly three feet in diameter and ten inches deep, with a fill of dark soil at the base, and on it much twig charcoal; the top layer of the fill was smallish stones, which included a fragment of a saddle quern. The post hole (58) in gully 57 near the hollow had its south-east side undercut as if the post had been set at an angle leaning in towards the pit. Of the two pits north of the sleeper beam trench (114), and which could cut it, 116 contained much charcoal, 117 was irregularly packed with small stones; more charcoal covered the

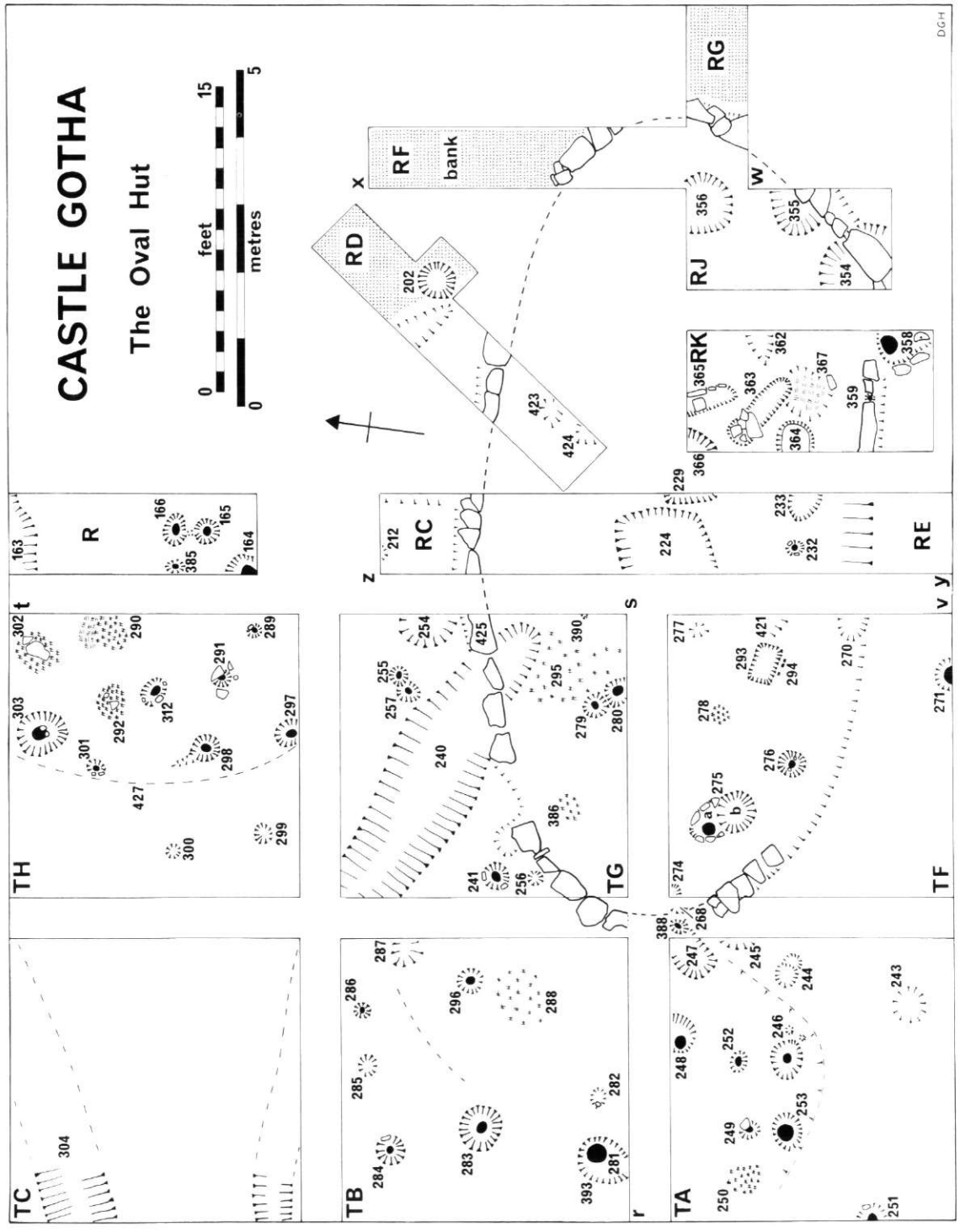


Fig. 7
 Castle Gotha: north-eastern area, southern half, with the oval hut.

DGH

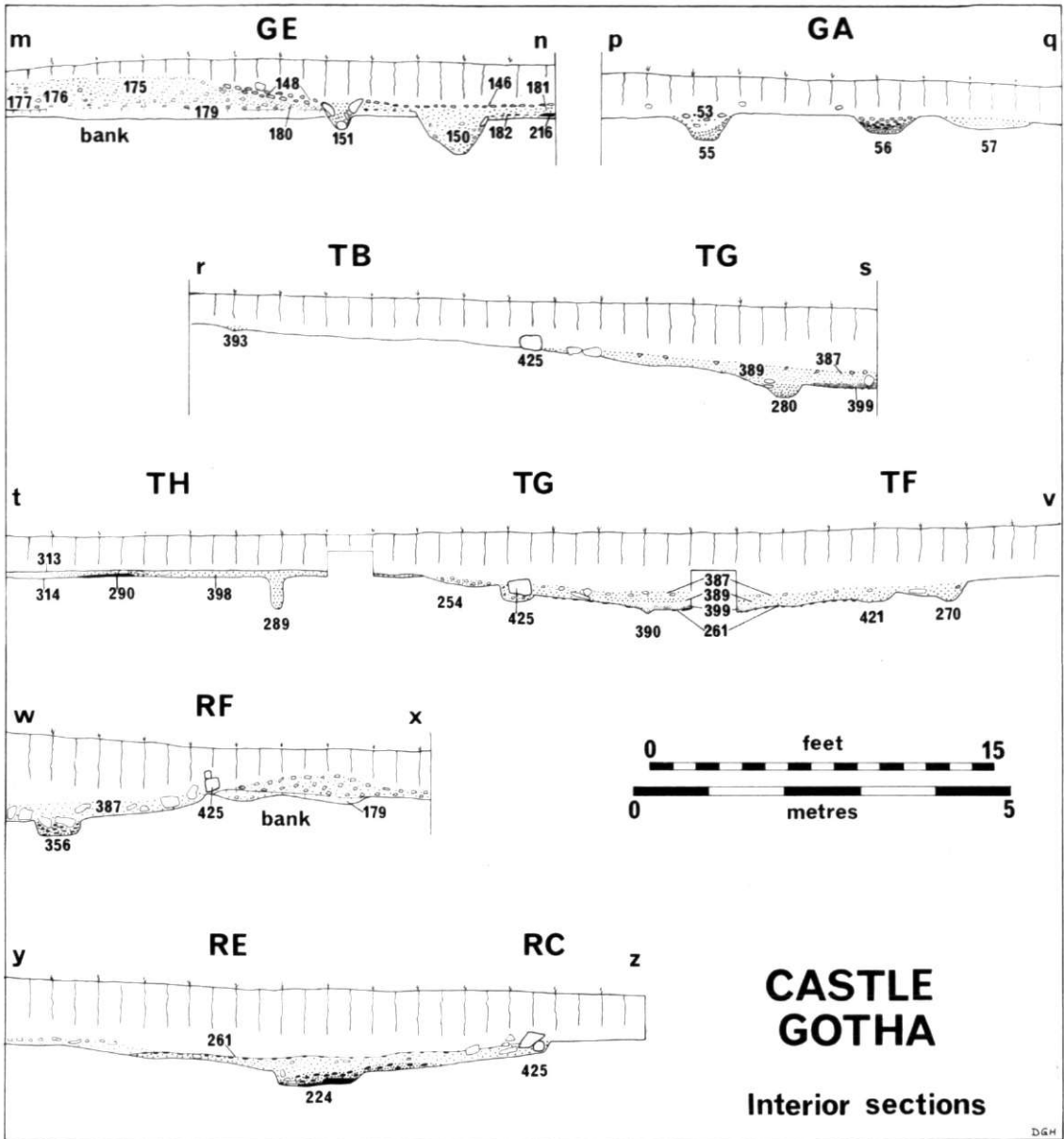


Fig. 8
Castle Gotha: interior sections

pink shillet in this area. A larger pit (204) to the north-east, in K, contained some Romano-British and late medieval sherds and some carbonised grain. It was cut by another (205), with some charcoal. Three small post holes farther east (206, 207, 208) contained charcoal and had no packing stones. Possibly 22, 21, 19, 153 and 154 could form part of a structure.

The Central Area (Fig. 5)

Towards the centre of the earthwork a gully (95) ran east-west across cutting MN; it cut through a layer of red clay overlying the natural, and was cut by the post holes 96 and 97 in its filling. Just to the south were post holes 98 and 99, containing some charcoal and greenish white clay, 100 with two slabs of blue slate and a large piece of Pentewan stone, and 101; there was also a cluster of stake holes (102). Further north, in C, a squarish depression (31) could be the setting for a stone because of the hard packing at its edges. Almost touching it to the south-east was post hole 29. A post hole (106) in the north-west corner of O cut through a layer of orange sandy loam under the plough soil and the hard grey shillet below; over its top was a large piece of Pentewan stone with tooling marks. In P were post holes 107, 108 small and shallow with a greyish shillet fill, 109 close to the last and similar to it, eleven stake holes (110) cut into a softer sandy shillet with occasional packing of small pieces of spar, and an irregular gully (111) which opened out into a depression (378).

North-Eastern Area TH and TG (Figs. 6, 7 and 8)

All the north-eastern part of the site had been densely occupied. One of the centres of this occupation was in TH. It was defined on the west by the edge of the clean shillet (427) which surrounded it; there could be no delimitation on the east because that part was unexcavated. A gully (240) in TG ran down from the west on the south side of this area, and on the north was another V-shaped gully (304) in TJ and R, ending in GN (Fig. 6). Within the occupied area there was a floor (314) of burnt reddish clay which was probably the natural with charcoal and stone trampled in. On this floor were three patches of burning, a shillet hearth (290), burnt red with a patch of white clay discoloured by charcoal and burning on the north side, a roughly circular hearth (302) with a shillet slab at the bottom and with shillet and clay round it burnt red, and a patch of burning (292) with charcoal and Pentewan stone in it. Cut through this floor (314) were post holes 289 which had a packing stone and part of a bronze ring in it, 297 packed with stone and containing some pottery, 291 with one sherd, 298, 312 packed with small stones and with a shillet slab at the bottom with some pottery, and probably 301 and 303. Holes 299 and 300 are cut through the clean shillet outside the occupation area. The features in R south of gully 163 were probably at this same level; a post hole (164) in the corner of the cutting, another (385) just inside, and a double feature 165 and 166, the latter containing a pierced slate disk. Also within the area was post hole 257 in TG which was cut by 255, and a shallow hole (212) in RC (possibly deeper under the baulk) which was full of charcoal and round which the clay of the natural was burnt. In TH all these features were sealed first by a brown earth layer (398) two to three inches thick, and then by another floor level (313) of shillet and small stone, with some shillet slabs, especially round post holes. There is evidence of occupation on this floor, and the floor extends into the north-east corner of TG; it is cut by an irregular depression (254) outside the wall of the oval hut.

North-Eastern Area TJ and R (Fig. 6)

Four post holes in TJ seem to form the arc of a circle. A large post pit (305) with a post pipe had shillet and clay packing at the sides and a large stone at the top; 306 was packed with blue slates vertically round the edges; and had a sherd and a whetstone in the dark grey slaty filling; 307 had stone packing round the top; and 308 with charcoal in the fill had a large stone lying over the top. In RA, a circular hollow with vertical sides (185) had a base of a circular blue slate slab and sides lined with yellow

or grey clay, and seems to have been used for holding water or some similar function; there was burnt clay and charcoal in the fill. It was below an occupation layer (187) six inches thick, a greyish brown soil containing much pottery and charcoal, which was sealed by a layer (186) of stony brown soil covered with charcoal and sherds, lying under the plough soil. These layers stop at the gully (188) which ran across cutting RA and dipped into pit 189. On the farther side of this gully, the layers were different and extended over cuttings RA, RH, RE and R. In RA and RB there was a layer (192) of yellowish brown clay and shillet lying on the natural, derived from the bank. In R the three gullies were early features. Gully 163 has already been mentioned in connection with area TH; it was deep, had a layer of light brown clay and shillet at the bottom with some pot, and towards the top of the fill some animal bone, limpet shells with some winkle and mussel in a composite mass as if thrown down in a bag, and some Romano-British pottery. Gully 167 did not reach the east side of the cutting; it was flat-bottomed and its fill of shillet and brown soil showed no sign of occupation material. Gully 168 had many pieces of charcoal in its fill of soft grey-brown clay. Over all these features and over layer 192 was a layer (191) of mixed soil and shillet, which was topped by a floor (162) of large pieces of blue or yellow shillet. This floor extended into RA, north-east from gully 188, all over RH, into GN where it was cut by modern ditching operations at the bottom of the hedge, and in R from the bank southwards to gully 163 and then, spread rather more thinly, to the southern end of the cutting. Over this floor was a later stone wall (149). It crossed cutting R diagonally, turned a right angle across RH, and was seen at the far side of RA although most of the stones were missing across the cutting. The wall consisted of large blocks, mainly of Pentewan stone, and lay over the bank. Within the wall area, at the junction of RA and RH, upright stones of granite and shillet formed a small cist-like enclosure (190).

North-Eastern Area TA and TB (Figs. 7 and 8)

At the western side of this north-eastern area there was also evidence of occupation. In the northern half of TA, where most of the features were grouped, the level of the shillet was two or three inches lower than farther south, and there was a good deal of charcoal. There was a patch of burning (250) on the south-west edge of this area of occupation, and another (288) more centrally in TB. Two holes lay outside this complex to the south; 243 had a little charcoal in it but was probably too shallow to hold a post; 251 had a packing stone. Round the edge of the occupation surface (391) were post holes 244, 246 full of charcoal, 253 with its top cut back and packed round with shillet, 249 with a packing stone, a pit (393) with a post pipe (281), 283 with hard shillet sides and bottom, 284 with a packing stone, 285 with a grey-brown fill flecked with charcoal, 286 with a clay and shillet packing round the post, 287 with sloping sides and unlikely to have held a post, 247 much elongated to the east where it was cut by 388 and by 268, a cutting into the floor of the oval hut and lying underneath its stones. Just over the baulk, in TG, was 241, a rather undercut bell-shaped hole, with small shillet slabs in the fill and larger blocks of Pentewan stone at the sides; and near it post hole 256. It is possible also that some of the features inside the oval hut were associated with earlier occupation, for instance 275, an irregular pit which was part of a very disturbed area and which had probably been re-used three times, the earlier post hole (a) being packed round solidly with stone. Near the middle of the TA/TB complex were post holes 252 bell-shaped at the bottom with some charcoal and cordoned ware, 248 an elongated pit with its post pipe on the west side, 282 a shallow pit with a small burnt bone in the fill, 296, and possibly 245, but this seems to be merely a narrow hollowing in the natural.

The Oval Hut (Figs. 7 and 8)

The outstanding structure of this north-eastern area was the oval hut. It covered a great deal of space, from TA to RG, and must have destroyed much evidence of earlier occupation. It had a stone wall (425) which outlined an oval or boat-shaped structure,

39 feet (12 m) long and 19 feet (5.80 m) wide internally, cutting into the tail of the rampart on the east. The wall was still three courses high in places, as in RJ, though it must have been higher, judging from the amount of stone in the tumble layer; it was only one stone wide, and was presumably backed by earth or turf. The inner face of the wall was very regular. The stones were set in a foundation trench cut several inches into the natural, and this had protected them from plough damage, so that usually the base of the wall remained *in situ*. The wall appeared at the western end of TF; stone did not complete the line of the wall in the rest of this cutting, but there were remains of post holes along the south edge, and a step cut in the natural can be seen in the photographs, which suggests that the foundation trench continued as far as feature 273. In TG the line of the wall was almost continuous and regular, as also in RC, where the foundation trench showed clearly. It continued in RD with very large blocks of Pentewan stone, trigged by small stones which were also used to wedge the joints. Here it lay clearly on top of bank material, as it did also in RF. The wall returned in RG, and in RJ where it was at its highest, and where it utilised a piece of broken saddle quern as one of its stones. In RK it included one very long stone, and between this and the next stone was post hole 359, six inches deep to the level of the shillet floor, ten inches deep elsewhere, and sloping at an angle of 35°. In RE the wall did not appear, and the entrance was presumably here; along the projected line of the wall the level of the natural dropped in a gentle slope towards the interior.

Within the wall the level dropped one foot seven inches below the level of the natural shillet. The gully (240) in TG came into the hut area but was earlier than the hut, and ran under its wall; it had a filling of dark grey-brown loam which seemed to be all of one date, and contained much pottery (Glastonbury and cordoned ware) together with pebbles, charcoal, pieces of iron, baked clay and a small bronze brooch. Otherwise the earliest features inside the hut area included a depression (426) in the south-east corner of TG, filled by the burning (295); the pit filled an irregularity in the natural and spread more widely; it contained two post holes, 279 and 280, separated by a narrow ridge of shillet, one probably a replacement for the other. There was also a roughly rectangular 'hearth pit' (224) in RE, with very rotted edges charred pink, largely filled with charcoal and black soil, which was sealed by collapsed walling; it had charcoal (226) at the bottom, and a fill of grey-brown soil (225) which also ran over the natural to the north of the pit. These two could either predate the hut, or form its earliest features. RJ contained three early pits, two of them running under the wall; 354 had sloping sides, showed traces of a yellow clay lining and was filled for nine inches with charcoal and soil and then with stone and grey-brown soil; pit 355 was also clay-lined; it had a golden-brown sand deposit at the bottom and was then nearly full of black soil and charcoal, which was topped by three inches of grey-brown soil and one inch of light grey ash; one of the wall stones had dipped into the filling so that the stone above had fallen forward. Pit 356, partly in RF, was also lined with yellow clay at the bottom; it had a curved end and vertical sides, and was filled with black silt, charcoal, and decayed and carbonised vegetation; this was sealed by loose shillet from the rampart. In RK a single stake hole (359) was partly under a stone of the wall; and the pit and post hole 358 appeared to be under and half outside the wall.

Just outside the oval hut to the north was a working hollow (202) in RD, a pit cut into the tail of the bank, with a six inch deposit of charcoal at the bottom on the burnt natural shillet, and a fill of dark grey-brown soil and stone with a pierced slate on top; a Glastonbury sherd lay on the top of the charcoal. The pit had no stratigraphical relationship with the oval hut, but the sherd, and the fact that the pit was at the back of the hut and would have been covered by any turf backing of the wall, suggest that it was an earlier feature.

Inside the hut, sealing the earlier features mentioned above, was a floor level (281) of small shillet set in brown soil, and, where it did not cover an earlier feature, lying on the natural. In places it was very much burnt. It was seen in TF on the natural, with a

scoop (421) in it which was cut by the fire pit (293). In TG it sloped markedly inwards, and had much burning on it (295). In RE it was very compact, with some pebbles mixed in underneath, and had burning on it. In RK there was burning all over this floor.

Many features were associated with the floor. In TF, cut into the existing scoop (421), was a rectangular 'fire pit' (293), which was claylined, burnt red with fire, and had a black fill full of charcoal and with some slag, especially at the west end (for analysis see below, p.); a large stone slab, collapsed into the pit with other stone, was originally suggested as a fallen fire back, but seems more likely to be part of the destruction layer (387). There was a row of three stake holes (294) along the southern edge of the pit. A patch of burning (278) close by on the north side of the pit, with black ash and charcoal, could be a hearth; the surrounding shillet was burned red, as often on this floor. There were several post holes. Post hole 274 almost touched the wall. Post hole 275 had been recut; 275a was neatly packed round with stone; it was cut by 275b; a third element 275c, within a, could be earlier or more likely the post pipe of a. Both parts of the post hole were filled with yellowish-grey clay; stone which had collapsed into the filling sealed a Romano-British flanged bowl. Post hole 276 had a dark grey fill, with much stone which partly covered it. Feature 270 could be a post hole, but was more probably the foundation trench for the hut wall, from which the stone had been taken; 277 was small and irregular, and probably not a post hole. In TG was an extensive burnt area (295) above pit 426, and another patch of burning farther west. A small post hole (390) in the east baulk showed in the section. In RE a post hole (232) was packed with two stones; it could be opposite the hut entrance. A wider post hole (233) was filled with black soil and shillet. A circular pit (229), with a fill of dark brown stoneless soil, was cut off by the baulk; it was probably part of pit 366 in RK, which contained much charcoal on its sides but was filled with grey-brown soil with a good deal of shillet. In RK too there was a rectangular pit (365), also cut into the burnt shillet of the floor, with yellow-brown clay at the bottom into which one large stone had been set on end; other stones were set on edge at the side. Another pit (363) was boat-shaped, cut into the burnt floor, and filled with a mixture of clay, stones, shillet and some slate, though little charcoal; at its north-west end three or four large slates were pitched into it, and others were on edge at the side. A shallow pit (364) had a large flat irregular undressed Pentewan stone set in the grey-brown clay fill, as if to produce a flat surface. Between the long pit 363 and this stone 364 was a patch of yellow-brown clay (367), which packed a rectangular cut in the floor; two stones were set on edge at the side, and there was burning on the top. A small irregular pit (362) had a fill of shillety brown clay.

Over the floor (261), in the central, lowest part of the hut, was a layer (399) of black silt, which covered the burning (295) and post hole 390; sealing this, and covering the features cut into the floor, was a mixture of dark brown soil and shillet (389). Over this was a layer (387) of brown soil with a mass of large stone tumble, which contained in TF/TG a quern stone and rubber, iron, a fragment of bronze, and much pottery including cordoned ware; in RE, pottery, with a Samian sherd; Glastonbury ware and the rim of a flanged bowl in RD; two stone bowls in RJ; and a quern stone, rubber, worked slate and pottery in RF. This layer must represent widespread collapse of walling. Above it was the base of the dark brown plough soil (2), and then the slightly lighter top soil (1).

Table 1. Depths and other details of features cut into the natural; depths are given from the top of the natural. Post holes are referred to as PH, stake holes as SH.

Feature number	Cutting	Nature	Depth	Evidence for post and other detail
19	A	PH	1 ft 2 in	some stone at bottom
20	A	hollow	shallow	
21	A	PH	1 ft 9 in	slate lined, contained charcoal
22	A	PH	c. 1 ft	
23	A	pit	shallow	
24	A	hollow	shallow	
26	A	SH	5 in	
27	A	SH	5 in	
28	A	SH	5 in	
29	C	PH	1 ft 2 in	stone setting?
31	C	hollow	10 in	
33	B	PH	11 in	
34	B	PH	1 ft	
35	B	PH	7 in	
36	B	PH	1 ft 3 in	
37	B	PH?	1 ft	
39	D	PH	10 in	packing stones
40	D	PH	10 in	packing stones
41	D	PH	1 ft	post pipe
42	D	PH	1 ft 4 in	post pipe
43	D	PH	11 in	post pipe
44	D	PH	1 ft 3 in	packing stones, 16th C sherd
45	D	PH	1 ft	post pipe
46	D	gully	1 ft 3 in	
47	D	PH	1 ft 2 in	
48	D	PH	11 in	
48a	D	pit	1 ft 9 in	
49	D	PH	6 in	
50	D	PH	7 in	
51	G	PH	11 in	
53	GA,B,DA,E	gully	6 in	possible drain in gully 53
54	GA	SH		
55	GA	PH	1 ft 1 in	
56	GA	pit	10 in	working hollow
57	GA	gully	7 in	contained 16 C sherds
58	GA	PH	1 ft 3 in	
59	GA	PH	1 ft 4 in	
62	DA	hollow	4 in	
63	DA	3 SH	4 in	
68	E	PH	1 ft 2 in	post pipe, packing stones
82	Q	pit	6 in	contained LBA sherd
86	F	PH	1 ft 1 in	post pipe
87	F	pit	7 in	
88	F	PH	6 in	
89	F	PH	10 in	
90	X	PH	1 ft 4 in	post pipe
91	X	PH	1 ft	
92	X	PH	7 in	

Feature number	Cutting	Nature	Depth	Evidence for post and other detail
93	X	PH	1 ft 3 in	post pipe
94	X	PH	1 ft 2 in	post pipe
95	MN	gully	1 ft 9 in	
96	N	PH	1 ft	
97	N	PH	1 ft	
98	N	PH	9 in	
99	MN	PH	10 in	
100	M	PH	1 ft 3 in	
101	M	PH	1 ft	post pipe
102	N	SHs	3-4 in	
103	FG	PH	7 in	
105	FG	4 SHs	3 in	
106	O	PH	1 ft	
107	P	PH	4½ in	
108	P	PH	5 in	
109	P	PH	6 in	
110	P	11 SHs	3-4 in	
111	P	gully	6 in	
114	GC	gully	2 in	sleeper beam trench?
115	GC	gully	2 in	sleeper beam trench?
116	GC	pit	5 in	charcoal
117	GC	pit	4 in	
118	GC	gully		
119	G	hollow	4 in	
120	YB	PH	7 in	
121	YB	SH	2 in	
122	YB	PH	6 in	
123	YB	hollow		
125	YA	PH		
126	YA	PH	7 in	
127	YA	PH	7 in	post pipe
128	YA	PH	1 ft 3 in	packing stones
129	YA	hole	8 in	
130	YA	PH	10 in	
131	YA	PH	6 in	
132	YA	PH	1 ft 7 in	post pipe
133	YA	PH	1 ft	flat stone in bottom
134	YA	PH	9 in	packing stones
135	YA	PH	10 in	
136	YA	PH	10 in	
137	GD	gully	5 in	sleeper beam trench?
139	GD	PH	1 ft 2 in	
140	GD	PH	1 ft 10 in	packing stones
141	GD	PH	1 ft	
142	GD	PH	8 in	for corner post?
143	GD	hole	9 in	
147	GE	gully	shallow	
150	GE	PH	1 ft 11½ in	post pipe
151	GE	PH	1 ft	packing stones
153	GF	PH	?	packing stones
154	GF	PH		
155	GF	PH	1 ft 9 in	packing stones

Feature number	Cutting	Nature	Depth	Evidence for post and other detail
157	GG	PH		post pipe
158	GG	hole	8 in	
160	GG	gully	2 in	
163	R	pit	2 ft 2 in	contained limpet shells
164	R	PH		
165	R	PH	10 in	
166	R	PH	10 in	
167	R	gully	6 in	
168	R	gully	11 in	
169	GJ	PH	1 ft 10 in	
170	GJ	PH	1 ft 6 in	
171	GJ	PH	1 ft 7 in	packing stones, post pipe
172	GJ	PH	1 ft 1 in	packing slates
173	GJ	pit	1 ft 1 in	
174	GG	PH	1 ft 9 in	post pipe
185	RA	PH?	8 in	blue slate slab at bottom, sides packed with yellow clay
188	RA	gully	6 in	
189	RA	pit	1 ft 1 in	
190	RA	hole		hollow among wall stones
199	GK	PH	1 ft 4 in	packing stones
200	GK	PH?		
202	RD	pit	1 ft 2 in	working hollow or foundry pit; charcoal; Glastonbury sherd
204	K	pit	10 in	
205	K	PH?	9 in	
206	K	PH	1 ft	
207	K	PH	6 in	
208	K	PH	9 in	
212	RC	hole	shallow	hearth pit
224	RE	pit	9 in	hearth pit; edges charred pink; charcoal
229	RE	pit	10 in	
231	RH	PH	7 in	under bank; conical
232	RE	PH	1 ft	packing stones
233	RE	PH	10 in	
234	GE	PH	7 in	packing stones
235	GE	PH	1 ft 3 in	
236	GE	2 SHs		
237	GE-GC	PH	1 ft 5 in	packing stones
240	TG	gully		contained bronze brooch, much pottery (Glastonbury and cordoned), pierced slate, etc.
241	TG	PH	2 ft 3 in	packing stone
243	TA	PH	7 in	
244	TA	PH	10 in	
245	TA	PH?	7 in	probably natural
246	TA	PH	1 ft 3 in	charcoal
247	TA	PH	1 ft 6 in	
248	TA	PH	11 in	post pipe
249	TA	PH		
251	TA	PH?	9 in	packing stone

Feature number	Cutting	Nature	Depth	Evidence for post and other detail
252	TA	PH	2 ft	
253	TA	PH	11 in	post pipe
254	TG	pit	10 in	depression in shillet
255	TG	PH	1 ft 3 in	
256	TG	PH	10 in	
257	TG	PH	1 ft 7 in	
268	TF	hole		
270	TF	hole	10 in	part of foundation trench?
271	TF	PH		
275a	TF	PH	1 ft 7 in	post pipe
275b	TF	PH	2 ft 3 in	
276	TF	PH	10 in	
277	TF	hollow	5 in	
279	TG	PH	11 in	
280	TG	PH	9 in	
281	TB	PH	2 ft	in pit 393
282	TB	pit	3 in	
283	TB	PH	11 in	
284	TB	PH	1 ft 6 in	packing stone
285	TB	PH	5 in	
286	TB	PH	1 ft 1 in	shillet packing
287	TB	hole	6 in	
289	TH	PH	1 ft 6 in	packing stone; contained part of bronze ring
291	TH	PH	1 ft 4 in	
293	TF	pit	7 in - 1 ft	hearth or furnace pit
294	TF	3 SHs	4 in	
296	TB	PH	11 in	
297	TH	PH	9 in	
298	TH	PH	1 ft 2 in	
299	TH	PH	6 in	
300	TH	PH		
301	TH	PH		packing stones
303	TH	PH	9 in	packing stones
304	TJ	gully	1 ft 2 in	V-shaped; contained bronze brooch, much pottery including amphorae, slag
305	TJ	PH	1 ft 7 in	packing stones
306	TJ	PH	1 ft 2 in	packing stones
307	TJ	PH	1 ft 4 in	packing stones
308	TJ	PH	8 in	
312	TH	PH	9 in	packing stones
324	EG	gully	1 ft 10 in	
329	EF	gully	8 in	
331	EF	gully	8 in	
347	EG	sump?	3 ft	to drain water from causeway?
354	RJ	pit	1 ft 2 in	clay lining on sides
355	RJ	pit	1 ft 1 in	clay lining on sides
356	RJ	pit	1 ft 1 in	clay lining on sides
358	RK	PH	1 ft 1 in	post pipe
359	RK	PH	10 in	
362	RK	pit	5 in	

Feature number	Cutting	Nature	Depth	Evidence for post and other detail
363	RK	pit	11 in	edged with slates
364	RK	pit	8 in	flat stone set in
365	RK	pit	10 in	
366	RK	pit	10 in	
367	RK	hollow	7 in	under burning
371	D	PH	shallow	
372	GA	PH?		
378	P	pit		
379	G	PH	1 ft 2 in	
381	YA	PH?		
382	YA	PH?		
383	GH	PH?		
384	GJ	SH		
385	R	PH		
388	TA-TF	PH		
390	TG	PH		
393	TB	pit	9 in	contains PH 281
421	TF	hollow		
423	RD	hollow		
424	RD	hollow		

THE FINDS

Stone

Castle Gotha produced many stone artifacts, including querns, bowls, whet stones, spindle whorls and moulds for metal working. The stone is all local, with two exceptions. There is a small green and cream pebble of an acid lava which is not found in south-west England, the nearest possible place of origin being S. Pembrokeshire, and a piece of black chert unlike the usual flint found on Cornish beaches. One heavy pebble contained tin and iron, and was probably cassiterite.

Pentewan stone, a quartz porphyry from a nearby dyke, was used for the querns and bowls, with the exception of one quern which was made of local granite. The three pieces of worked stone which appear to be moulds are of a fine-grained muscovite granite from the St Austell outcrop.

A great deal of worked Devonian slate was found, chiefly made into holed discs. The majority of utilised stones are greenstones, but there are several pieces of quartz-porphry. Very little flint was found; only one piece was worked. As is usual at sites near the coast in Cornwall, beach pebbles, brought from the shore, had been utilised as tools.

Querns and bowls (Fig. 9)

- 1 Part of a granite saddle quern, smooth, gently sloping top, base hollowed and broken; from shillet floor RH 220
- 2 Part of a large dished saddle quern of Pentewan stone, with a very smooth interior; from enclosure ditch A7
- 3 Large pebble of quartz porphyry, broken at one end; surface smoothed with use; RE 387
- 4 Part of upper stone of rotary quern made of quartz porphyry (possibly Pentewan stone, but with more tourmaline than other Pentewan); shaft and bottom worn smooth by use; from stone tumble in enclosure ditch EE 323
- 5 Almost two thirds of base of rotary quern, of Pentewan stone; square cut socket in centre; 2 ins deep; base flattened but not smoothed; in pit under oval hut wall RK 358

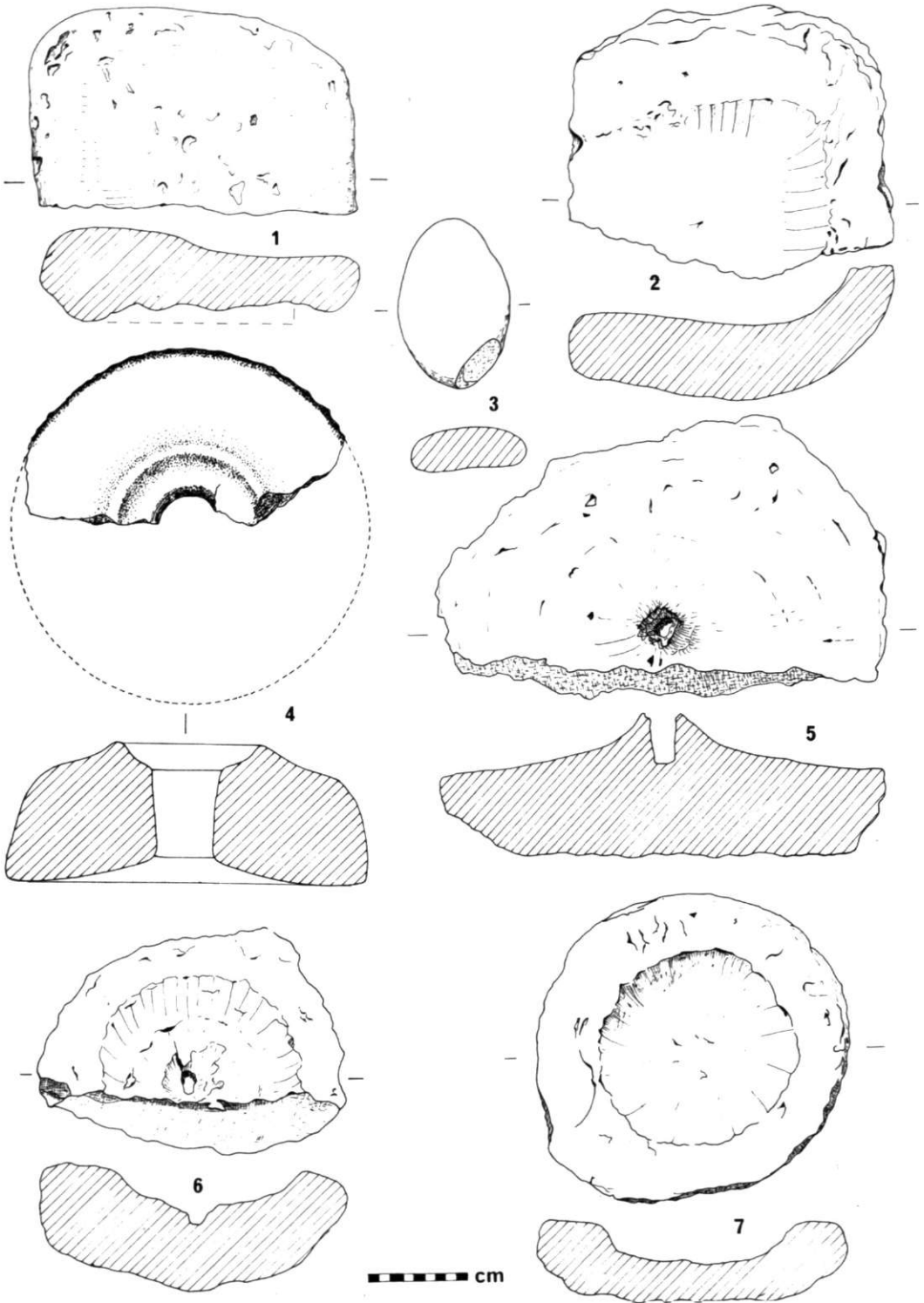


Fig. 9
 Stone from Castle Gotha: querns and bowl. Scale 1/6. Drawing Mary Irwin.

- 6 Broken circular piece of Pentewan stone, hollowed out with socket in centre; unfinished; from stone tumble in ditch EE 323
- 7 Unfinished bowl of Pentewan stone, broken in half; RG 387

Two other pieces of worked Pentewan stone were probably bowl rims. Three fragments of worked Pentewan stone look like pieces of quern.

Moulds and utilised stones (Fig. 10)

- 8 Half mould for penannular brooch; very fine muscovite granite (could be from St Austell granite but not the same outcrop as 9); circular groove with small hollow at each end; spout between the hollows; signs of burning in the groove suggest use; found in enclosure ditch Q 79
- 9 Broken mould for sheet metal; broken rectangular piece of fine grained muscovite granite, from the eastern part of the St Austell granite. The recessed flat surface is very finely worked, with a straight edge. There appears to be a spout on one edge. From GE, floor 146
A similar piece, but without rim or spout, could fit into this, and be the other part of the same mould.
- 10 Rectangular corner piece of worked Pentewan stone, broken across a central hole; RG 387
- 11 Greenstone pebble; scratches suggest use as whetstone; RK 2
Eight further stones are interpreted as whetstones, and also eight broken pieces.
- 12 Large broken quartzite pebble; very smooth; polished on one face; RH, floor 162
This stone and three others are interpreted as rubbing stones.
- 13 Hammer stone; egg-shaped pebble of greenstone, water-shaped but from soil rather than beach; ends rough; large end used for pounding; F, post hole 86
- 14 Part of grit stone artificially shaped with smoothly rounded corners; broken across a small hole which shows signs of wear on upper surface; R, gully 163
- 15 Spindle whorl of pink buff slate; flat, with cylindrical hole; M, gully 95
- 16 Half of cylindrical spindle whorl of fine grained granite; centre hole counter-sunk and evenly drilled; unstratified
Two other flat slate spindle whorls were found.
- 17 Flint end scraper, dark grey, with secondary working; GA, gully 53
Thirteen other pieces of flint were found scattered over the site; eight were unretouched flakes, and the rest were beach pebbles. One piece of struck flint, with red marbling associated with iron-rich bands, was unusual for Cornwall.

Slate (Fig. 11)

There were 44 pieces of slate, varying from buff through green and brown to dark grey; this is typical local Devonian slate. Thirty-five pieces had had holes bored through them; some of these were worked into discs, others were nearly rectangular. Often they had broken across the hole. The size and weight of the holed pieces varied from four large heavy pieces with cylindrical holes to the very small holed discs. In most cases the holes showed signs of wear, suggesting that they might have been used as weights. Many of the pieces were damaged or worn at the edges. Two thin pieces (not illustrated) had small holes, and might have been modern. Of the unholed slates not illustrated, two were sub-rectangular and the others small worked discs.

- 18 Part of large worked slate; broken across the cylindrical hole, which is slightly off centre and shows wear in the shaft and on one surface; from RD pit 202
- 19 Worked slate disc; light grey; scratched; beginning of a hole in the centre; perhaps a pot lid; GA gully 53
- 20 Worked slate disc; worn double hole; RD pit 202
- 21 Worked light grey slate disc; double hole shows much wear; R gully 163
- 22 Worked light grey slate disc; hole shows some wear on one side; R gully 163

Pottery

At Castle Gotha past ploughing had churned up the top soil, and below this there

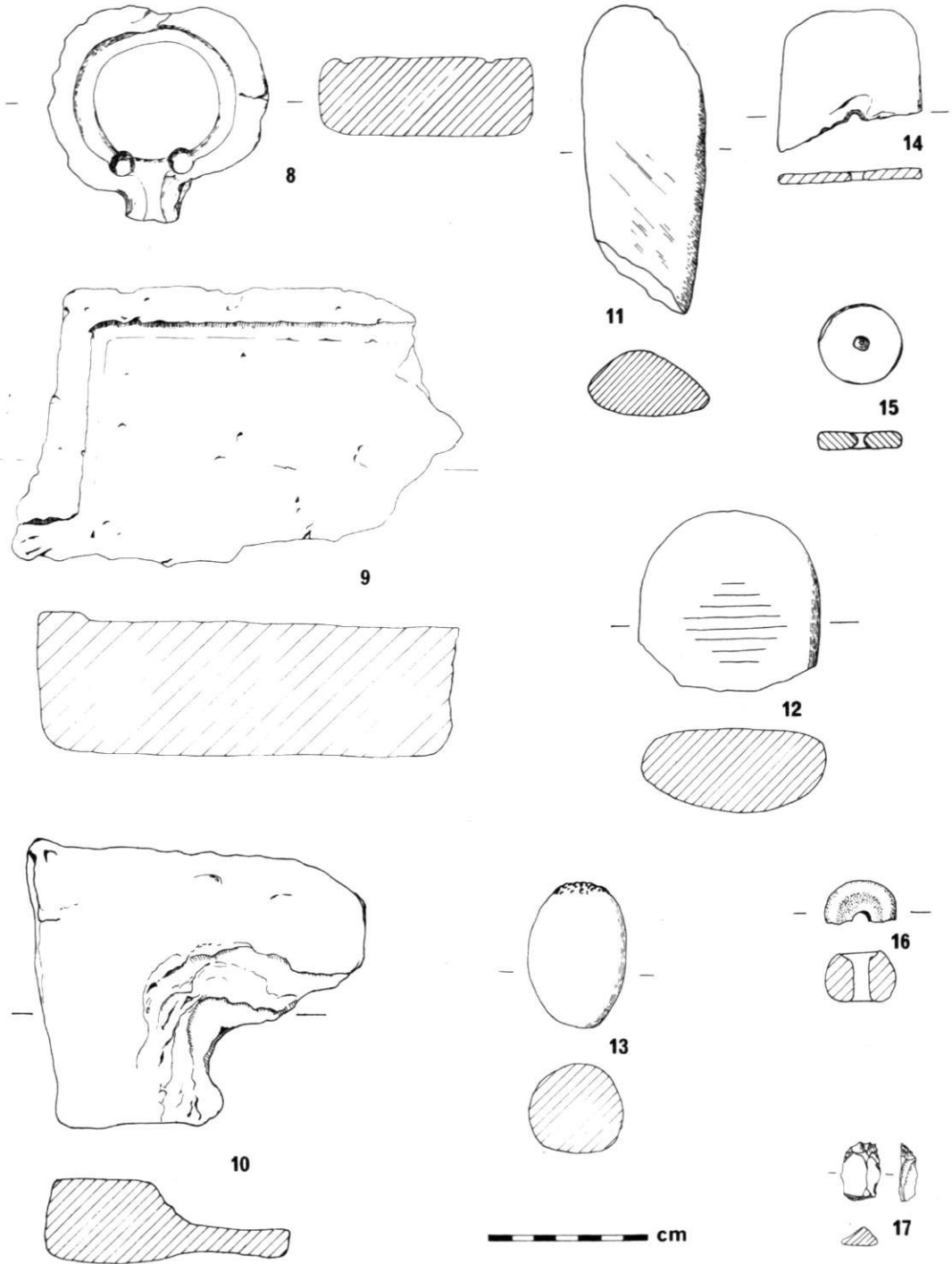


Fig. 10
 Stone from Castle Gotha: moulds and utilised stones. Scale 1/3. Drawing Mary Irwin.

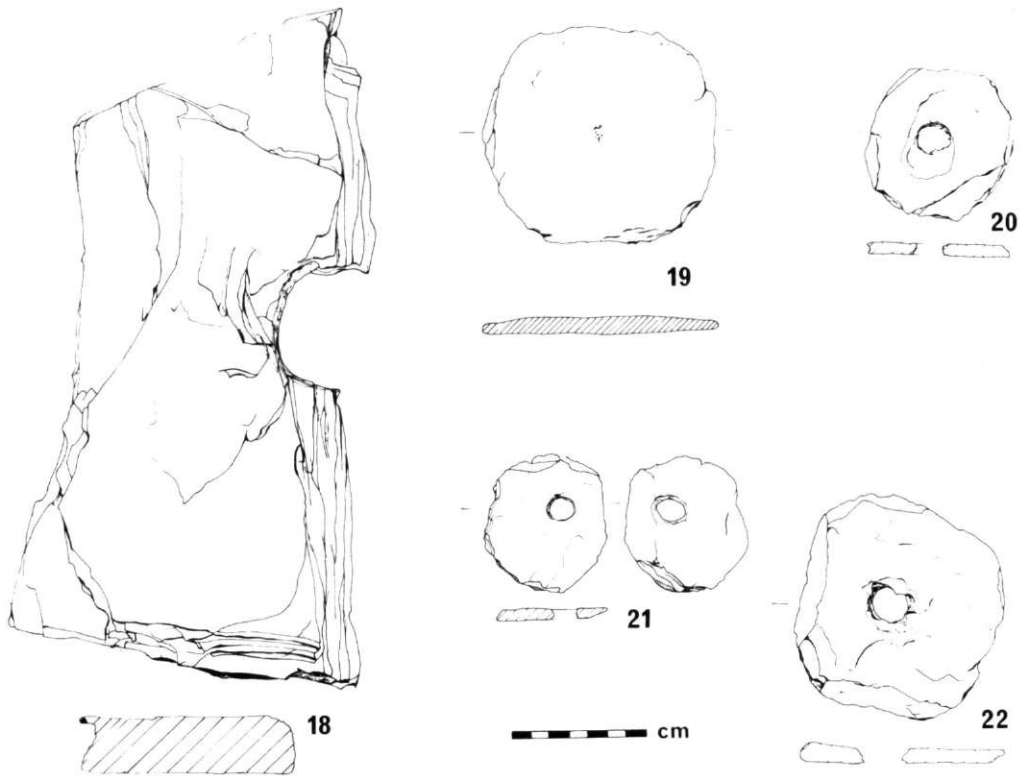


Fig. 11
 Stone from Castle Gotha: slate. Scale 1/4. Drawing Mary Irwin.

was not much depth of stratigraphy. For this reason the pottery had been moved around, and sherds of the same pot were sometimes found in different cuttings, and even in different excavation seasons. Sherds of every period represented were found scattered all over the interior of the round, and at all depths. In these circumstances it seems advisable to take the round as one unit, and consider the pottery as a whole; it has therefore been listed according to fabric and type, and not by context; the provenance is indicated by the cutting letter and context number.

The pottery covers a period from the middle Bronze Age (one sherd, found under the bank), through the Iron Age and the Romano-British period, and includes some medieval and later wares. The principal occupation period however was the first century AD. The great majority of sherds, from visual examination, are of gabbroic fabric, and so must come, as so many others, from a clay source in the Lizard peninsula (Peacock 1969). The gabbro has provided the material for the Bronze Age sherd, sherds of the Cornish La Tène Decorated pottery group with Glastonbury type decoration (Miles 1977, 105–107), and many jars of similar ware but without decoration and without internal rim gooves, which could be at home in the Iron Age or in the Romano-British period, cordoned ware, large storage jars, and bowls. The gabbroic pottery illustrated (Figs. 12–16, 1–81), together with wall sherds not illustrated, make up a weight of approximately 14 kg, in contrast to the 1 kg of Roman traded wares, and 2 kg of medieval and later micaceous non-gabbroic wares.

The Roman traded wares all belong to the 1st century AD or early 2nd century. The top of a flagon (Fig. 16, 82) was probably made in Exeter in the 1st century. There are

five pieces of Samian ware, including one Dr.29 of the 1st century, another decorated piece from central or southern Gaul, and three fragments too small to be identified. Four amphora sherds are of Spanish type, three others unknown. Four sherds of a mortarium date from the late 1st or the 2nd century, there is a badly eroded rim of another, and a further rim with internal groove could also be from a mortarium, though it could be a bowl, or possibly the plug in the top of an amphora. A curious object (Fig. 16, 94) seems to be best interpreted as a pestle used for grinding food in mortaria. Finally there are two sherds of Dorset Black Burnished ware, from different vessels.

Medieval pottery is sparsely represented, and there is a thin scatter of later wares from the sixteenth century onwards (see below).

Group 1 (Fig. 12)

- 1 Bronze Age sherd, hard buff fabric, gabbroic, with large grits up to 1 mm; slightly out-turned rim, with smooth inward bevel; reddish to dark brown at the rim; decorated with incised triple chevron pattern; from Q pit 82, under rampart. Cf. Trevisker series, style 3 (ApSimon and Greenfield 1972); Stannon Down, e.g. Fig. 16, 11 (Mercer 1970)

Group 2 (Fig. 12)

Decorated sherds of Glastonbury style, gabbroic fabric

- 2 Five joining sherds forming the shoulder and part of the everted rim of a small rounded pot; buff fabric with small grits, burnished smooth and almost black on the outside; decorated with lightly scratched double chevron; K 2. Cf. St Mawgan-in-Pydar, type A (but simpler pattern) (Murray-Threipland 1956); Killibury Fig. 40, 6 (Miles 1977)
- 3 As 2, but decoration of broader grooved straight lines; carbon adhering to inner surface; RF on OLS under bank
- 4 As 3; GJ 2
- 5 Light brown decorated sherd, thicker and coarser than 2-4; with grits showing on outer surface; decorated with strokes filling in spaces delimited by curved lines; TH 2. Cf. St Mawgan, Fig. 16, a-h, 'mature Glastonbury decoration' (Murray-Threipland 1956); Castle Dore Fig. 14, 3, 7, 26 (Radford 1951); Meare, Fig. 37, 486 (Orme, Coles, Caseldine, Bailey, 1981)
- 6 As 5; RD 201
- 7 As 5; pattern of broad strokes between parallel lines; RD, pit 202
- 8 As 5, with pattern of incised lines filling a space; TG gully 240
One further sherd with traces of similar decoration, YA 1, not illustrated

Group 3 (Fig. 12, 13)

Fine hard buff gabbroic fabric, usually thin, often reduced to near black on parts of vessel; grits not visible on surface except where abraded; forms of round-bodied jars or bowls, which can be paralleled in Iron Age or Romano-British contexts

- 9 Rounded bowl with simple slightly out-turned rim; light buff, shading to black; GE floor 146. Cf. St Mawgan, type 0 2 (Murray-Threipland 1956)
- 10 Similar in form to 9, but oxidised red on outside, and abraded with grits showing on surface; TA 2
- 11 Light buff jar, with small out-turned rim; GG post hole 157
- 12 Three thicker flared rim sherds; GE post hole 150
- 13 Rounded jar with flared rim sherds; TJ gully 304. Cf. St Mawgan, type E (Murray-Threipland 1956)
- 14 Small out-turned rim; TF 389
- 15 As 13; TJ gully 304
- 16 Jar with out-turned, slightly beaded rim; light brown, well burnished outside and on inside rim; TJ post hole 305
- 17 Rim sherd, fabric similar to 16; GG 2

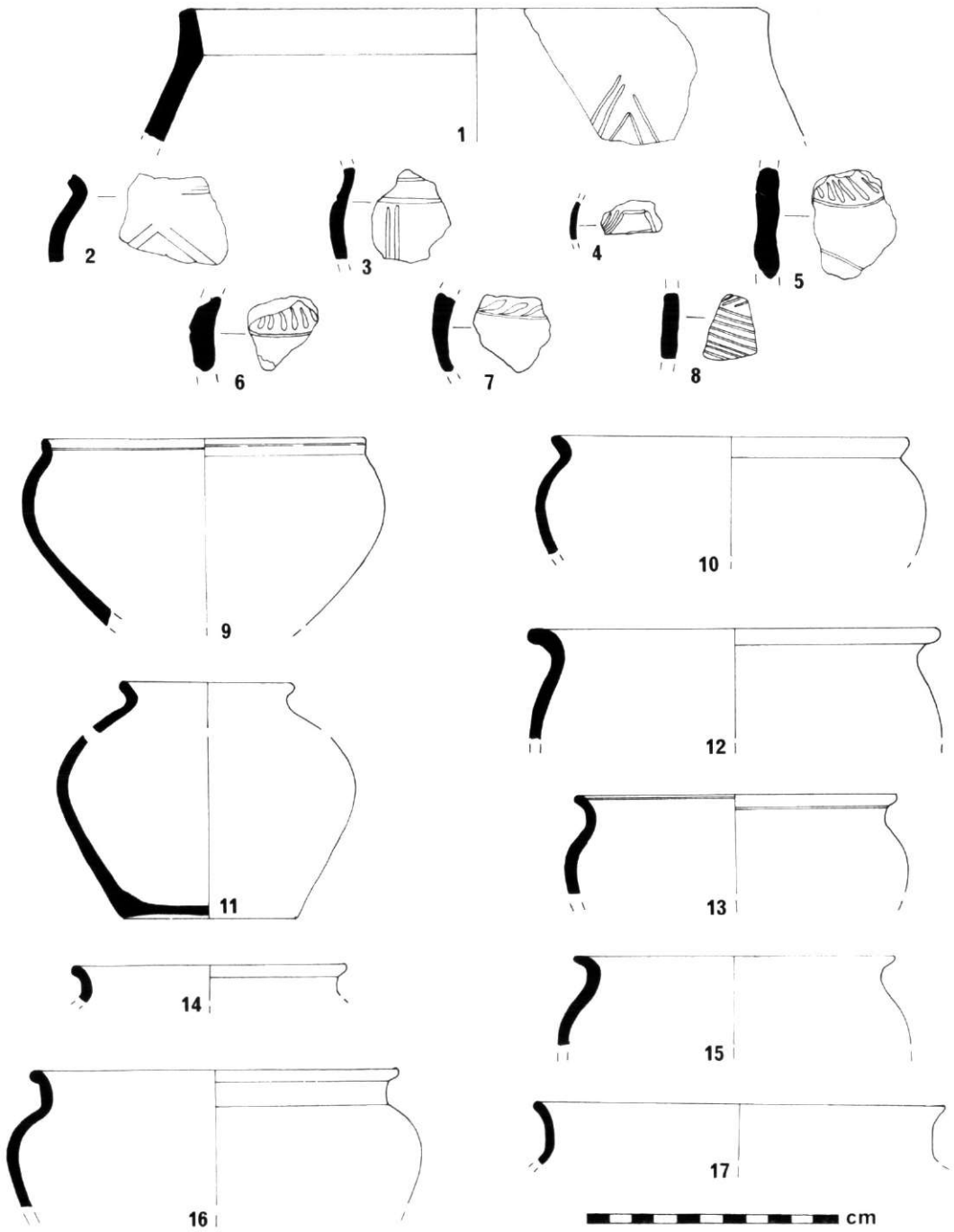


Fig. 12
 Pottery from Castle Gotha: groups 1, 2, 3. Scale 1/3. Drawing Ursula Davey.

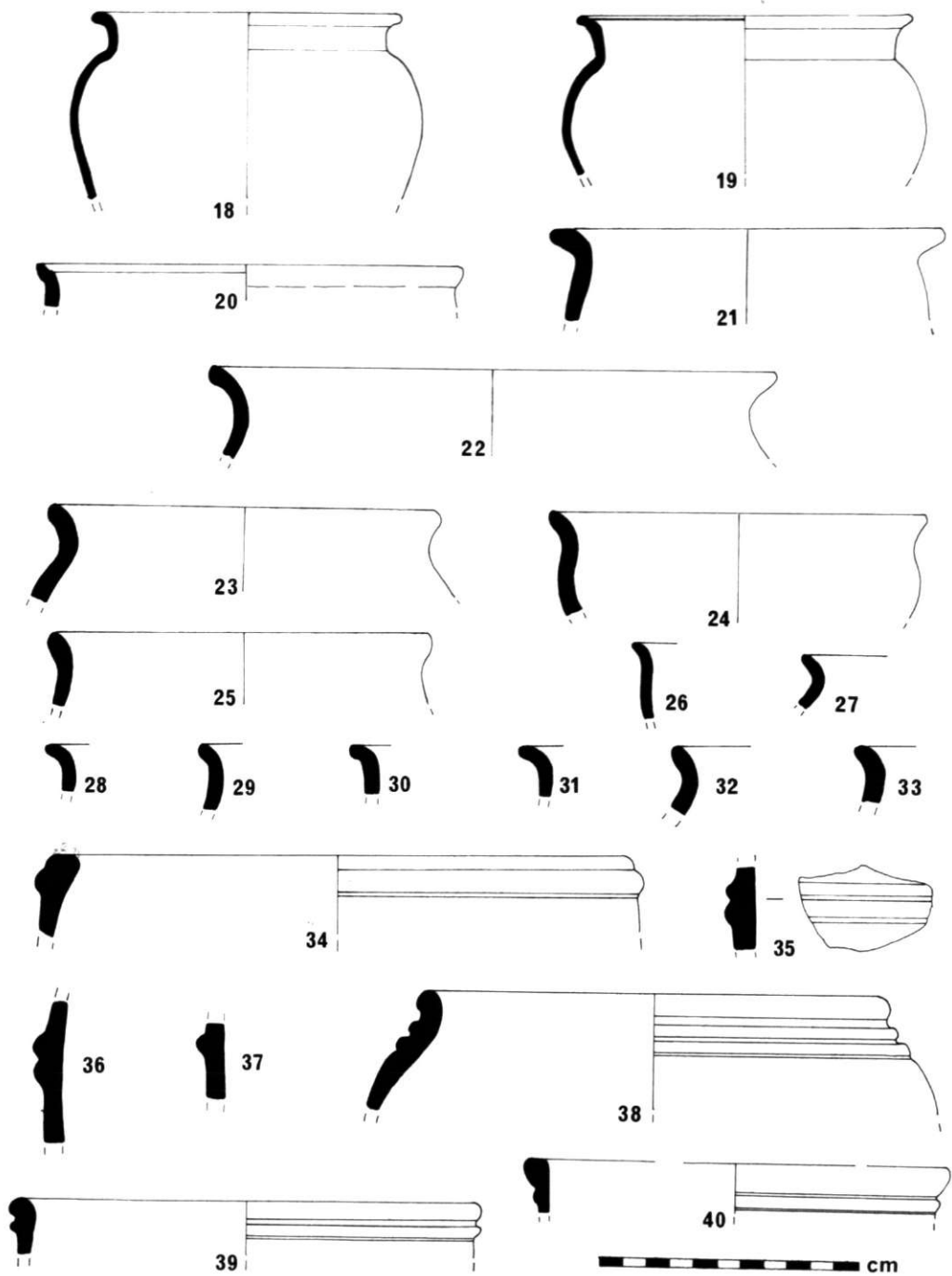


Fig. 13
 Pottery from Castle Gotha: groups 3, 4. Scale 1/3. Drawing Ursula Davey.

- 18 As 13; TJ gully 304
- 19 As 13, almost black inside and out; GE floor 146
- 20 Rim with internal groove; TF 2. Cf. St Mawgan, type A (Murray-Threipland 1956)
- 21 Flat topped rim of jar; GF 156
- 22 Rim; TH floor 398
- 23 Rim; A post hole 21
- 24 Rim; GG2
- 25 Rim; RK 358
- 26 Rim, thin, upright, possibly a beaker; GH 2
- 27 Rim; GE post hole 150
- 28 Rim; TG gully 240
- 29 Rim; TG gully 240
- 30 Rim; R 2
- 31 Rim; TB post hole 283
- 32 Rim; TF 387
- 33 Rim; EE/EF gully 311

Group 4 (Fig. 13)

Cordoned ware; sherds are decorated with raised cordons, none applied to the pot after shaping; thick, hard, light buff verging on pink

- 34 Thick flat rim, cordon below; R 2
- 35 Wall sherd with two cordons; RK 2
- 36 Wall sherd with two cordons, reddish pink; GJ pit 173
- 37 Wall sherd with one cordon; TF 387
- 38 Beaded rim with two cordons immediately below; outer surface light brown; RF unstrat. Cf. Goldherring, Fig. 11, 9 (Guthrie 1969)
- 39 Small beaded rim with cordon below; black on outer surface; TH 2
- 40 Small flat rim, red, with trace of cordon; TF 389
- 41 Light pinkish brown beaded rim with slight cordon; TA 2
One further similar sherd (not illustrated); TG 387
- 42 Two sherds of beaded rim with cordon; reduced black on outside at top; inside black lower down; TG gully 240
- 43 Wall sherd with two cordons; red inside; R 1
- 44 As 43, though thinner and redder; TG gully 240
- 45 Brown sherd with ridge on top of rim, and two ridged cordons below; GJ 2
- 46 Similar rim to 45, but only one cordon; redder inside and out; RE 2
One further sherd as 46 (not illustrated); TF 387
- 47 Wall sherd with two cordons; fine ware, buff paste, burnished to black on outside; TA post hole 252
- 48 Base, same fabric as 47, out turned at bottom; TA post hole 252
- 49 Base, same fabric as 47, with ridge at foot; R 2

Group 6 (Fig. 14)

Large thick jars, usually with flared rims; often buff paste, occasionally red all through, with medium grits. They can be paralleled at St Mawgan, type M or N (Murray-Threipland 1956) or at Trethurgy, 50-76 (Quinnell, forthcoming)

- 50 Buff, merging to dark grey inside; TF 387. Cf. Trethurgy 55
- 51 Rim with raised lug, pierced with a hole; smooth pinkish buff fabric; GE gully 147. Cf. St Mawgan Fig. 17, 23 (Murray-Threipland 1956); Trevisker, Fig. 20, 52 (ApSimon and Greenfield 1972); Trethurgy, 94 (Quinnell, forthcoming); Goldherring Fig. 14, 26 (Guthrie, 1959); Shortlanesend Fig. 6, 1 (Harris 1980)
- 52 Buff, red oxidised inner surface; TF 387. Cf. Trethurgy 55 (Quinnell, forthcoming)
- 53 Beaded rim, buff, red oxidised on outer surface; TG gully 311. Cf. Trethurgy 99, 100, but this one has no cordon
- 54 Buff, very smooth outer surface; RK post hole 358

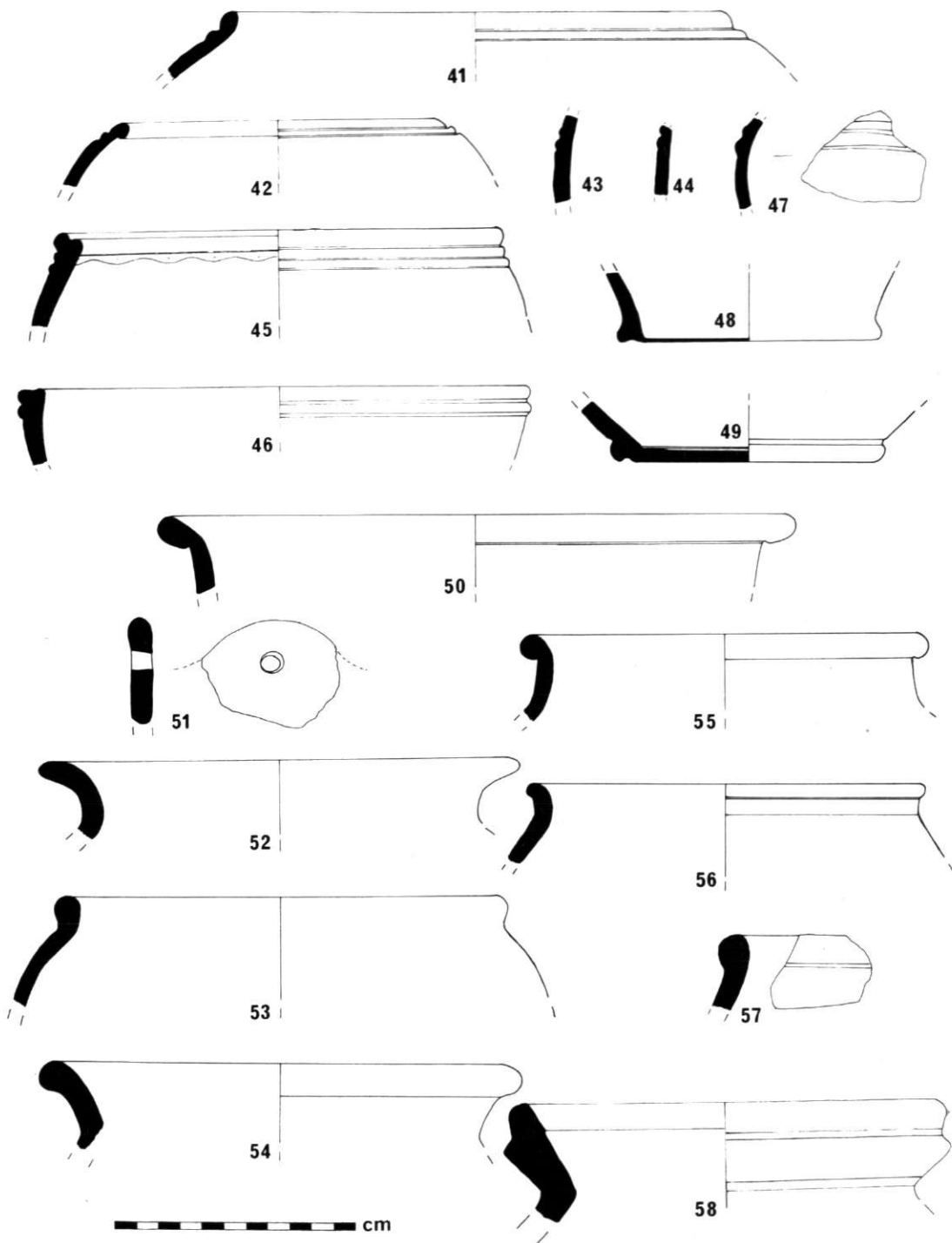


Fig. 14
 Pottery from Castle Gotha: groups 5, 6. Scale 1/3. Drawing Ursula Davey.

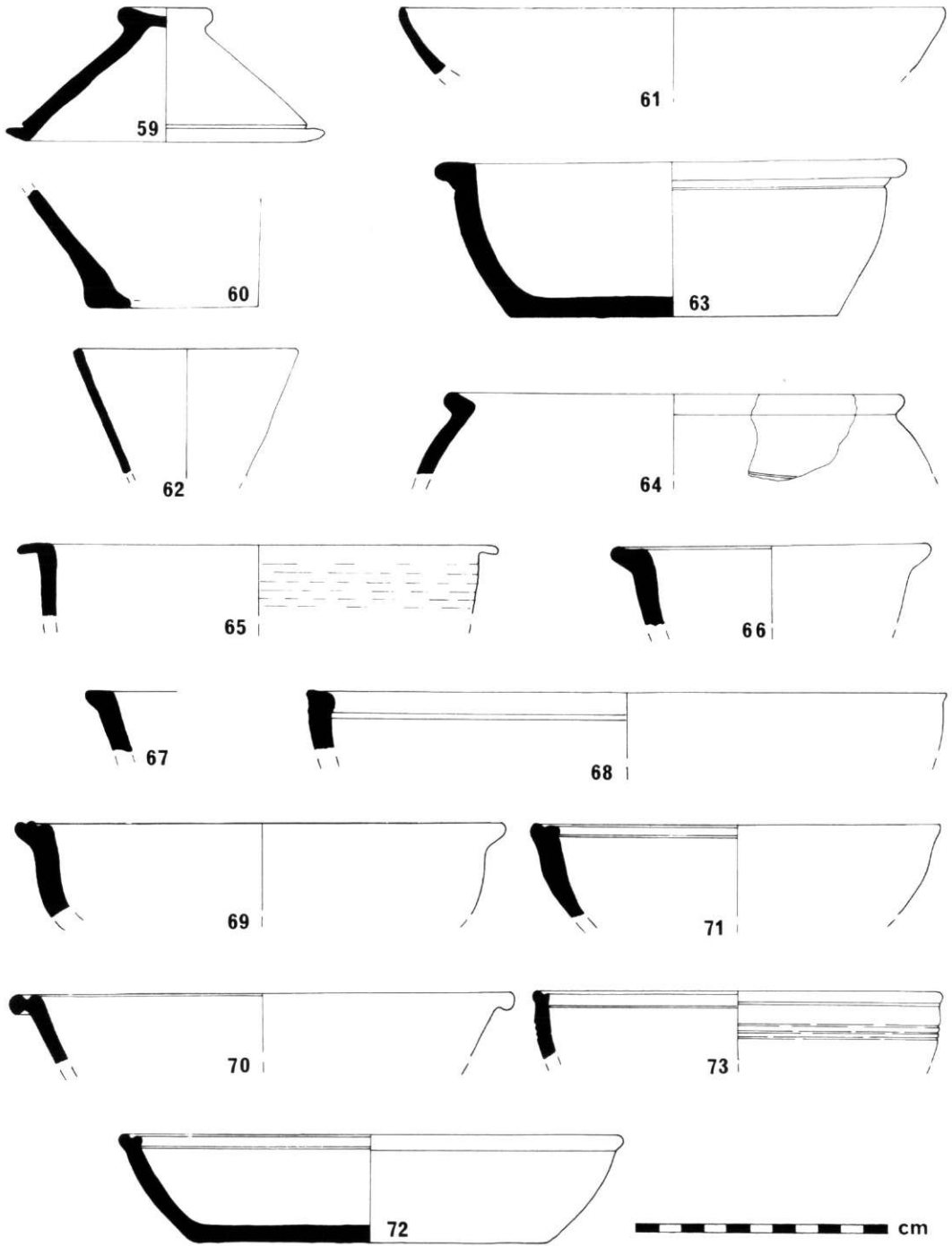


Fig. 15
 Pottery from Castle Gotha: groups 7, 8, 9. Scale 1/3. Drawing Ursula Davey.

- 55 Beaded rim, straight neck, bright red all through; TG gully 240
- 56 Buff, pinkish red exterior; RJ 2
- 57 Buff to red, rolled rim; RJ 2
- 58 Thick rim with unusual cordon, smoothed on longer surface; brick red all through, with fairly large grits; EH 414. Cf. St Mawgan, type K, Fig. 22, 67 (Murray-Threipland 1956)

Group 7 (Fig. 15)

Lid and base

- 59 Lid, of reddish buff paste, shading to grey on outside; GD 138. Cf. St Mawgan Fig. 30 124 (Murray-Threipland 1956); Trethurgy 146 (Quinnell, forthcoming)
- 60 Base, of reddish buff paste, grey black on outside, thick at foot with out-turn; not burnished; TG gully 240

Group 8 (Fig. 15)

Bowls with plain or flat horizontal rims

- 61 Plain, thin walled, shallow bowl; RE 2. Cf. Trethurgy 142 (Quinnell, forthcoming)
- 62 Straight sided bowl or beaker, dark brown fabric; GD 138
- 63 Solid flat-rimmed bowl; more than half the rim is present, and much of the base; from RD 195, RE 227, TF 2 and TF 387. Cf. Trethurgy 112
- 64 Flat rimmed bowl, with incised line; RK pit 358
- 65 Flat rimmed bowl of dark brown thin fabric, slightly ridged on outside; RK pit 358
- 66 Bowl with flat or slightly concave rim, reddish fabric; TH 2
- 67 Small sherd of flat rimmed bowl; TF 387
- 68 Flat rim; internal groove below rim; TF 2

Group 9 (Fig. 15)

Bowls, horizontal rims with groove on top

- 69 Flat rim with groove for lid; patches of black on outside; RK post hole 358 and RJ 387
- 70 As 69, red inside; RJ 387
- 71 Straight-up rim, not out-turned, with groove on top; reddish buff; TB 2
- 72 Nine sherds of bowl with simple grooved rim; burnished externally; RE 2, RE 221, TJ gully 304
- 73 Form as 72, but red fabric, with slight grooves or striations on outer surface; RE 221

Group 10 (Fig. 16)

Bowls with flanged or drooping rims

- 74 Bowl with flanged rim; reddish buff fabric, dark grey externally; RD 195
- 75 Drooping rim of bowl; RD 195
- 76 Drooping rim; RK post hole 358
- 77 Drooping rim; small shiny grits; TJ 2
- 78 Small drooping rim; RK 2
- 79 Drooping rim, abraded; RE 2
- 80 Small rim, reddish fabric; RJ 2
- 81 Five sherds of drooping rim, red inside, partly black, with striations on outside; GE/GG post hole 237

Group 11 (Fig. 16)

Traded wares

- 82 Rim of flagon, probably made in Exeter; fabric 440, type 6-2; 1st century; GF 2. Cf. similar at Exeter and Carvossa (Paul Bidwell, pers. comm.)
- 83 Samian rouletted rim, Dr.29; 1st century; RK 2
- 84 Samian decorated sherd, from central or southern Gaul (not illustrated); RK 2
- 85 Scrap of Samian footring (not illustrated); R 2

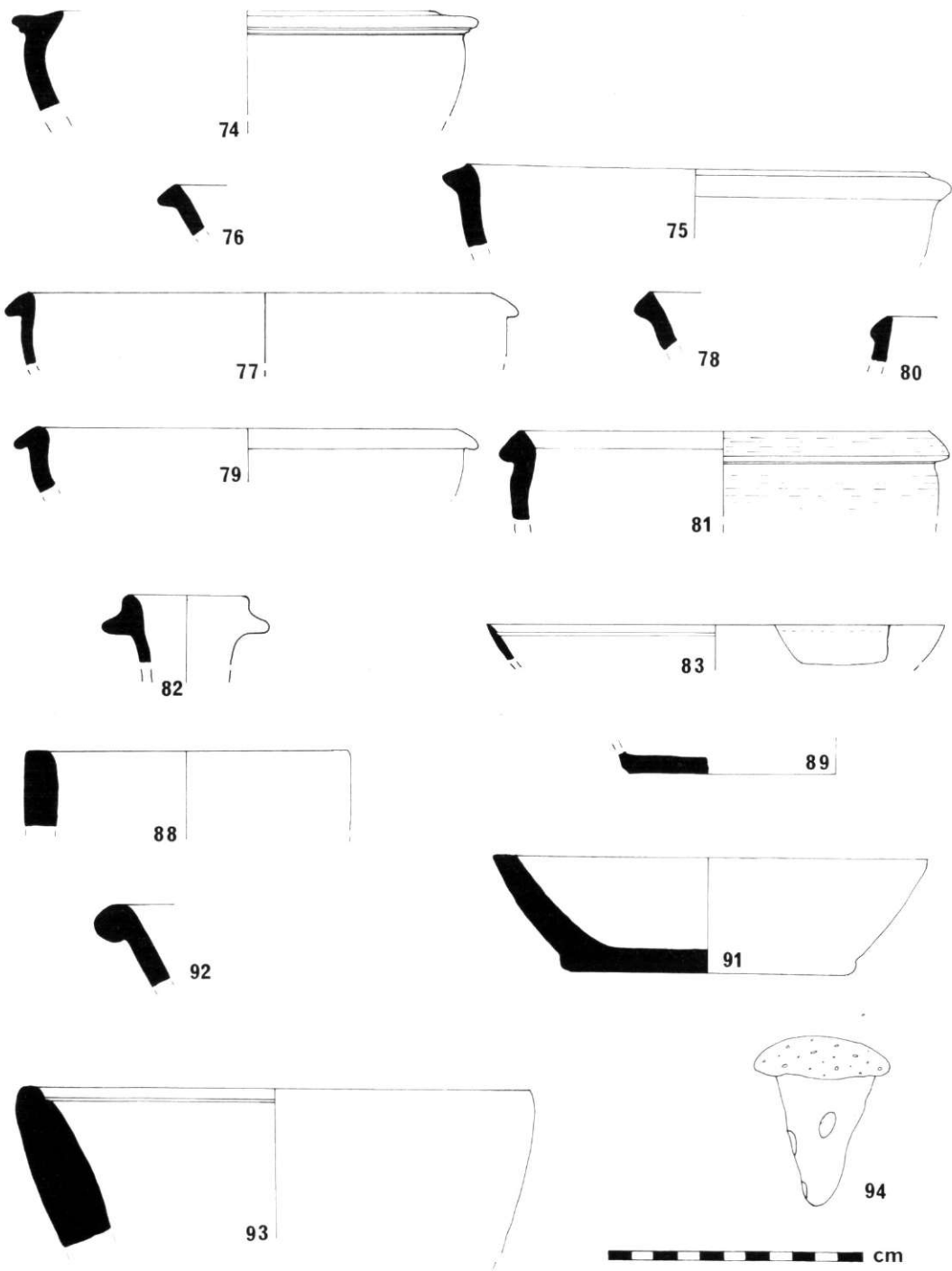


Fig. 16
 Pottery from Castle Gotha: groups 10, 11. Scale 1/3. Drawing Ursula Davey.

- 86 Samian fragment with trace of decoration (not illustrated); RJ 2
- 87 As 86 (not illustrated); DA gully 60
- 88 Three sherds of amphora, thick, pink; Spanish type; X 1
One further sherd of this type from TJ 2. Other amphora sherds, of uncertain type, from YB 2, N 1, TA 2, TF pit 293.
- 89 Base of bowl or dish, Dorset Black Burnished ware, fabric 40, open form, burnished in facets; RJ 2
- 90 Small sherd of Dorset Black Burnished ware, fabric 60, closed form; beaker or cooking pot, (not illustrated); TJ gully 304
- 91 Four sherds of mortarium, greyish white fine paste; late 1st or 2nd century; probably imported from Kent or north Gaul; GJ post hole 170, GE floor 146
- 92 Rim of mortarium; pink paste; GK 1
- 93 Thick rim sherd with internal groove; coarse white fabric with small grits, laminated and splitting easily; possibly mortarium or bowl; TJ gully 304
- 94 Mushroom-shaped object in greyish white paste; rounded surface is pitted and shows signs of wear; finger impressions on stem; probably pestle for use in mortarium; TJ 2

Group 12 (Fig. 17)

Medieval and post-medieval, by Trevor J. Miles

Approximately 120 small sherds were found. Four of these were in gully 57; the rest were mostly in the plough soil. Many fields in Cornwall yield comparable collections when they are searched after ploughing, the sherds having been spread with farm manure. Dating can only be approximate as good stratified sequences covering these periods have not yet been found during excavations. In the medieval period cooking pots and jugs made in the same fabric seem to have been the only local forms. They were made from the thirteenth century onwards, although the ones from Castle Gotha are probably much later. Generally in West Devon and Cornwall 'medieval' forms and fabrics continue until about the middle of the sixteenth century when they were rapidly displaced by 'post-medieval' products. Apart from four later sherds all of those found are probably mid sixteenth to early seventeenth century in date. They are not much abraded; perhaps the site was under the plough for only a short time towards the end of the sixteenth century.

Apart from the few later up-country sherds all were probably made in Cornwall; about 75% of them at kiln sites near south-coast estuaries. These products contain greater or lesser amounts of glittering white mica flakes derived from the inland granite. These South Cornwall potters had their own range of forms and techniques from medieval times until the eighteenth century. About 25% were probably made by potters on the North Cornwall coast whose products were similar to the wares in North Devon and traded internationally during the seventeenth and eighteenth centuries. Some of the sherds found at Castle Gotha might be from North Devon but all differ in slight ways from the kiln waste found in Barnstaple and Bideford. The North Cornwall and North Devon fabrics do not contain white mica as the alluvial deposits from which they were made are not derived directly from the granite.

All the forms and fabrics found at Castle Gotha are included among the sherds described below. All the local fabrics have grey cores with grey, brown or orange/buff surfaces.

Gully 57 (not illustrated)

- a) Three wall sherds, probably from a jug. Hard, sandy, much mica, therefore probably made at Lostwithiel. Sixteenth century (Miles 1979)
- b) Plain base angle from a jar. Fine, slightly sandy, non-micaceous. Olive green lead/iron glaze internally. Internally glazed storage jars evolved from cooking pots during the sixteenth century. This looks like an early example.

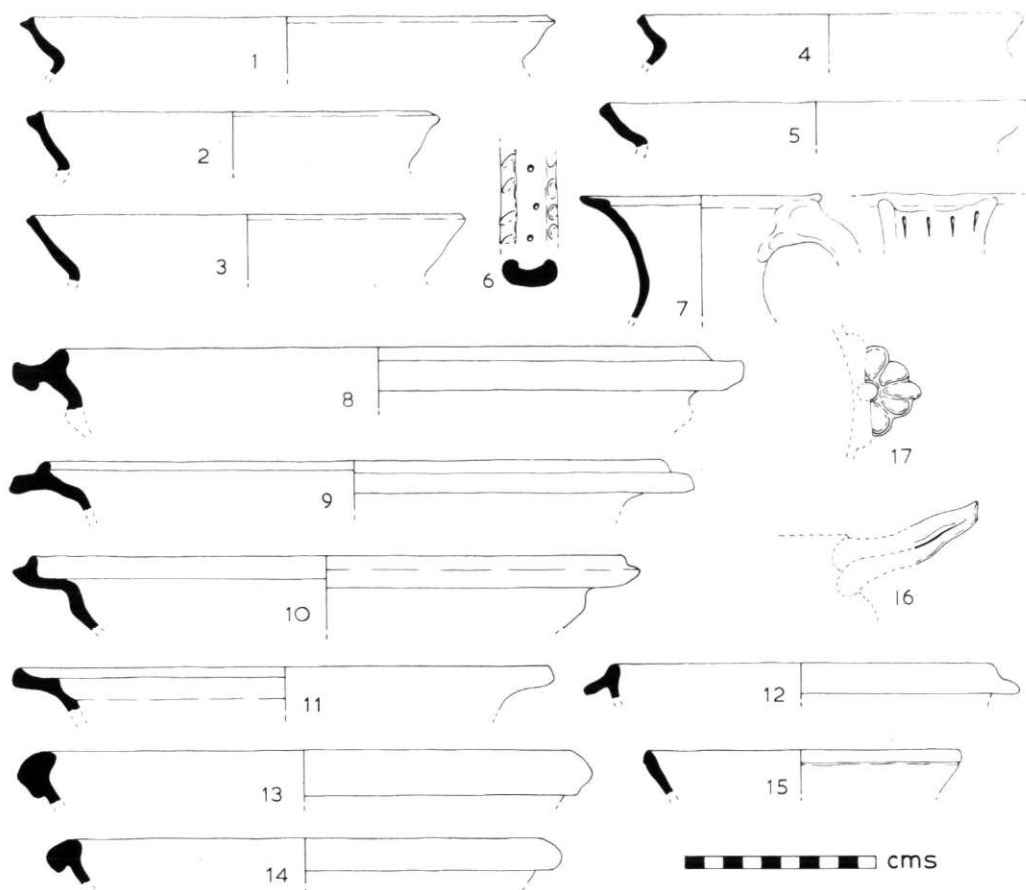


Fig. 17
Pottery from Castle Gotha: group 12. (medieval and later). Scale 1/3. Drawing Trevor Miles.

Ploughsoil (Fig. 17)

All drawings are based on single small sherds and diameters are approximate. Sherds are unglazed except where mentioned.

Cornish wares

- 1 – 4 Cooking pots. Sandy, highly micaceous. Soot on exterior. Fowey estuary / Lostwithiel
- 5 Cooking pot. Sandy, slightly micaceous. ?Tamar estuary / St Germans
- 6 Strap handle from a jug. As 1 – 4. Finger pressed and stabbed with a round point
- 7 Jug rim and handle. As 1 – 4. Stabbed with a knife point
- 8 – 10 Bowls. No. 8 is in a fine, sandy, non-micaceous fabric and has patches of green lead/iron glaze on the exterior. Nos. 9 and 10 are highly micaceous. No. 9 has soot on the exterior. Bowls with complex rims such as these are a feature of the South Cornish potters. They often have pulled lips
- 11 Bowl. Coarse sand/fine grit. Traces of an internal lead glaze. The form and

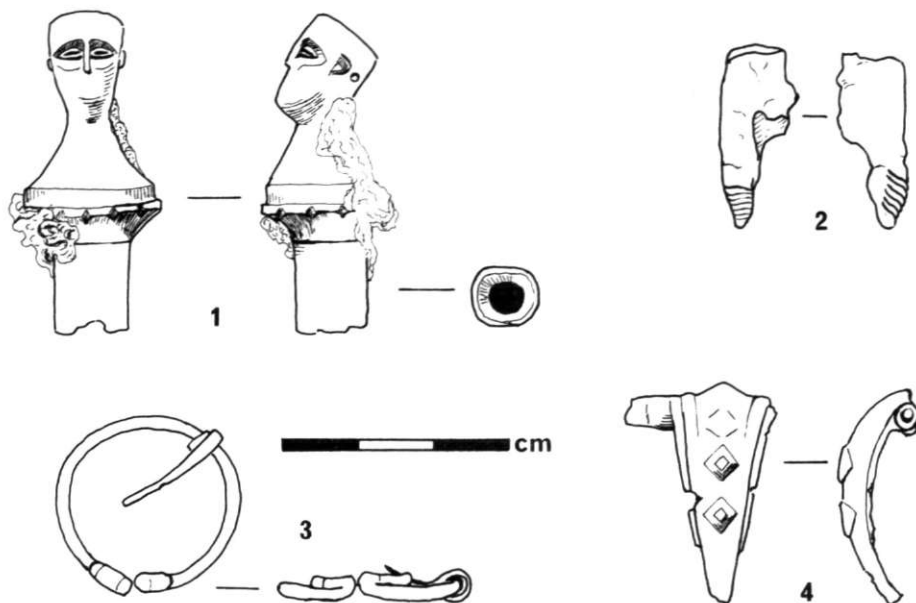


Fig. 18

Castle Gotha bronze: 1. linch pin in the form of a human head; 2. fragment found with 1; 3. pennanular brooch; 4. bow brooch. Scale 1/1. Drawing Nora Ackland.

fabric indicate a North coast origin during the sixteenth century

- 12 Small bowl. Much mica
- 13, 14 Bowls. Gravel tempered. Probably North Cornwall. No. 13 has an internal green lead/iron glaze and has soot on the exterior
- 15 Basin. Gravel tempered
- 16 Part of the handle of a pipkin. Gravel tempered. Sooted

Non-Cornish wares

- 17 Horizontal handle from a porringer. Moulded decoration on the upper surface; knife trimmed. Salt glazed stoneware; sandy, mottled grey/brown. Seventeenth century. Possibly Rhenish, but seven-lobed handles broadly similar to this were made at Woolwich (Pryor S. and Blockley K., 'A 17th century kiln site at Woolwich', *Post-Med. Arch.* 1978, Vol. 12. See No. 52, page 59)

There are two scraps of white tin-glazed earthenware, one with blue decoration, seventeenth/eighteenth century; one scrap from the footring of an oriental porcelain bowl with a trace of blue decoration on the interior; one scrap of Staffordshire brown and cream earthenware, early eighteenth century; and a scrap of white earthenware with trailed black and blue slip, early nineteenth century.

There are also two fragments of ridge tile, both unglazed and dating to the fifteenth or sixteenth centuries. Both are heavily tempered with coarse sand / fine grit. One contains much mica, the other none.

Iron

A few small scraps of corroded iron were found, presumably from recent nails, bolts and tools.

Bronze

Several objects of copper alloy were found. A curiously shaped human head and another bronze fragment discussed below (Fig. 18, 1 and 2) came from the lower plough

soil in TF. A pennanular brooch (Fig. 18, 3) came from gully 304 in TJ, a bow brooch (Fig. 18, 4) from the lower plough soil in TH. The brooches are described below by Sarnia Butcher. Other small fragments and blobs were found mostly in the north-east area, either in or near the oval hut. These, and samples from the fire pits, have been analysed and assessed by Justine Bayley.

An Anthropomorphic Fitting, by Dr Martin Henig

This object was briefly noted by Saunders in the second interim report on the site (1963, 49) as a 'stylised male head on a short circular stem socketed to take a thin wooden shaft'. He suggested that it might have been a sceptre head, which, in the absence of other religious objects from the site, was hard to explain.

The first point to note about the head is the extreme simplification of the physiognomy. The face is divided into two parts by a long, straight nose; on either side is an almond-shaped eye with pupil indicated by a simple horizontal slash. The ears are also extremely simple, and the mouth non-existent. An unusual feature is the flattening of the crown above the brows, but as we shall see this may help to suggest a use for the fitting. The head rests on a simple moulding which expands and has a rilled edge at the base (i.e. the top edge of the 'capital'; see below), thus allowing us to describe this part of the object as a 'bust'. The back of the 'bust' is also flattened, and this flattening too must be borne in mind when considering the function of the piece. The 'bust' rests upon a 'Doric capital' with its column — in fact a tubular socket which appears to have iron corrosion still present within it; corroded iron also adheres to the back of the bust. Thus it seems certain that the object topped an iron shaft of some sort. Dimensions: height 42 mm ('bust' 27 mm; socket 15 mm)

It is clear that the 'bust' belongs to an Iron Age tradition of venerating and depicting the human head (Lambrechts, 1954), represented in this country on the North Grimston sword hilt (Stead 1979, 61 no.iii; Fig. 22, 1) and by the anthropoid bucket mounts from Baldock and Aylesford (Stead, 1971). While the sceptre hypothesis cannot be entirely ruled out, it must be pointed out that parallels which support such an explanation, notably the busts of Mars mounted on long iron sceptres from a priest's grave at Brough (Corder and Richmond, 1938) and the sceptre-head from Willingham Fen in the form of the head of the Emperor Antoninus Pius (Alföldi, 1949, 19), display much more detail and certainly belong to a Roman provincial *milieu*. As the late Sir Cyril Fox realised the object makes much better sense as the head of a linch pin. We may envisage the shaft of such a pin as being of iron; the flat head of the terminal facilitated its hammering into place. Further, the back was similarly treated in order to minimise the danger of obstruction from the turning cart/chariot wheel. Moreover anthropoid-headed linch pins are known from Iron Age contexts on the continent. One from the Dürkheim chariot-burial is perhaps as early as the fifth century B.C. (Jacobsthal, 1944, 185 and Pl. 103 no. 165), but another found at Urach near Stuttgart could be as late as the second century (Jacobsthal, 1944, 184 and Pl. 101 no. 160; Megaw, 1970, 105 no. 150). A mount in the form of a human head from Chalton, Hampshire (Henig in Cunliffe 1976, 62, and Fig. 11, 4) is probably a cart fitting of some sort, though not from a linch pin, but it is probably to be assigned to a period well after the Roman conquest, even to the late Empire.

While the context in which the fitting was found is Romano-Cornish, comparison with Iron Age heads on metalwork and coins (Megaw 1970, 119 no. 187; 141, no. 230; 157, no. 268; 176, no. 306 b for examples from Britain) convinces me that the piece is an important piece of late La Tène figurative art, perhaps made at the end of the first century BC.

Found with the complete linch pin head was a piece of decayed bronze which looks as though it could be the right side of the companion head, though virtually no detail can now be seen. (Height of fragment 23 mm) If there were a pair of linch pins perhaps this increases the probability that they were kept together for many years, and perhaps for

over a century, by which time they may have seemed to have no use, save as scrap in a smith's melting pot. Presumably the two heads, one on each side, were intended to guard the wheels of the chariot/cart from evil powers.

In compiling this note, I have been helped by information from Daphne Harris and by the opinions of Lady Fox and the late Sir Cyril Fox.

The Brooches, by Sarnia Butcher

Penannular brooch (Fig. 18, 3)

Small penannular brooch of round-section wire; the terminals are turned back over the ring and have two cross grooves. The end of the pin is coiled round the ring.

This simple type of brooch is well attested from deposits of the first half of the first century AD (cp Hawkes and Hull 1947, 327). It has been found on other sites in Cornwall: St Mawgan (Murray-Threipland 1956, Fig. 33, 1; with ribbed ring); Carvossa (Carlyon, forthcoming) and in Scilly (Ashbee 1955, Fig. 5, 4; p. 16).

Bow brooch (Fig. 18, 4)

The upper part of a small brooch of south-western type with hinged pin and two lozenge-shaped settings on the bar. These contain scraps of red enamel.

Several similar brooches are in the collection from Charterhouse-on-Mendip in Bristol Museum, one from Ham Hill in Taunton Museum, and one from Caerwent in Newport Museum. One from Shakenoak, Oxon, was published by Mackreth (Brodrribb, *Shakenoak* I, 1968, Fig. 27, 2, p. 94) and the dating of c AD 80 suggested by him on grounds of the absence of a head loop may well be supported by other typological considerations, such as the general design of the upper bow which appears on other late first century brooches (eg some with 'Polden Hill' construction). None of the known examples is from a dated context.

Castle Gotha, Cornwall: A Metalworking Site? by Justine Bayley (Ancient Monuments Laboratory)

The material submitted for examination comprised samples of deposits including some charcoal and slag, ores and copper alloy scrap and objects and drawings of two moulds. The metal objects and scrap and the ore were all analysed qualitatively by x-ray fluorescence (XRF) and the results are given in Table 2. The samples were all examined and they are described in Table 3.

It can be seen from the sample descriptions that very few of them are definitely metallurgical in origin. Pit 293 produced some probable smithing slag and hammer scale — indicators of small scale iron working. There is no evidence though to suggest that the iron ore (? haematite) found on floor 161 was intended for smelting on site.

There is widespread evidence for fire. Most of the features (see Table 3) produced charcoal, ashy deposits and/or red-burnt clay. A few, e.g. Pit 293, produced overheated clay which was vesicular and vitrified on one surface from contact with a fire. This was probably hearth lining. Other pieces of fluxed material are described as fuel ash slags as they were produced by the ash from the fuel reacting with silica-rich materials such as rock, sand or clay at high temperatures. Fuel ash slags are often found in association with metal working but can be produced in any hot enough fire. On their own they cannot be taken as positive indicators of metallurgy. All the deposits examined except the smithing slag and ?hammer scale from Pit 293 and the copper-rich ash slag could have been produced in domestic hearths.

The metal finds present problems in interpretation. Some (e.g. 617, 650) are definitely finished objects; some are scrap metal (e.g. 215) which may be part of a finished object or a piece of manufacturing waste. The blobs (nos. 286, 438 and 610) were probably spilt molten metal though they could be scraps of metal that fell into a fire and were remelted accidentally. The variable composition of the metal finds suggests a variety of sources rather than one local industry. The presence of arsenic at the sort of levels detected is a little surprising in Roman period metalwork. It may be

though that this represents the use of a local arsenic-rich copper source. The total lack of any crucibles is a little surprising if this really was a site where copper or its alloys were worked.

The composition of the bow brooch (no. 617) is comparable with similar types excavated at Nornour in the Isles of Scilly. Pennanular brooches are known in a wide variety of alloys; the composition of no. 650 is in no way exceptional.

One of the moulds (Fig. 10, no. 8) does indeed appear from the drawing to be intended for use as a piece mould for casting, as a definite in-gate can be seen. The larger stone 'mould' (Fig. 10, no. 9) is more of a problem. My initial reaction is that it was not intended to be used for casting metals. The lip or spout would make it impossible to use as an open one-piece mould and its size would require a larger opening if it were one bit of a two-piece mould. I can suggest no other metallurgical use for it.

TABLE 2: METAL ANALYSES

Excavation number	Find spot	Description	Analysis
215	GA 1	Sheet fragment	Bronze containing a little lead and arsenic
609	TF 387	Fuel ash slag containing copper	Copper with a small amount of arsenic and a trace of lead
286	N 2	Odd shaped blobs (largest piece analysed)	Bronze containing a little lead and arsenic
438	S1	Blob	Only copper detected
602	TF 2	Fragment	Brass
610	TH 2	Blob	Bronze containing some arsenic
617	TG 240	Brooch with hinged pin. The enamel in the lozenges on the bow is red	Heavily leaded bronze
627	EB 2	Sandy stone with green copper corrosion products on the surface	Only copper detected
630	TH 2	Possible bow brooch and brooch pin fragments	All gunmetal containing some lead; the 'brooch' fragment has relatively less tin and lead than the 'pin' pieces
631	TH 290	Fragment with adhering glass, some of which appears translucent blue (possibly a ring bezel)	Leaded bronze containing a small amount of zinc
646	TG 387	'Tin stone pebble'	Tin and iron detected. Probably cassiterite (tin ore)
650	TJ 304	Penannular brooch	Ring and pin are very similar in composition. Both are bronzes containing some zinc but no lead.

TABLE 3: THE SAMPLES

Feature	Position	Sample No.	Description
Pit 293	TF	642	The three bags contained white, unfired clay; red burnt clay; charcoal; an iron object, possibly a nail shank; a small amount of fuel ash slag, and soil containing flattish, dark grey magnetic particles which may be hammer scale.
		660	These three bags contained a) fire-reddened clay lumps held together with mud (i.e. not found in situ) one of which had been heated strongly enough to produce a vesicular structure. These could all be part of a hearth lining; b) a few very small pieces of slag, probably smithing slag, and c) fuel ash slag.
Pit 224	RE	474	Charcoal of twigs and larger timbers.
Pit 356	RF	667	Soil sample with stones. The 'soil' includes much fine-grained material; possibly an ashy deposit.
		807	Similar to 667 but slightly paler in colour and containing less fine material.
Pit 354	RJ	811	Dark soil containing some charcoal; not very fine-textured.
		813	Unfired buff/grey clay and sand.

Pit 355	RJ	810	Very fine dark soil of similar texture to 667. May also be ashy.
		812	Yellowish-brown clayey soil with small pebbles.
Hollow 202	RD	471	Darkish brown ?clayey soil with occasional charcoal flecks
		472	Charcoal, mainly from largish timbers.
		478	Charcoal.
		482	Charcoal, mainly from largish timbers, in a fine grey (?ashy) 'soil' with occasional flecks of red-burnt clay.
Layer 387	TF	620	Roundish lump of pink-fired clay. it had no smooth surfaces and its shape appeared totally accidental. It was rather crumbly (not well fired).
Gully 163	R	425	Fuel ash slag.
Lower topsoil	RE	476	Charcoal (twigs) and a shapeless piece of red-fired clay which was vesicular on one surface. Probably a piece of hearth lining.
Floor 161	GJ	453	Type of fuel ash slag — laminar, soft shale or mudstone (?shillet) that had been overheated. Also two fragments of iron ore, almost certainly haematite.

DISCUSSION

Castle Gotha must have been occupied over a considerable period of time. The Bronze Age sherd under the bank in Q, and burning and stake holes under the bank in A, indicate that there was some activity even before the construction of the enclosure. During the main period of occupation there was considerable development. In the southern area there are up to three levels of occupation; in GE and GD, for instance, burning and stake holes on the old land surface were succeeded by the floor levels 182 and 146, each with associated post holes; and in D and Y the post holes suggest overlapping structures of more than one period. In the north-eastern area, two successive floor levels in TH, 314 and 313, were cut by the edge of the oval hut activity. Inside the oval hut the sequence is complicated. The floor level 261 fills the area within the hut walls, dips to the centre of the hut, and in most places lies directly on the natural. But this floor cannot have been the first level of occupation. In RE the fire pit 224 lay under the floor; in RJ two pits were sealed by the stones of the hut wall. It would seem that early activity here caused the wearing down of the area, and that occupation debris was later cleared out and the shillet floor laid on the hollowed out natural surface.

The date range of this occupation can be estimated fairly closely from the pottery and the bronze work. Apart from the one Bronze Age sherd the earliest pottery is the La Tène decorated pottery, or Glastonbury ware, and the cordoned ware, both of which are pre-Roman. The decorated pottery can go back several centuries before the Roman conquest; at Meare radiocarbon dates put it mainly in the third century b.c. (Orme, Coles, Caseldine and Bailey 1981); but the sherds at Castle Gotha are of the kind characterised as 'mature' at St Mawgan-in-Pydar, and are few in number; it is possible that they may be fairly late survivors of the Glastonbury type. Cordoned ware does not appear before the first century BC. As sherds of these two types were not found in great quantities, compared to later wares, it seems probable that the main occupation at Castle Gotha began in the second or even the early first century BC.

The duration of the occupation cannot be fixed very closely by the local Romano-Cornish wares, as these are known from other sites to continue without much change for several centuries. However the Roman and other traded wares can be dated more precisely. The few fragments of Samian ware and the Exeter flagon can be attributed to the first century AD, and the mortaria to the late first or early second century; the Black Burnished ware would be consistent with this. Amongst the local pottery, the bowls tend to have flat or drooping rims, and there is only one example of a flanged rim, which is usually considered to mark a late stage in the sequence. The pierced lug (Fig. 14, 51) is similar to one at St Mawgan (Murray-Threipland 1956, Fig. 17,23) which by analogy is put in the first quarter of the first century AD. The pottery therefore, together with the bronze head and the brooches, suggests that the principal

occupation of the Castle Gotha round occurred in the first century AD, with a probable overlap into the centuries on either side.

Activities carried on inside the round seem to have been diverse. Agriculture is certainly indicated by the presence of quern stones for grinding corn. A saddle quern had been broken and discarded when it was used as a building stone for the wall of the oval hut; and the rotary quern in pit 358 was already there when the wall was built. The spindle whorls suggest that sheep were kept and their wool spun for clothing. This mixed farming must have been accompanied by some sort of industrial activity. Justine Bayley has weighed the evidence for and against actual metal-working being practised on the site. Even if this activity cannot be proved beyond argument, yet the presence of the two moulds, the melted blobs of copper or bronze, the fuel ash slags from pits inside the oval hut and from GJ in the southern area suggest at least the possibility that some bronze working could have taken place; whilst the fragments of iron ore from GJ, and the fire-pits in the oval hut such as pit 293 with its hearth lining heated strongly enough to produce a vesicular structure and its scraps of hammer scale and smithing slag would indicate that a blacksmith working in the round could have provided tools for local needs. The suggestion that an eleventh century Saxon mint was situated here seems to be without foundation (Below, p.).

The development of industrial activity in the vicinity of the oval hut could perhaps be linked to the construction of the causeway. The position of the original entrance to the round is not known. As the bank and ditch seem to be continuous on the eastern side where they can still be seen, it has to be assumed that the entrance was on the western or south-western side. The original ditch certainly continued round the north-eastern area. Here the causeway was later built across the ditch, giving access to the round at this point. The date of this construction is not certain; the few sherds among the ballast which was sealed by the causeway surface are unfortunately not diagnostic. It is tempting to imagine that access to the round was needed here when the oval hut was built and served as the focus for so much industrial activity, though it must be stressed that there is no evidence to support this.

Castle Gotha, then, must have held a thriving community just before and during the early years of the Romano-British period. It was contemporay with several other settlements within a seven mile radius, such as Trethurgy, Garlenick and Carvossa, and with St Mawgan-in-Pydar fourteen miles to the north-west, though its life seems to have ended earlier than that of the other rounds mentioned. After the second century, although medieval documents testify to the existence and name of Castle Gotha, there is no archaeological evidence of activity until the sixteenth century. Perhaps the rectangular timber structure indicated by the sleeper beam trenches in GC, GD and K related to this occupation; sixteenth century pottery was found in the shallow gully 57 nearby. If, as has been suggested, this episode was short lived, one must suppose that 'The Round' field has been used solely for agricultural purposes from the seventeenth century to the present day.

APPENDIX

The Saxon Mint by O.J. Padel

The suggestion has been very tentatively made that Castle Gotha may be the same place as an unidentified Anglo-Saxon mint called *Geoda* or *Godabyri* (Dolley and Jones, 1957). That mint was somewhere in the west country, for the following reasons. In the first place, several of the coins from *Geoda* have on their faces styles of design which are distinctively south-western or of the Exeter area (Dolley, 1956 and 1958), and in one case a moneyer used the same actual die for the face of one coin at *Geoda* and for that of another coin at Exeter (Dolley and Jones, 1957, p. 274). Secondly, many of the moneyers named on the coins from *Geoda* are known (from other coins) to have been active in Devon, notably at Exeter and Totnes (and also at Lydford and Barnstaple). A location in the south-western counties is therefore required, and on the surface, given the similarity of the name of *Castle Gotha* with *Godabyri*, the suggestion of an identification seems very plausible. It is the purpose of this note to examine the linguistic evidence for the identification.

The forms of the name of the mint appear on coins dated (by modern numismatists) between AD 997 and 1042; they are given below. The approximate ranges of dates, and the numbers in brackets, are those of

Dolley and Jones. In all cases the name on the coin is preceded by the preposition *o(n)* 'at', and is therefore in the dative case, though only one form shows it.

A	GEOD̄A	997-1009	(nos. 1-4)
B	GOĐA	1003-1042	(nos. 5, 7 and 16)
C	GOĐABYRI	1009-1016	(no. 6)
D	GUĐA	1009-1016	(no. 8)
E	GIOĐ	1017-1023	(nos. 9 and 10)
F	IOĐA	1017-1040	(nos. 11, 12 and 15)
G	IOĐAB	1036-1038	(no. 13)
H	IOĐ	1038-1040	(no. 14)
I	GEOĐ	1040-1042	(no. 17)

Although to the non-specialist this range of spellings shows wide variation, Dolley and Jones find it 'remarkably consistent'. The name is an English one, and is compounded of a personal name **Geoda* (not apparently attested anywhere) and Old English *burh* 'fort, town'. In Old English the actual form of the name, in the nominative case, would have been **Geodanburh*, with the personal name in the genitive; but the moneys have, in all cases, omitted the *N*, presumably for reasons of space. (In a few of the forms the *A* has a bar over it; but that is merely a variant form of the letter *A*, not an abbreviation for *AN*.) It is clear that the form *Godabyri* is rather misleading, in that the first sound was not 'G-' but modern 'Y-': that is the implication of spellings in *Ge-*, *Gi-* and *I-* (that is, of all spellings except nos. B, C and D). Spellings without that mark to palatalise the *G-*, making it 'Y-', may have omitted it for two reasons: one is the lack of space (in short supply on a coin), and the other, in the case of spelling C, may have been a fanciful parallel between the moneyer's name and the name of the mint: the moneyer in that instance (coin no. 6) was called *Goda* (a very common personal name in Devon place-names: Gover et al. 1932, p. 684), and he may deliberately have spelt the name *Godabyri* so as to make it similar to his own name (though still with *đ* in the place-name, whereas his own name contained *d*). But these spellings in *Gođ-* and *Guđ-* still mean 'Yoth-': they are merely a little irregular. It is thus apparent that if the name had survived, at least in anything at all like its original form, it would have the form 'Yothbury', or something like it. As was pointed out by Dolley and Jones (1957, pp. 276-7), no such name is known, either in the south-west or anywhere in England. There is a *Iudanburh* mentioned in one text (MS 'D') of the Anglo-Saxon Chronicle (AD 952), also unidentified: it may have been the same as the lost mint.

The case of Castle Gotha is rather different. Early spellings of that name take the form of *Castelgoythou* (AD 1304), *Castelgothou* (AD 1337 and 1390); *Kestelgothowe* (1437 and 1443); there are other spellings, such as *Kestelgorrow* 1297 and *Kestelgothan* 1341 (Saunders 1961; Hammond 1897, p. 286), but they are evidently corrupt forms and can be ignored. The name is a phrase composed of Cornish *castell* 'fort, village' and a word *go(y)thow*. This could be one of two things. It is the plural both of Cornish *goth* 'water-course' and of *goth* or *goyth* 'goose' (the two separate words being formally indistinguishable in Cornish). Neither 'fort of water-courses' nor 'fort of geese' makes very much sense; but that is what the name appears to be. The Ordnance Survey map does show two small streams, in well-defined valleys, flowing down to the coast from the close vicinity of Castle Gotha. 'Fort of geese' may seem improbable, but a close parallel exists only a mile away, where Trenarren, formerly *Tyngaran* 'crane's fort', refers to the cliff castle on Black Head. The modern *-a* in Castle Gotha is a regular development of the Cornish plural ending in *-ow*: compare, for instance, 'Portscatha', the correct spoken form of Portscatho (Cornish *porth* + **scathow*, plural of *schath* 'large rowing-boat'), and 'Pralla', the spoken form of Porthallow in St Keverne parish. This spoken *-a* is not usually so written in placenames, but there are parallels: Burgotha, in St Stephen-in-Brannel, was spelt *Bargoythou* in 1327, and is composed of Cornish **barr* 'summit' plus **gothow* 'water-courses' or 'geese'. Therefore the similarity between the *-Gotha* of Castle Gotha and the *Gođa-* of *Godabyri* is pure coincidence, and due to several factors: the Old English *Gođa-* is an irregular form, and was more correctly written *Geođa-* or *Iođa-*, while the Cornish *-Gotha* is a modern form, earlier *gothou*, and would have had to be **godou*, or something similar (certainly not *Geođa*, etc.), at the period of the coins. It thus appears that on the linguistic evidence, the equation between *Godabyri* and Castle Gotha is invalid.

To the common-sense mind this may seem absurd: the coincidence between the forms is too great. Place-names, after all, do not always obey 'correct' linguistic rules. It is worth examining briefly what would have to have happened for the two to be the same place. There are two possibilities. The first is that the name was originally a Cornish one. It would have been, in written Old Cornish, **Castell goidou* (where *d* was pronounced [đ]); the English, in borrowing it, would not only have to have turned *Castell-* into *-burh*; they would also have to have reduced the final *-ou* diphthong to *-a*, and turned the initial *G-* of *-goidou* into a palatal *Ge-* ('Y-'), giving the qualifier every appearance of a plausible Old English personal name. That scheme is by no means impossible, though the two extra phonetic changes seem unnecessary and are perhaps not very likely. It is the only scheme whereby the two names can be equated, since the alternative is a great deal less likely: it would be that the original name was the Old English one, **Geodanburh*. It would have been borrowed (probably in a Middle English form **Yothebyry*) by the Cornish, who would have substituted their *Castell-* for the English *-byry*; they would also have to have turned **Yothe-* into a Cornish word *gothow*: why they should have substituted *g-* for *y-*, and *-ow* for *-e* (or older *-a*), would be a mystery. (If the borrowing were to be a *written* one, from the Old English forms, the Cornish *G-* could be more easily

explained: but that is obviously most improbable.) By coincidence, then, the Cornish, in borrowing the name, would have corrupted it into a Cornish word, *gothow*, which was destined to turn later into a modern form, *Gotha*, very similar to the irregular Old English form *Godā-*. It has to be admitted that this reconstruction, too, is theoretically possible. Nonsense names, like 'fort of geese', are typical of the results of folk-etymology (e.g. English 'sparrow-grass' for 'asparagus'). But it is not at all likely, and indeed involves a greater coincidence (*Geoða*, incorrectly *Godā*, giving **Yothe*, borrowed as *Gothow*, giving *Gotha*) than the assumption that the two are separate names; there would also be the further coincidence that one possible meaning of the Cornish name arrived at by folk-etymology, 'fort of streams', makes some sense on the ground.

The linguistic evidence, therefore, fails to make the equation between 'Goðabyri' and Castle Gotha — except, with some reluctance, on the first scheme outlined above (an original Cornish name turned, by arbitrary changes and folk-etymology, into a purely English-looking one as appearing on the coins). Since the linguistic similarity is in fact the *only* reason for such an equation, that equation must probably fall. In rejecting it, one might also note that, from the wording of Dolley and Jones (op. cit., p. 276), they were really hoping for a site somewhere closer to Exeter than Castle Gotha is. They mentioned Castle Gotha only tentatively and in passing; and the early forms of that name make an equation between the two very difficult to sustain.

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Early forms of Cornish place-names are taken from the typescript of *The Place-Names of Cornwall*, by J.E.B. Gover, at the Royal Institution of Cornwall, Truro; or from the place-names archive, Institute of Cornish Studies. My thanks to Dr S.D. Keynes and Miss C. Coutts, who made some useful comments to me.

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A ROMANO-BRITISH SITE AT KILHALLON, TYWARDREATH: EXCAVATION IN 1975

P.M. Carlyon

Summary

The rescue excavation revealed a short length of ditch filled with shells and other refuse, including a small group of finds of unusual richness and variety for a Cornish site of the Roman period. There were samples of a shoe-sole brooch, glass, and fragments of pottery — Samian, colour-coated, black burnished and grey wares were found as well as local gabbroic wares. A mid-third century date seems appropriate for the deposit.

Introduction

The site lies adjacent to the settlement of Kilhallon, SX 072549, above St. Blazey in the Parish of Tywardreath (Fig. 1, plans 1 & 2). It is situated at 45m OD on a narrow promontory with land falling steeply to the river on the north and west and its tributary to the south. The river valley, now wet and marshy, has silted up since the seventeenth century. The land to the east rises to 137m OD.

Kilhallon lies within the metamorphic aureole of the St. Austell granite massif. The slaty bedrock of lower Devonian, Meadfoot beds, is overlain by periglacial 'head', an ill-sorted assemblage ranging in grade from clay to fist-sized pebbles. The thickness of this deposit was very variable.

There are no visible earthworks and no record of either earthworks or of any previous finds. The field itself (Fig. 1, plan 3) was described as 'Quillets' on the Tithe Apportionment Map of 1880 (C.R.O.) and there is no record of it being put to any other use until modern building started in the area. (Colin Edwards, pers. comm.). A bungalow and garage were erected on the lower (southern) part of the site after another bungalow had been partially built and left unfinished at the northern end. The gardens were landscaped, creating considerable disturbance but no finds were noted during the work.

Part of the garden was levelled in 1975 to make a tennis court. The machine exposed a large number of cockle shells, some sherds of pottery and a spindle whorl. Mr. Joe Kittow showed them to Miss Jenefer Peter, who reported the discovery to Mr. Douch of the County Museum, Truro. Mr. Richard Kittow gave him permission to investigate the site and a limited excavation was arranged.

The Excavations

The remaining topsoil was mechanically removed from the area of the tennis court and part of this area was fully excavated (Fig. 1, plan 3, black area). The shells were found to have come from a ditch which ran obliquely south-east/north-west across the north-east corner of the site. (Fig. 1, plan 4). A small trench was then dug to the north to ascertain the limit of the shell deposit. The edges of the ditch were defined here but only part of it was fully excavated. (Fig. 1, plan 4).

Little else was found, the only other features being two modern pits containing recent animal burials (Fig. 1, plan 4; 1 & 2) and three shallow gullies (Fig. 1, plan 4; 3, 4 & 5). The gullies were cut into the natural, filled with compact brownish soil and were probably of recent agricultural origin. There were no finds earlier than the seventeenth century other than in the ditch itself.

The Ditch (Fig. 1, plan 4 and sections 5)

The ditch was only visible in the main trench for 0.5m of its length. The machine cut into the natural (Fig. 1, plan 4, stippled area) so that its full width was only seen in the sections Xx and Zz where it was 1.75m wide and 1.30m deep from the present turf level (0.96m from the surface of the natural). The small trench also only showed the true width at the extreme south end.

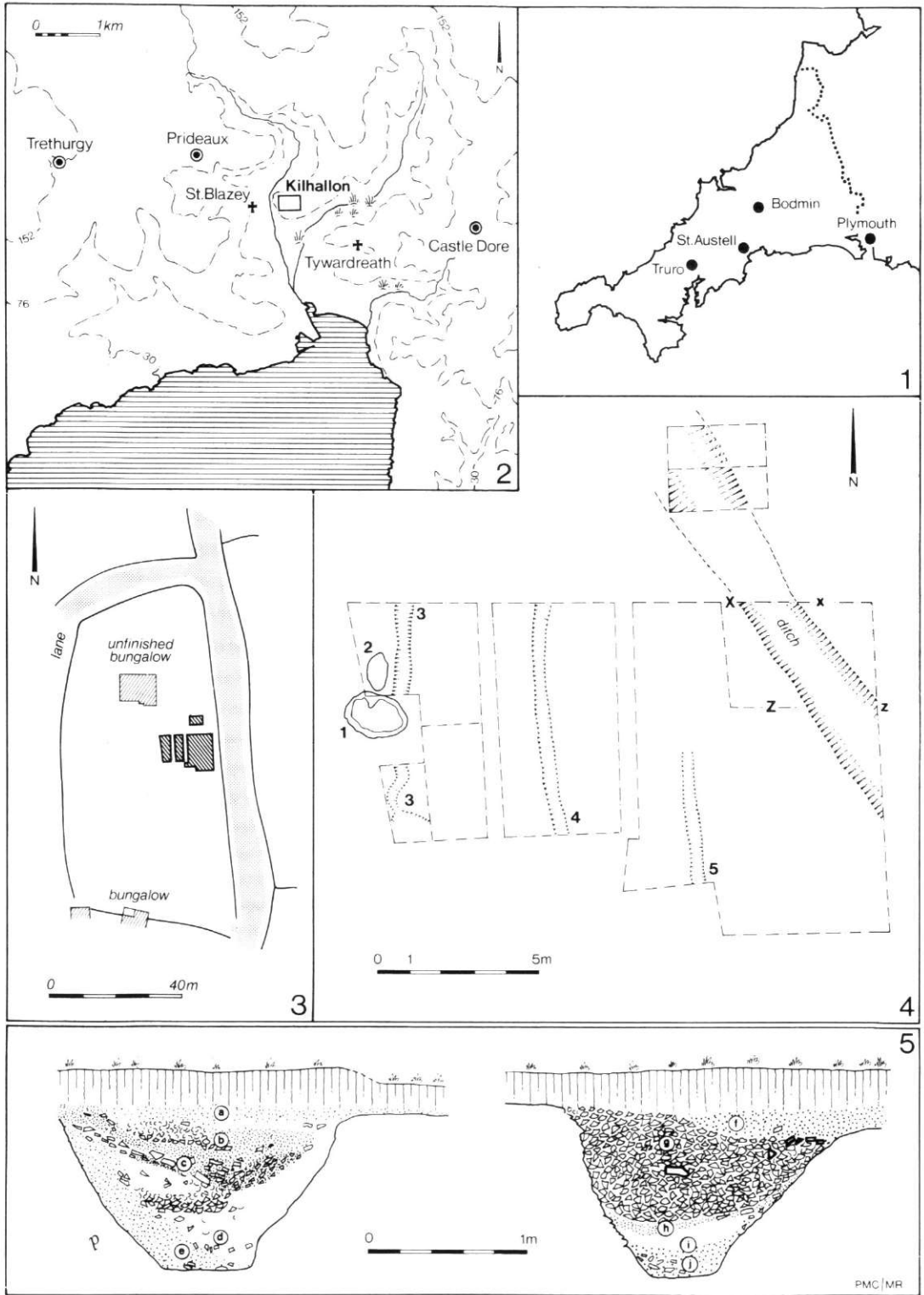


Fig. 1
 Kilhallon, Tywardreath. Location maps 1–3, site plan 4 and sections 5. Contours at 30m, 76m, and 152m.

The composition of the natural into which it was cut varied along its length. The slaty bedrock was nearest to the surface in section Xx where it protruded from the sides in an irregular fashion having fractured along the bedding planes. It projected through the head material sloping away rapidly to both the south-west and the north-west, only forming the bottom of the ditch at section Zz and in the small trench. The head material varied from mainly stones to stone-free gravelly yellow clay.

The primary silt of the ditch also varied. At the south end it was a crumbly yellowish material with few stones (Section Zz, layer e). It was soft and damp at the bottom, becoming harder and more compact as it dried out further up; it was similar in the small trench. Where the slaty bedrock rose to its highest point (Section Xx) the primary silt (layer j) was composed of soft brown crumbly soil.

The secondary silt (layers d & i) was beginning to form when the rubbish (layers g, c & b) was thrown into the ditch, apparently from the east side.

A huge pile of shells, mostly unbroken, was formed (layer g) reaching its maximum height near a point where section Xx was drawn. The pile sloped across the ditch to the west and it looked as if the top of the mound on the east side had been flattened at some time, another layer (f) formed over the lowest part, the whole being then sealed by the present topsoil. Underneath the shells was a dark layer of ashy material (h) containing much charcoal, which probably filtered down through them. Glass, bone and bronze objects were found among the shells.

The pile must have had room to spread and form a mound within the ditch. The section at the south end of the small trench had a layer of shells about 0.25 – 0.30m thick, with the base at a similar level to that of the main pile, above which there was a brownish soil, giving the appearance of a deliberate infill from the east. The picture to the south-east in section Zz, however, is far more complicated with layers of rubbish mixed with shells being thrown in. Layer (d) has a dump of shells at the same level as that in the rest of the ditch but it also contains some bones both above and below these shells. This was covered with a layer of stones and hard yellowish soil (c) with no finds, above which lay a very dark layer (b) containing charcoal, fragments of crushed shells, bone, pottery, glass and bronze. Near the top of this layer, seemingly mixed with it, was another dump of shells which were mainly whole at the bottom, but mostly compacted and broken above this. The reason for this seems to be that a layer of large flattish stones lay embedded in the top of layer (b). These do not show in section, but covered the ditch at the south-east end. The machine had removed this layer (Fig. 1, plan 4, stippled area) so their extent is not known. They did not appear in the small trench. The layer above this (a) of mixed yellowish clay with few stones, seems comparable with layer (f) and above this lay the topsoil.

Interpretation

The short length of ditch, the only significant feature found, gives little indication of the nature or extent of the site. It is of a width and depth suitable for the defences of a small round, but could well have had some other function. No evidence was found for a bank, but investigation was not possible on the east side, and, as the rubbish was thrown in from that side and nothing was found to the west, it seems possible that this was where the settlement lay.

The date-range of the finds suggests that the site had been occupied for a long period though there was no indication of a date for the construction of the ditch. The deposition of the rubbish suggests that it was obsolete at the time but there is no suggestion of a period of abandonment before this happened as only a primary silt had accumulated.

The Pottery

The pottery from Kilhallon came mainly from layer (b), (Fig. 1, section zZ) and would appear to have been deposited over a comparatively short period of time. The black-burnished ware sherds decorated with obtuse lattice (Fig. 3, 12) are the latest, as

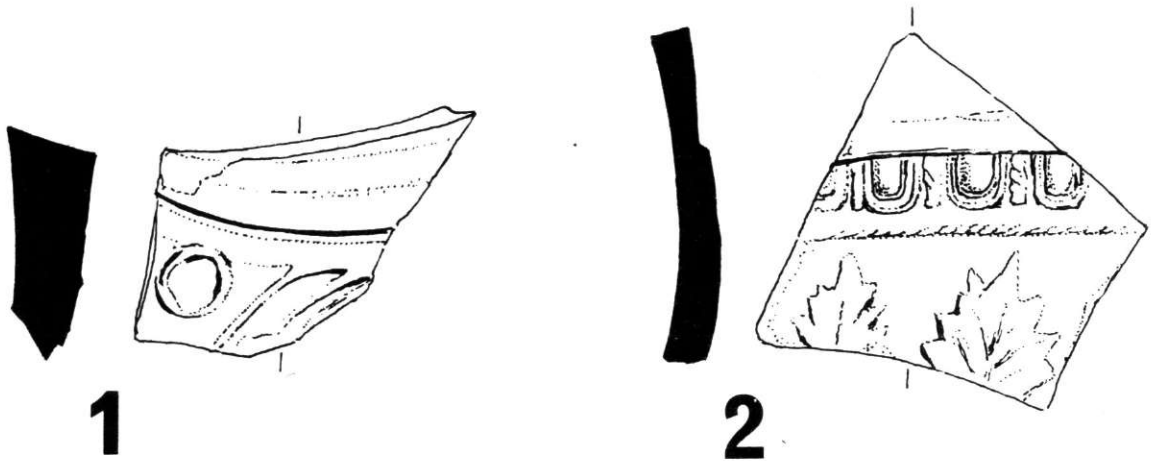


Fig. 2

Kilhallon, Tywardreath. Decorated samian. Drawings by Roger Penhallurick. Actual size.

they cannot be dated before AD 250 but as the bulk of the pottery seems to date from the mid-second to the mid-third centuries it seems reasonable to assume that it was deposited some time during the mid-third century. The fact that the pottery is in a mixed rubbish dump suggests that it was the result of normal wastage and does not represent the destruction of a special set of valuables.

THE FINDS

The Samian. Dr. Kevin T. Greene (Fig. 2)

1. Fragment of decorated samian, insufficient decoration for identification of potter. Dr 37. Central Gaulish, Antonine. (Fig. 2, 1)
2. Fragment of burnt samian. Dr 37. Central Gaulish. Two leaves, Rogers H.70 below ovolo B 164 with corded bead-row (Rogers 1974). Iullinus. Stanfield & Simpson PL.126 nos. 12 & 18 for use of leaves and ovolo in this manner. (Fig. 2, 2)
3. Dr 31. Central Gaulish, 160 – 200 AD (not ill.)
4. Wall sherd and footring of same vessel as no. 3 but both are burnt. (not ill.)
5. Two small rims, probably Martres-de-Veyre fabric. Dr 27. Central Gaulish, Trajan (Hadrian). (not ill.)

Colour-coated Wares. Dr. Kevin T. Greene

6. Sherd from a Central Gaulish 'Rhenish' beaker, plain rouletted form. Pale orange-pink soft fabric with greenish black lustrous colour coat. Antonine. 150 – 160 or later (not ill.)
7. Sherd from Central Gaulish 'Rhenish' beaker, a barbotine decorated form. Hard pinkish-white fabric with greenish-black lustrous colour coat. Antonine 150 – 160 or later (not ill.)
8. Sherd from a roughcast bag-shaped beaker, Gillam Type 72 (Gillam 1957). Hard brownish pink fabric with dark grey slip. Possibly imported, probably early second century. (not ill.)
9. As no. 8 with brownish pink fabric but darker purple-brown colour coat. (not ill.)
10. Beaker similar to Gillam Type 78 (Gillam 1957) but not Nene Valley ware. Bright orange fabric with fairly glossy dark grey colour coat. Possibly imported. Second century. (not ill.)

The collection of samian and colour-coated ware seems to belong to the second century. The minimum period to account for all of the sherds would be 120 – 170 AD.

Mortaria

11. Wall sherd of mortarium. Pinkish-white fabric with pink centre, few small blackish grits inside. (not ill.)

The non-Cornish wares. Paul Bidwell

CATALOGUE: Note: The fabric-numbers employed here have been described in *Exeter Archaeological Reports (EAR)* 1, 191-5; (Bidwell 1979) for further details and the results of mineral analysis by D. Williams, see *EAR (IV)*. (Bidwell forthcoming). The type-series within each fabric will also appear in *EAR (IV)* with full discussion of the dating evidence.

Black-burnished ware: (Fig. 3)

Fabric 31: produced by industries in south-east Dorset. There are a number of sherds from thin-walled decorated cooking-pots, some with obtuse-angled lattice and therefore dating to not before c.250.

12. Cooking-pot. Fabric 31.

Fabric 40: vessels in this fabric are covered with a black slip; their distribution is confined to Dorset, Somerset and the South-West, but they are not products of the industry in south-east Dorset (see above). The industry did not outlast the third century.

13. Bowl of Type 60, overall proportions similar to 60-1 but rim more beaked.
14. Plain-rimmed dish as Type 93 but without the circular burnished decoration on the base. There are traces of a different type of decoration, probably zig-zags as on Type 92.2.
15. Beaker with slightly elongated and everted bead-rim as Type 12. (not ill.)
16. Similar to no. 15.

At Exeter the earliest contexts for these three types are all Antonine in date.

17. Chip from an everted cooking-pot rim, second century or later.

Fabric 60: these vessels have a finer fabric and smoother, glossier finish than those in 40, but may well be products of the same industry.

18. Bowl with a flange as Types 14 and 15: decoration as Type 4 although with three sets of lines rather than four.

Grey ware (Fig. 3)

These vessels are in a fabric visually indistinguishable from the Exeter fabric.

Fabric 101

19. Two rim fragments, one burnt or discoloured by adverse soil conditions: as Types 10. 2a, b and 11.1
20. Plain-rimmed dish as Type 30.1.

None of these types is known from contexts earlier than the Antonine period at Exeter. There are another 13 sherds in this fabric representing at least six vessels; one flat-rimmed bowl or dish, the remainder cooking-pots, one with right-angled lattice indicating a date in the first half of the third century.

Fabric 125

A micaceous grey ware, probably produced in south-east Devon: the industry probably lasted until the early third century.

21. Form not represented in the type-series at Exeter for fabric 125, but similar to no. 19 above.

South Devon Ware (Fig. 3)

This distinctive fabric (numbered 5 in the Exeter fabric-series) has frequent black mica plates. It occurs only very rarely before the beginning of the third century at Exeter.

22. Rim from a cooking-pot similar to Type 6.1.

Storage Jar (Fig. 4)

23. A fragment of the rim and 12 body sherds from a storage jar with finger-marks around the interior of the rim; the form of the rim is closer to Type 1 than 2 or 3. Three of the sherds have randomly-placed discontinuous horizontal grooves on

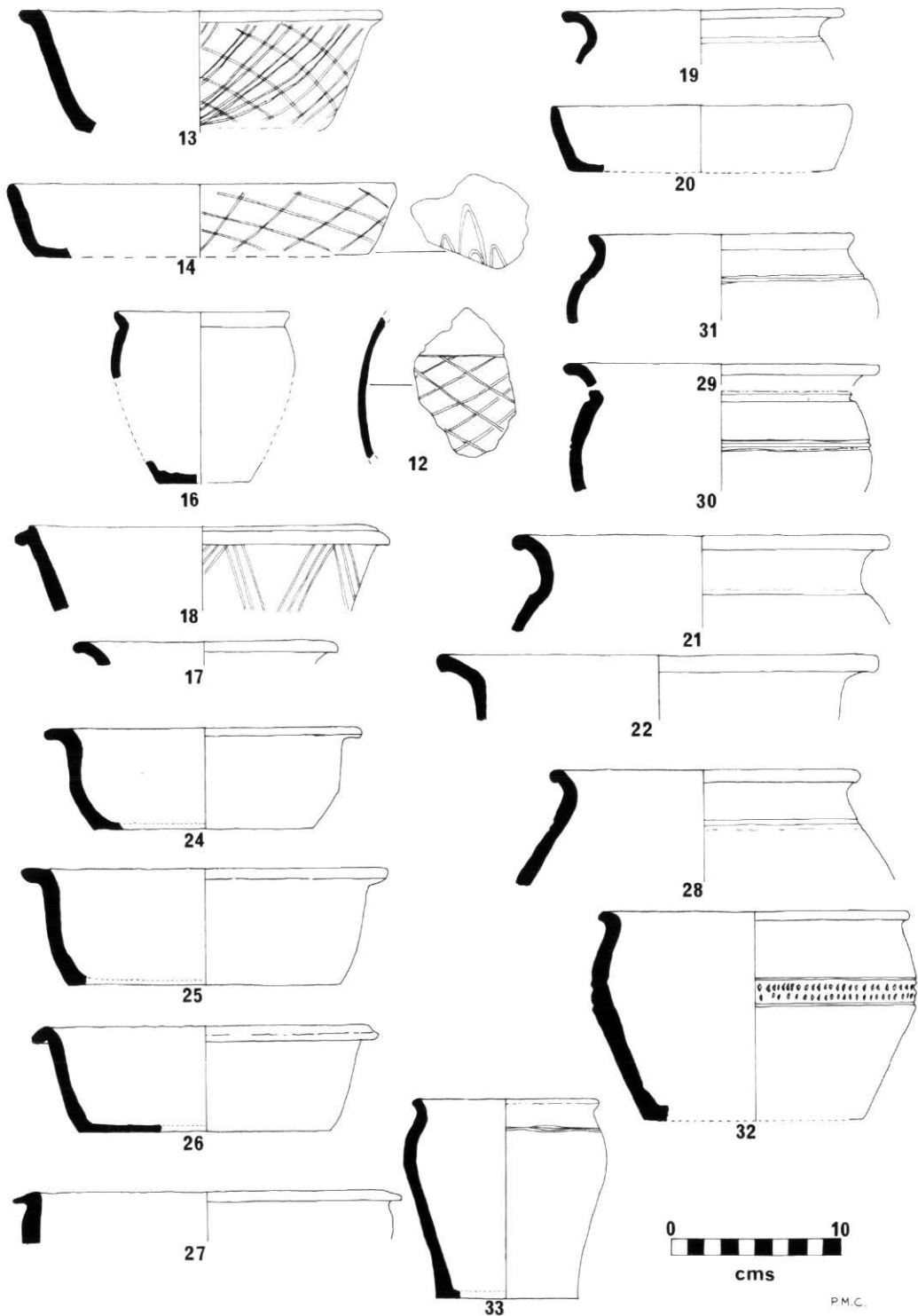


Fig. 3
 Kilhallon, Tywardreath. The pottery 12-32. All $\frac{1}{4}$.

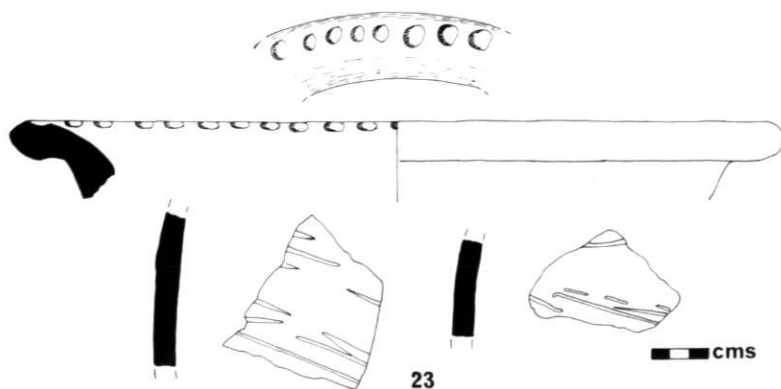


Fig. 4
Kilhallon, Tywardreath. The storage pot. (1/4).

their exterior, clearly an attempt at some form of decoration which has not been noted on storage-jars from Exeter; the fabric however resembles that of examples from Exeter. This class of storage jar dates from the early third century onwards.

Cornish wares, Gabbroic. (Fig. 3)

The remaining vessels have been examined visually and, though it has not been confirmed by petrological examination, it is fairly certain that they are of the 'local' fabric normally found on Cornish sites of this period, made from the gabbroic clays from the Lizard.

Four bowls were found, all of fabric A2 (Killibury. Miles 1977, p.101) fine and hard with grits of up to 4mm. The jars were also mainly of fabric A2, though no. 32 was of fabric B with grits of over 4mm and walls up to 12mm thick in places.

24. Flat-rimmed bowl, roughly burnished, with a slightly rounded profile.
25. Flat-rimmed bowl, with rim slightly dished, with a less rounded profile than no. 24.
26. Bowl with rim bent back and a fairly straight profile.
27. Rim-sherd of bowl with flattened rim pointing downwards and the body curving outwards below the rim. Probably a shallower vessel than the other three.
28. Jar with everted rim, short well defined neck with a groove below it.
29. Jar with an everted rim, possibly belonging to no. 30.
30. Body sherd of a jar with a deep groove at the base of the neck forming a ridge or slight cordon above it where the break has occurred. Also decorated by two or three shallower grooves on the body. Possibly belongs to no. 29.
31. Jar with slightly everted rim with two grooves on the body of the pot.
32. Jar reconstructed from a sherd with the rim and band of decoration present and another with the base and decoration present. Rim slightly everted. The pattern, made with a pointed instrument, consisting of a double row of impressions, edged above and below by a shallow groove.
33. Small upright jar with rim only slightly out-turned, decorated with shallow grooves.

Nine other very small sherds were found, probably representing different vessels, one body sherd with two shallow grooves below the neck and one very worn sherd with a low cordon below the neck. There were also six sherds, probably from the base of a jar, which were 14–15mm thick at their maximum and contained a lot of grit, some fragments being up to 6 mm across.

The forms of the gabbroic vessels are of similar types to those found on other Cornish sites of the period, Trethurgy (Miles 1973 and Quinnell forthcoming), Porthmeor (Hirst 1937), Porth Godrevy (Fowler 1962), Goldherring (Guthrie 1969), Trebarveth

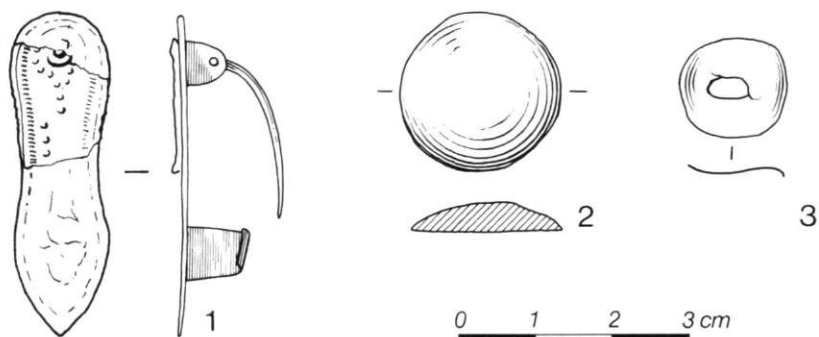


Fig. 5

Kilhallon, Tywardreath. Bronze. Drawings by Nora Ackland. Actual size.

(Peacock 1969), Carvossa (Douch and Beard 1970 and forthcoming) and Carn Euny (Christie 1978) though here the main occupation was earlier, but the group is too small to add much to our knowledge of the Cornish pottery sequence. We do not know how long the bowls represented at Kilhallon were current and there are no representatives of either the cordoned bowls, so common in the first century, or the flanged bowls found on later sites.

The Metalwork

Bronze (Fig. 5) Sarnia Butcher.

The shoe-sole brooch was found among the shells (Fig. 1, section xX, layer g), and the other three objects were found in layer (b), (Fig. 1, section Zz).

1. *The shoe-sole brooch.* (Fig. 5, 1) Plate brooch Length 42mm.

A plate brooch in the shape of a shoe-sole with attached plate decorated in repoussé. The edge of the attached plate is beaded and there are raised dots in the field and a small circular groove in the centre of the heel. The pin was hinged between two lugs under the heel and a long narrow catchplate is placed well back from the toe end. Miss Bayley noted that the decorated plate had been "soldered" to the main plate.

Brooches in this shape are found in many parts of the Roman Empire. They are usually enamelled (Nornour, Isles of Scilly, has eight enamelled examples: Hull 1968, p. 58, 216–223) but a few which are decorated with niello or by punched dots are known. At Vindonissa, Switzerland, a nielloed example was found in a military context of the first century AD (Ettlinger 1973, p. 127).

From the style of decoration the Kilhallon brooch may also be dated to the first century but it could be later, since applied repoussé plates also appear on disc-brooches imitating second-century coin types.

The shoe-sole form certainly had magical and religious significance, at least in its origins. The outline is found on finger-rings, seals, on the floors of temples and on votives. It was associated with Christian dedications but had already appeared on legionary tile-stamps in the second century. On brooches of the same period it may be the symbol of a cult or perhaps simply a good-luck charm.

2. A round bronze object, possibly a button. 21mm across, convex in section, 4mm deep, the actual thickness of the metal being 1 mm. (Fig. 5, 2)
3. A small bronze disc 14mm across and fairly flat, hardly 1 mm thick, with an oblong hole in the centre, 3 mm wide and 6 mm long. (Fig. 5, 3)
4. A bronze strip in several fragments, at least 110 mm long, 17 mm wide and hardly 1mm thick; with a raised central rib. (not ill.)

Iron

A nail, some small objects, possibly tacks of some kind, and two small fragments of an object, possibly a blade, were found.

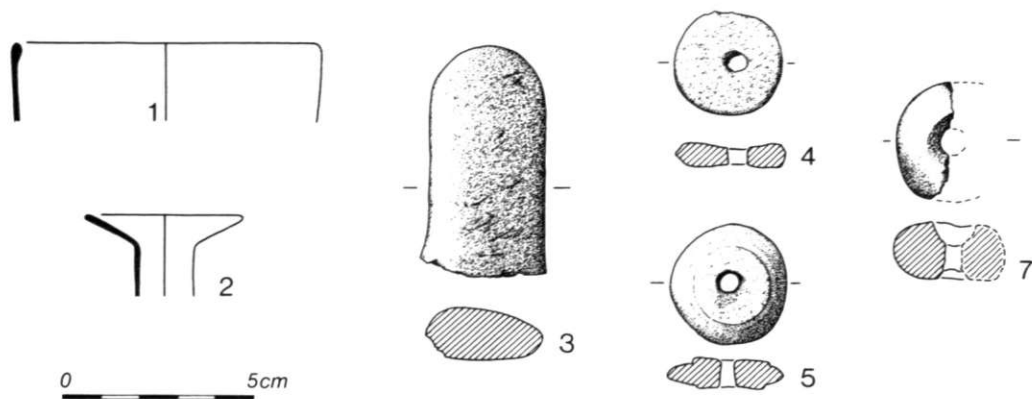


Fig. 6

Kilhallon, Tywardreath. Glass 1-2. Drawings by Jennifer Price. Stone Artifacts 3-7. Drawings by Mary Irwin. All 1/3.

Glass (Fig. 6) Jennifer Price

Eleven pieces of glass were found in a ditch containing second and third century pottery, among the shells (Fig. 1, section xX). Ten of these came from blown vessels, and the other is from a cylinder-blown window pane. The machine had removed the top of the pile of shells which accounts for this intrusion. Most of the fragments are very small and not suitable for illustration, but all ten are described below:—

Colourless Glass

1. (Fig. 6, 1) Fragment of rim and body, cylindrical cup; colourless. Slightly inturned rim, edge rounded and thickened in fire. Straight-sided upper body. Rim diameter 8.2 cm; present ht. 2.1 cm, thickness 0.1 – 0.3 cm. This piece comes from a cylindrical cup sometimes called the Airlie-type, which is rather common on Romano-British sites in the later second and third centuries AD. Thirty to forty specimens are known from Corbridge (Bulmer), there are at least twelve from Caerwent (Boon 1974) and many fragments have been found at York (Harden 1962), Winterton Roman villa, North Lincolnshire (Charlesworth 1976) and elsewhere. The form is also very well-known on contemporary sites in northern Gaul, and in the Rhineland, where the cups are thought to have been made. (Isings 1957 and Fremersdorf 1971).
2. (Fig. 6, 2) Fragment of rim and neck, from flask (?) or unguent bottle (?); colourless. Wide shallow mouth, fire rounded rim; narrow cylindrical neck. Rim diameter 4.0 cm; present ht. 2.2 cm; thickness 0.15–0.2cm. The precise form of this vessel is not easy to establish. Rims of this kind are often found on first century unguent bottles, but these are usually bluish green or brightly coloured; whereas second century unguent bottles very often have a broad rim with rolled tubular edge. It seems possible that the fragment may come from a flask like the later second-third century oval-bodied flask with prominent nipped ribs which was found at Hauxton Mill, Cambridge (Harden 1958), though that had a fine trail of glass round the top of the neck.
- 3 & 4. Two curving body fragments, not joining, perhaps from cup or flask (?); colourless. Part of globular or oval body. Two fine horizontal trails on lower (?) body.

It is not possible to identify the form of this vessel from the surviving fragments; it may have been a drinking vessel or an unguent bottle or flask. The quality of the glass is good, and consistent with a date in the second century, though colourless glass was used for tableware of various forms from

the later first to the fourth century AD.

5. Small body fragment, colourless. Distorted by heat.
6. Very small body fragment, yellowish-colourless. This piece presents some problems; in the first place, it is not possible to identify the vessel form, as the surviving fragment is very small indeed. Furthermore, it appears to be decorated with wheel-cut lines, but these do NOT seem to be weathered in any way, or to show signs of abrasion. It may be that the vessel is modern, with pressed decoration.

Bluish Green Glass

7. Small chip, perhaps from rim of bottle; bluish green.
8. Fragment of side, square bottle; bluish green. Distorted by heat. Both these pieces appear to come from first-second century container vessels. Several forms are known, but the commonest are the square and cylindrical bottles, fragments of which occur in a wide range of sizes, and were used to transport a great variety of different substances; some of the larger specimens were afterwards used as cinerary vessels, but that may not be their primary purpose (Isings 1957).

Coloured Glass

9. Small body fragment, bright royal blue.
10. Fragment, from neck of bottle or flask (?); yellowish green.

In each case the deep colour of the glass suggests a date of manufacture in the first century AD, since strongly coloured glass is quite common until the Flavian period, after which it is rarely found. However, it is quite possible that individual vessels remained in use for a long time before they were broken.

Window Glass

11. Fragment of blown window glass, bluish green. Slightly down-bent fire-finished edge; even thickness, and shiny and transparent on both surfaces; elongated bubbles parallel to edge.

This is a piece from a cylinder-blown window pane ('Broad glass'), and is unlikely to date from the Roman period. Window glass in Roman Britain in the first and second centuries AD is mostly shiny on one side and matt on the other, of uneven thickness, and probably was cast in shallow trays. It was not transparent, though it let light in, and kept draughts out. Later Roman window glass is glossy on both surfaces and was cylinder blown, but is usually much more bubbly than this fragment. I suggest that this piece comes from a late Mediaeval or a post-Mediaeval window-pane. (Harden 1961 and Boon 1966).

STONE ARTIFACTS. Mary Irwin (Fig. 6)

3. Whetstone. Very fine textured greenstone, hard enough for sharpening.

Spindle Whorls

4. Mica schist, plain, some wear or damage. Not quite regular.
5. Slate. Cylindrical central hole showing signs of wear. Finely tooled edge and two engraved circles on each side.
6. Similar to no. 5 but split in half along the cleavage plane (not ill.)
7. Part of a backed clay spindle whorl, cylindrical hole countersunk on both sides, broken through hole but no signs of wear.
8. Silt stone fragment.

Other Stone Objects

9. Roughly circular slate 110 mm diam. No hole in the centre. Such stones often appear on sites of this period. (not ill.)
- 10 & 11. Two pebbles of a size suitable for use as sling stone. (not ill.)
12. Unworked flint.

Baked Clay

Several thick lumps of reddish clay were found which could possibly have been parts of a loom weight.

Bone

Bone was found both among the shells (Fig. 1, section xX, layer 9) and further along the ditch among the general rubbish (Fig. 1, section zZ layers b-e). Its preservation, unusual in Cornwall, was presumably due to its proximity to the shells.

THE ANIMAL BONES. Dr. F.A. Turk

The bulk of the material was composed of such small and indeterminate fragments as to make (lacking pieces with epiphyses) the detailed attribution of them wholly unprofitable in terms of the time that would have to be expended upon them. Nevertheless, all such pieces have received a careful scrutiny and I could find no evidence to suppose that any other species than those listed below could have been present. The remaining, readily identifiable, pieces are not without considerable interest, not only because of the species which they represent but because, in certain cases, they provide a knowledge of types and variants which has hitherto been lacking in Cornwall. These species are:—

1. *Sheep*. Mostly, these represent the very small type common in Cornwall and Scilly throughout the Bronze and Iron Ages and surviving only slightly altered into the eighteenth century in remote places. However there is some evidence of a larger type which may be Studer's Sheep (so-called) which some have thought to have been introduced by the Romans but which may only be the larger type of ram of the common breed.

There is a large amount of Caprioid material which is unattributable and one cannot say whether there is any evidence for the presence of goat.

2. *Ox*. All bone fragments of this animal fit those of the usual type of Celtic ox and appear to show nothing at all unusual.
3. *Pig*. Undoubtedly present at this site but I cannot, up to now, find any characteristic among the remains which would certainly distinguish it from the wild species: its domestication at Kilhallon is therefore uncertain.
4. *Horse*. Some interesting remains of this animal are present and the teeth show enamel patterns that are somewhat more complicated than those which I have seen from other Cornish sites of comparable date. I would suppose it to be doubtful that the horse at this site could have been much more than some 14 hands high and that it was most probably less. It should perhaps therefore best be thought of as a pony.
5. *Dog*. The remains of this animal are the most interesting of all in giving evidence of two breeds at a single site. Dog remains are not at all commonly met with in Cornwall — a fact which greatly increases the interest of the present find. The breeds are:— a) Hound type. *Canis familiaris* group, and b) a large hunting type. *Canis f. inostranzeur* group, perhaps mastiff type. The characteristics are a very large lower jaw and enormous canine and carnassial teeth, the latter only marginally smaller than those of an adult wolf. These appear to be identified with two of the three types of dog commonly associated with the La Tène people on the continent.

6. *Greylag Goose*

7. *Mallard Duck*. There are only a few bird bones and these are the only two species that were identifiable.

(This material will be written up in more detail in the series "Notae de Ossibus in Cornubia inventis; Manipulus II". Cornish Studies forthcoming).

SHELLS FROM MIDDEN. Dr. Stella M. Turk

Of the thirteen species of Mollusca found in the Kilhallon midden, all are known edible species and of average size except the limpets which were not only small but sparsely represented, as revealed by the following sample counts sent by Miss P.M. Carlyon (*in litt.* 9.4.1978).

<i>Bucket 1</i>	<i>Bucket 2</i>
1600 cockles	1631 cockles
9 winkles	9 winkles
3 oysters	0 oysters
1 limpet	4 limpets
1 mussel	1 mussel

It would seem that the nearest limpet-bearing rocks, nearly two miles distant on either the east or west side of Par beach, were less productive for the larder than the probably prolific soft-substrate in the estuary immediately below the site. Particularly interesting is the presence of the Rough Cockle (*Acanthocardia tuberculata*), and the rounding and piercing of one — possibly two — of these, supporting the findings of Biggs (1962) from Jericho excavations where similarly-pierced shells of this species, as well as the Edible Cockle, were evidently used as necklaces, and found at several levels, being particularly popular in the early Bronze Age. A scallop valve also has what is probably a man-made hole in the centre of the shell. Also of some significance is the finding of *Helix aspersa* thought to have been introduced in the first century AD at the earliest, and not present in the Upper Pleistocene as believed until recently (Evans, 1972:176 and Kerney, 1966:11).

Annotated List of Species

Marine Snails

Buccinum undatum L. Common Whelk. Three broken specimens ca 65–85 mm high. Generally distributed in Britain and the N. Atlantic, on all types of shore from low water to 1200 fms. Used for food throughout its range, and often in middens.

Littorine littorea L. Edible Winkle. Four specimens 25–35mm high.

Common all round Britain and N. Atlantic on rocky shores, in estuaries and in marine inlets: always between tide-marks, widely used as food and probably present in all coastal middens.

Monodonta lineata (da Costa). Thick Top-shell. one specimen 20 mm high.

Locally abundant in much of Ireland and S. and W. Britain, extending to Iberia, living on rocks and stones in a very narrow zone just below high water of neap tides. Lovell (1867:189) says that “from experience I can recommend the common *Trochus crassus* (a synonym of *M. Lineata*), simply boiled and eaten as periwinkles. The flavour resembling the latter, and being as sweet and palatable.” The late L.R. Brightwell (pers. comm.) also found them very tasty, and in the Isles of Scilly, where the Edible Winkle is virtually absent, the islanders eat them in vast quantities, using the shells to fill up road potholes on St. Martins.

Patella vulgata L. Common Limpet. Three specimens 35–37mm diameter.

On rocks and stones between tide-marks on all coasts from Scandinavia to Iberia. It is widely used for food and is probably present in all coastal middens, although there were very few at Kilhallon where the majority of the molluscs were soft-substrate bivalves.

Land Snail

Helix aspersa Muller. Common Snail. One broken specimen 25 mm wide.

Evans (1972:175–176) states that it is fairly certain that *H. aspersa* is an introduction of the first century AD: it has been found in deposits of the second half of the first century and the third century, although absent from late Roman Iron Age deposits on the same sites. He adds that it “was presumably eaten for food by the Romans, as it still is today in parts of Britain, but the shells seldom occur in the same enormous abundance as do those of oysters.”

Marine Bivalves

Acanthocardia tuberculata (L.) Rough Cockle. Nine left and two right valves, ranging from 43–68mm long.

A local species found only off S. Ireland, Devon, Dorset, Cornwall and Scilly, living in muddy sand and gravel from extreme low water to a few fathoms. Abroad it occurs south to the Iberian peninsula, the Mediterranean and along the Atlantic coast of Morocco. It is to be found off the S. Devon coast, and Lovell (1867:56) describes one occasion at Paignton after an easterly gale in 1862, when the beach was strewn with valves, local people had already taken all the living specimens which had been cast up and he "met many persons returning home with their baskets heavily laden with them." They are said to be very good to eat, and there is a special Paignton recipe for this species and *A. aculata*, the Spiny Cockle, the two species being known collectively as "Red Noses". Biggs (1963) describes *A. tuberculata* from material excavated at Jericho between 1952 and 1958. He assumes that all the marine species which were found would have been "purposeful introductions by man, either from the Red Sea or the Mediterranean Sea, and for which he had some use." As many of them had been pierced, he concludes that they were used as necklaces, surmising that the many smooth-shelled specimens of *Glycymeris violacescens* may have represented the moon, whilst the Rough Cockles (mixed with some Common Cockles, *Cerastoderma edula*), with their strong radiating ribs, represented the sun. One of the Kilhallon specimens has an umbonal hole very similar to that illustrated by Biggs, although slightly bigger at 10 mm diameter, compared to his largest at 6.5 mm. Also, instead of the valve being produced posteriorly, it is rounded and shows some evidence of having been abraded to make it a perfect circle measuring 50 × 50 mm. Juvenile shells are usually rounder than older specimens, but the size of the ribs of this particular valve compares with the larger examples from the midden. Another valve may show an abortive attempt at boring, and also shows rounding of the outline.

Callista chione (L.) Smooth Venus. One right valve 76 mm long.

This is a "southern" European species, just extending its range to S.W. Britain and the Channel Isles. It lives in sand from extreme low water to 70 fms., but Lovell (1867:32) suggests that it is "not sufficiently abundant to form any more than a rare and dainty dish with us."

Cerastoderma adule (L.) (*Cardium adule*) Common Cockle. Three paired valves, ten left and four right valves, plus a fragment. 21–35 mm long.

The common Cockle is widely distributed from the Barents Sea down to Senegal, and can be found in sandy bays and estuaries all round the British Isles. It is commonly eaten and often abundant in middens; at Kilhallon it was found to be by far the dominant species.

Chlamys varia (L.) Variegated Scallop. One right valve, 48 mm, and one left valve, 53 mm long. Both are the var. *purpurea* which is larger, flatter and broader than the type, and which occurs only in a few southern parts of Britain.

The left valve has an oval hole (5 × 3 mm.), 20 mm below the umbo; this is probably man-made.

Range extending from Denmark to Senegal, and very common around the British Isles where it can be found especially in marine inlets from extreme low water springs to ca. 45 fms. This scallop is less frequently eaten than the Great Scallop.

(*Pecten maximus*) or the Queen (*Chlamys opercularis*), but Lovell (1867:123) mentions the species being sent in quantity to the Bordeaux markets.

Mytilus edulis L. Common Mussel. Two broken valves.

Abundant all round the British Isles, from high on the shore to a few fathoms, wherever attachment is possible and space is available. Commercial beds occur in sheltered estuaries, where specimens reach a far greater size than on the higher rocks of exposed shore. Mussels are widely distributed in the Northern hemisphere, everywhere used for food, and often present in middens.

Ostrea edulis L. European or Native Oyster. Seven right and eighteen left valves, from 55–120 mm across.

The Native Oyster is widely distributed in Britain, and abroad it extends from the

Norwegian Sea to the Atlantic coast of Morocco. It lives from extreme low water springs to a depth of many fms. Cornwall is one of the few countries where it is cultivated on a large scale, and the Tywardreath estuary was probably ideal for its natural occurrence in former times. In many middens of the world it is the dominant type of mollusc.

Pecten maximus L. Great Scallop. Half of left (top) valve, of which the total size would have been 140 × 150 mm., and fragment of another left valve. Very common off the British Isles, and distributed from N. Norway to the Iberian Peninsula. It lives offshore from low water to 60 fms., usually on clean sand or fine gravel, but sometimes on muddy sand, and it is eaten by man throughout its range.

Venerupis decussata (L.) Cross-cut Carpet-shell. One right valve 47 mm long. Mainly on S. and W. coasts of British Isles, and south to the Iberian Peninsula and Senegal. Lovell (1867:27) says that they are known as "butter-fish" in Hampshire and mentions that at Falmouth "they are considered far richer and sweeter than cockles and are sold in the market at 3d. per hundred."

An assessment of the molluscan contents of middens can throw light not only on dietary habits (species eaten), human 'predation' pressures (numbers and size of shells) and cults (symbolism of shell shapes), but also the presence of certain marine species can reveal local ecological conditions. In the present instance, the extent of soft deposits and the open nature of the now closed and built over estuary is strongly emphasized. Similarly non-marine mollusca can show changes in local ecological conditions, or, as here, present us with what is probably the earliest Cornish date for a species, and a very early one for the whole country.

I am indebted to Miss P.M. Carlyon and Mr. H.L. Douch for allowing me to examine this interesting collection of shells.

Discussion

Evidence to indicate the nature of the settlement at Kilhallon is lacking, which is unfortunate as the finds are of particular interest. There is a large proportion of fine wares, non-Cornish pottery and artifacts and though the sample is small and not statistically viable, under 50% of the vessels are of local gabbroic fabric. The only other Cornish site to produce any quantity of non-Cornish pottery and artifacts is the settlement at Carvossa, Probus (Douch & Beard 1970 and forthcoming). Here the sample is much larger, some 8,348 sherds, of which 81.47% are gabbroic. Other excavated sites of similar date have produced fewer imported artifacts and mainly gabbroic pottery, 95% or more being a reasonable estimate in most cases.

The reasons for the comparative affluence of these two settlements are undoubtedly complex but a favourable geographical position is certainly a contributory factor. The majority of the excavated sites are in remote, high, exposed positions where there would have been a struggle for existence, with little surplus available for luxury goods. Kilhallon and Carvossa are both situated in the more sheltered part of the county where better farmland is available. Kilhallon had access to the sea and to the land route which presumably followed the line of the modern A390, crossing the river below the site, as it does today. Carvossa is in a similar position above the River Fal which was navigable beyond Tregony before it silted up in the seventeenth century.

The economic position is more of a problem because little is known of the economy of the area at this period. Both sites are in a position to take advantage of any exploitation of the rich mineral zone around the St. Austell granite. A small tin ingot was found during excavation of the 0.5 acre 'round' at Trethurgy, St. Austell. (Miles 1973 & forthcoming) (Fig 1, plan 2). Tin production has always been inferred from casual finds such as the pewter cup from St. Stephen in Brannel (Fox 1964) and the many coin hoards, but evidence from excavated sites has been difficult to find. There is evidence of metal working at Carvossa but there is nothing to indicate whether the prosperity of Kilhallon is derived from mineral exploitation.

Its inhabitants certainly exploited their immediate environment to the full as can be seen from the bones and shells. Sheep bones and spindle whorls indicate that wool was produced but give no idea of the scale of production. Was it sufficient for them to make their own clothes, supply a local market or to export to Exeter or beyond? Does the presence of ox bones suggest that animals were produced to eat or for draught purposes. Was leather produced? There is no evidence, though in a county where a cattle economy has been suggested during the Iron Age (Fox 1964) this is a possibility.

The geographical and local economic factors are not the only possible reasons for the relative prosperity of Kilhallon and Carvossa, political, administrative and wider economic factors must also be considered and it is hoped to discuss these questions fully in the forthcoming report on Carvossa.

Acknowledgements

Thanks are due to Mr. and Mrs. R. Kittow for delaying the completion of their tennis court to enable the site to be excavated and to Mr. J. Kittow for his help and interest in the project. Also to Miss Jenefer Peter, who contacted Mr. Douch at the County Museum, Truro, enabling him to take the opportunity to investigate the site, and to all those who excavated in the sun when they might have been sunbathing on the beach.

Dr. Kevin Greene commented on the Samian and colour-coated wares, Paul Bidwell on the non-Cornish coarse wares, Sarnia Butcher on the bronze, Jennifer Price on the glass, providing the drawings, Dr. F.A. Turk on the animal bones, Dr. Stella M. Turk on the shells, Mary Irwin on the stone artifacts, providing the drawings, and Colin Edwards provided the documentary evidence for the past history of the site.

Thanks are due to Nora Acland for drawing the brooch, and to Roger Penhallurick for drawing the samian.

Mr. H.L. Douch organized the excavation, providing the energy and enthusiasm to achieve the results. Pat Penhallurick and Angela Broome both dug and helped to compile the report, Daphne Harris gave the advice and support which finally got it together, but it was Mrs. Henrietta Quinnell who provided the tuition, advice and support without which none of us would have been able to attempt the task.

Finds and Records

The finds and records have been deposited at the County-Museum, Truro, Cornwall.

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SHORT NOTES

A MESOLITHIC FLINT ADZE FROM THE LIZARD (Fig. 1)

The adze was found in 1968 on Bridge Farm, Mawgan-In-Meneage (SW714251), by Mr E. Whishaw. It subsequently passed into the collection of Mr Peter Hadley, of Poldowrian Farm, among which it was recognised in connection with "the Lizard Project", organised by the Central Excavation Unit in association with the Cornwall Archaeological Society.

The tool itself is the front half of a broken flint adze. It is roughly D-shaped in cross-section. The cutting edge is formed, on the upper surface, by the removal of fairly long narrow flakes, running from the front edge and using the underside as the striking platform. The working edge, on the under surface, is made by the removal of broad flakes struck from the side of the adze, forming the typical 'tranchet' edge of Mesolithic core tools.

The adze is made of a grey mottled flint. Areas of cortex still survive on the upper and lower surfaces. It is clearly not a typical pebble surface and looks to be a slightly rolled nodular cortex. It may have come directly from an area of chalk, the nearest occurrence being south east Devon, though in the same area many of the hills are capped with a layer of 'clay with flints' and, from the nature of the flint, such a secondary source seems more probable. The movements of objects over such distances should come as no surprise and is a fairly well attested feature of the British Mesolithic.

Mesolithic activity was already attested in the Lizard but the present find forms part of the rapidly accumulating evidence of more intensive occupation being revealed by "the Lizard Project".

Peter Berridge, Department of Archaeology,
University College, Cardiff.

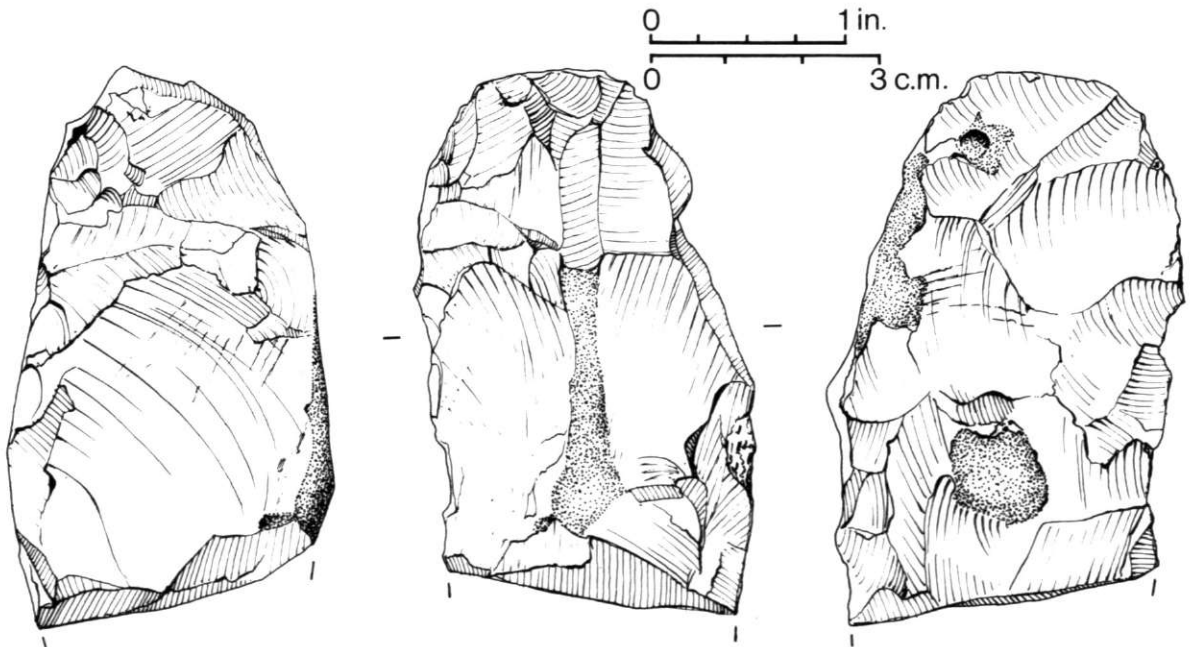


Fig. 1
Flint adze from Bridge Farm, Mawgan-in-Meneage

FLINT IMPLEMENTS FROM GREAT HAMMETT, ST NEOT.

In March 1980 a triangular flint arrowhead was found in a ploughed field at Great Hammett, St Neot. The field is sited above the east side of the St Neot River, on a gentle west-facing slope below Whitebarrow Downs. A scatter of pebble flint occurred throughout the field, concentrated around the area in which the arrowhead was found at SX18617010. At SX 18587022, a small flint scraper with steep edge retouch was also found.

In April 1981 a flint leaf-shaped arrowhead was recovered from the field at SX 18637019. The arrowhead is bifacially pressure-flaked with steep trimming at the point and has a plano-convex cross-section. Other flints have been found in the field by the farmer, Mr. David Wherry, including a very small tanged arrowhead. Mr. Wherry has also recovered another flint arrowhead from an adjoining field immediately to the south of the site. This arrowhead is small, barbed and tanged, with neat bifacial pressure trimming.

All of the artefacts appear to have been made from pebble flint. Leaf, triangular and barbed and tanged arrowheads were all in use during the Late Neolithic. Whether or not they were all used at Great Hammett during an unbroken period of occupation cannot be determined. Barbed and tanged arrowheads continued to be manufactured throughout the Early Bronze Age, during which time it is possible that leaf and triangular arrowheads were occasionally still used in the South-West.

The location of the site, above the side of a valley on a west facing slope, suggests an encampment or settlement. It is therefore possible that the site at Great Hammett was inhabited during the Late Neolithic, or owing to the long survival of flint working traditions in the South West, in the Early Bronze Age.

Philip Steele
14, The Parade, Truro.



Plate I The Roman Altar in Tresco Abbey Gardens, 1979

SCILLY'S ROMAN ALTAR

A note on this altar by an anonymous correspondent was published in the first volume of the *Antiquaries Journal* i (1921), 239). It was as follows:

'There is but little history attached to what seems to be a Roman altar now preserved among the figure-heads of wrecked ships in the Valhalla of Tresco Abbey. Two views are here given (Fig. 1) from photographs kindly supplied by Messrs Gibson and Son of Mount's Bay Studio; and these show a sacrificial knife and axe on the two sides, but there are no traces of an inscription on the front. The altar is of coarse granite, 32 in. high, 17 in. across the base, and 15 in. square at the top. The owner, Major Dorrien Smith, is convinced that it is no recent importation from the mainland, and his predecessor, Mr. August Smith, brought it from the island of St. Mary's in 1870, where it used to stand near the Garrison Hill, beside an old masonic lodge. Mr. George Bonsor thinks that it came originally from Old Town (the ancient capital of St. Mary's before the Elizabethan Star Castle was built in 1593), that being the only place where Roman antiquities have been discovered in the islands'

A photograph taken by Alexander Gibson shows the altar standing in the Tresco Abbey Garden's *Valhalla*. The base, top and front panel have been picked out, the sacrificial cleaver can be seen, and its 'coarse granite' character is unmistakable (Ashbee, 1974, 139, pl. 11a). Hencken (1932, 195) observed that it was said to have come from the Garrison on St. Mary's, but that where it was originally found was uncertain. This is the only information in the index to Roman Cornwall appended to Haverfield's (1924) article in the *Victoria County History*. O'Neil (1949, 10) affirmed that it was in the *Valhalla* and that it was said to have been found 'opposite the Atlantic Hotel in Hughtown'. His source is not known but it has confirmation from details most kindly provided by Mr. Alec Gray, of Treswithian, Camborne. Mr. Gray was resident on St. Mary's for almost twenty years and, as well as undertaking fieldwork (Ashbee, 1972), he garnered much information that has since been lost sight of. One observation that he recorded, and generously passed to the present writer (*in litt.*, Jan., 1975), was that the altar had been found in 'the bottom of an old well' when the foundations were being dug for the house, now the Pilot's Gig Cafe, in Hughtown. If this were so, there is the possibility that the 'old well' was a shaft (Schwarz, 1962; Ross, 1967, 24-33; 1968), perhaps associated with a shrine within which the altar had stood. As at Carrawburgh, in Northumberland, it had eventually been tumbled into the well (Smith, 1962). Shafts or wells are not unknown in the Southwest, for example that found in the enclosure at St. Erth (Haverfield, 1924, 8). The altar's deeply weathered condition is, however, consistent with exposure and thus its discovery may have taken place early in the nineteenth century.

A decade ago a cult site, on the Garrison or beneath Hughtown, was thought likely (Ashbee, 1974, 218). The altar and two stone columns remained, while it was hazarded that it could have stood upon Mount Holles. Subsequent study of early Christian Scilly and reconnaissance of Hughtown's stone walls, has shown that these columns, and other architectural fragments, are more likely to have come from the church of St. Maudut, which stood on the southern side of the square called 'Bank' or 'The Bank' at the western end of Hughtown (Thomas, 1979, 37, fig. 5). This was at no great distance from the 'old well' in which the altar may have been found, thus its foundation, apparently an early one, may have been determined by the proximity of a pagan cult site.

Professor S.S. Frere has been kind enough to scrutinise photographs of the altar. He says that it is a common form, with a frontal panel for the inscription. As there is no trace of cutting or incision, the inscription could have weathered out, have been painted or it might not have been dedicated. The objects on the sides, an axe and cleaver, were probably sacrificial instruments. A similar, although inscribed, example

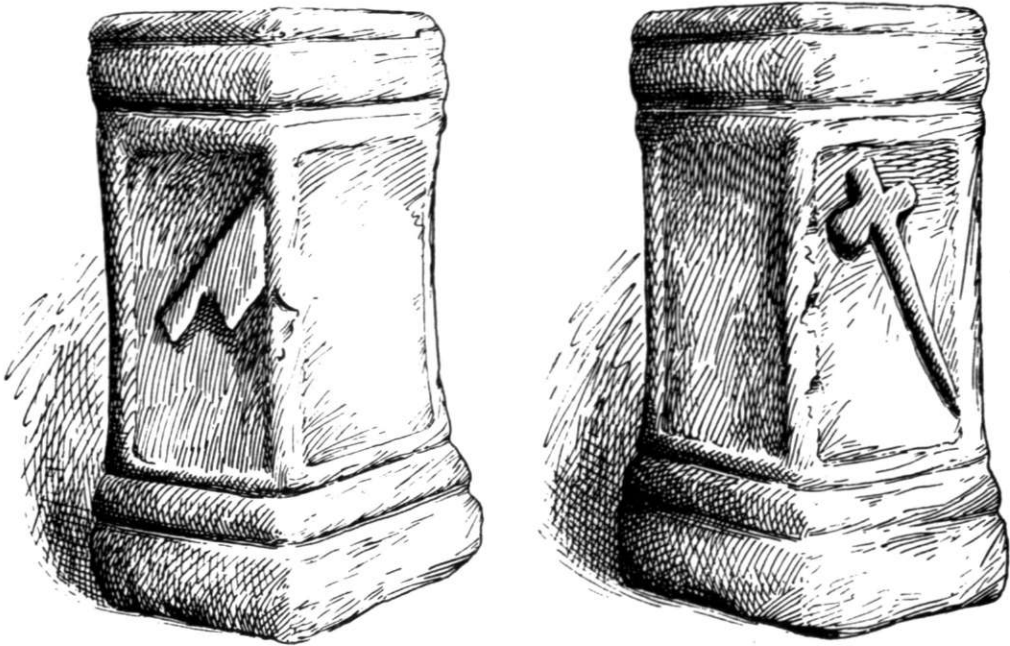


Fig. 1
The Roman Altar as sketched from Alexander Gibson's photographs.

is in the museum at Karlsruhe, Germany (Espérandieu, 1931, 217, no. 348), while, in England, there is one from York (RCHM(E), 1962, pl. 44). Altars with similar devices are also in Chester Museum (Wright & Richmond, 1955, pls. 1, 9). Numbers of blank altars are extant, but, often, not published. Sometimes, as on Scilly, they are used as ornaments: two small ones stand at the head of modern steps in the cemetery at Bowes, in Yorkshire.

Scilly's Roman altar was said to be of '*coarse granite*', as can be seen from Alexander Gibson's photograph. This, however, results from weathering: on Halangy Down (Ashbee, 1974, 185–97) querns and other smoothed stones, long buried but now exposed to the elements, all have this appearance. Their surface has crumbled and a fresh one formed from the feldspar, quartz and mica structure. Thus the appearance of the altar in the early photograph is compatible with the claim that, until it was taken to Tresco in 1870, it stood near the Garrison Hill. Now, after a century under cover, it has been taken to serve as an ornament in the Tresco gardens (Plate I) and cemented to a boulder, with a flat stone fixed to its top, upon which a granite mortar stands. It is not impossible that Augustus Smith, observant and interested in antiquities, had the altar removed to Tresco because he thought that it would deteriorate and become featureless, were it left by the Garrison Hill. Now, after about a decade in the open air, Scilly's Roman altar, the only one of its kind west of the River Tamar, is crumbling. The fragments that lie around it show that, in its present position, it will eventually become as bare as the rocks of Mincarlo.

Paul Ashbee
The University of East Anglia

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A MEDIEVAL CROSS BASE? ON ST MARTIN'S, SCILLY

In 1966 this writer recorded a worked stone of granite with a central socket, built as a quoin into the SE corner of St Martin's Church. It has recently been recognised by Professor Charles Thomas as being possibly a medieval cross-base.¹

It was obviously incorporated into the present structure during a second rebuild in 1821. At that time the nave was extended to a length of 20 metres and as Woodley further states, the building 'with the exception of the West end and a part of the side walls is altogether new' He also records that work commenced about the end of January 1821 and completed within less than four months.²

Neither Borlase (1756) or Troutbeck (1796) mentions a cross at St Martin's. It is possible that such a feature, with its base, stood originally within the small churchyard surrounding an earlier medieval chapel on the same site, as Woodley, virtually repeating, Troutbeck says:- 'There are no records to show when St Martin's Church was originally built; but from the great number of bones found in its cemetery it is probable that it has been used as a place of sepulture for some centuries'.³

Measurements of cross-base:-

Length 1m 16cm (3ft 4ins)

Width 61 cm to 48 cm (2ft - 1ft 7ins)

Socket 37 cm × 25 cm (1ft 2³/₄ins × 10ins)

18cm deep (7ins)

Refs:-

1. THOMAS, Prof. C., *Cornish Studies* 6 (1978) 36.
2. WOODLEY, Rev. G., 'A View of the Present State of the Isles of Scilly'. 262, 1822.
3. op. cit. 259.

Michael Tangye

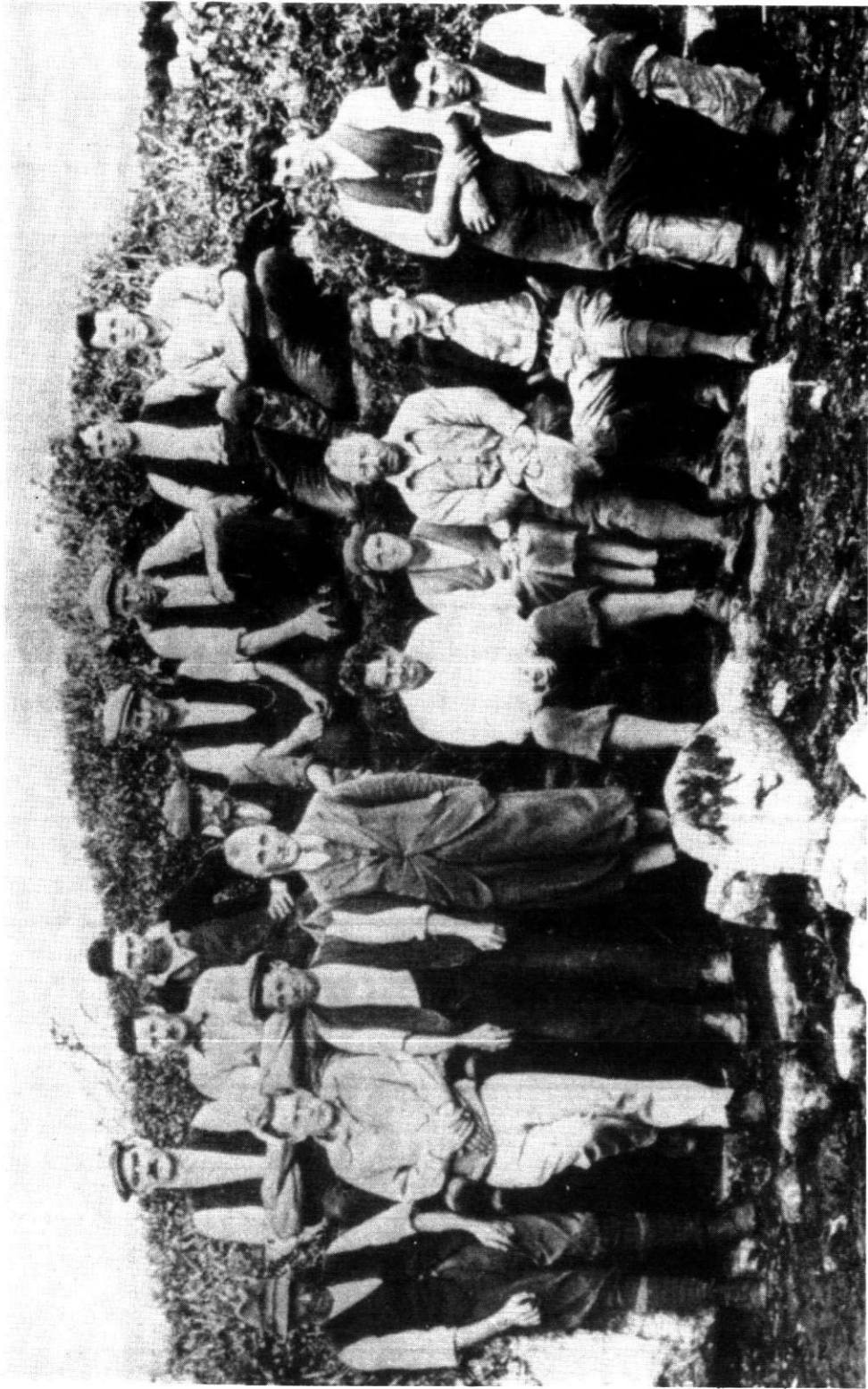


Plate 1 The work force at Chysauster in 1931. Hencken is seated in the centre, wearing a white shirt.

HUGH O'NEILL HENCKEN (1902-1981) AND HIS ARCHAEOLOGY OF CORNWALL AND SCILLY AND BEYOND

Hugh O'Neill Hencken the famous author of the *Archaeology of Cornwall & Scilly* (1932) died on 31 August 1981 in Boston. He was born in New York City on 8 January 1902, the son of Albert Charles Hencken and his wife Mary (née O'Neill). After a schooling befitting the son of a family of taste and substance, he entered the University of Princeton, New Jersey. Thereafter he moved to Cambridge, in England, and, after his work in Cornwall and on Scilly, turned to Ireland, and subsequently, embraced the later prehistory of mainland Europe. In 1935 he married Thalassa Cruso, from 1930 Sir Mortimer (then Dr. R.E.M.) Wheeler's accomplished assistant at the London Museum and excavator of the Iron Age camp on Bredon Hill, Gloucestershire. After their marriage, and when settled in America, she became that country's most popular and renowned writer upon plants and gardening.

Hugh Hencken, it is said, came to England, Cambridge, and thus Cornwall and Scilly, because he was attracted to St. John's College. At Cambridge he learned from H.M. Chadwick and J.M. de Navarro among others, and took a B.A. in 1926, having received a B.A. from Princeton in 1924. It was in 1926 that he began to travel in the Southwest and assemble the material for a study of the Bronze and Iron Ages in Cornwall and Devon. This led to his thesis which is lodged in the University of Cambridge's library as *The Bronze and Early Iron Ages in Cornwall and Devon, Cambridge University PhD Dissertations, University Library, No. 434 (1929)*. This was the basis of our familiar *Archaeology of Cornwall & Scilly* (1932), which gave a new impetus to the notion of regional archaeology, primarily in Cornwall, for that county is a distinct geographical region, but also in Britain at large. It was everywhere recognised as pre-eminent among the black-bound *octavo* County Archaeologies, progeny of the *Victoria County Histories*. As is recorded in the *Preface*, it was O.G.S. Crawford who first suggested the subject to him and who, while work was in progress, contributed much helpful advice and information. Crawford, while convalescing at Heligan, near St. Austell, after being wounded on the Western Front in 1917, had visited Harlyn Bay and, early in 1926, had explored the Isles of Scilly. Hencken was enabled to use some of the work of George Bonsor (of the Castillo Mairena del Alcor, near Seville, in Spain) who had excavated on Scilly between 1899 and 1901 (Ashbee, 1980). That distinguished photographic family, the Gibsons, were also of great assistance, particularly Alexander, many of whose pictures provided illustrations. Their collections of Cornish and Scillonian antiquities were scrutinised, as were those of the Museum of the Royal Institution of Cornwall at Truro, then ministered by George Penrose. The many friends that Hugh Hencken had made in Cornwall supported his enterprise: A.K. Hamilton Jenkin read the chapter on the prehistoric tin trade, Henry Jenner read the treatment of the 'Dark Ages', while Charles Henderson read the entire book when it was in manuscript form.

In 1976, *Cornish Archaeology* contained a tribute to *Cornwall & Scilly*, and a year later there was published a volume in his honour, *Ancient Europe and the Mediterranean* (1977), edited by Vladimir Markotic, one of his pupils at Harvard, where he was Professor of European Archaeology. The many contributions, for he was kindly, of great charm and had wide friendship, include two papers of direct relevance to Cornwall and Scilly (Clark, 1977; Piggott, 1977), which reflect his early interests, as well as a *frontispiece* photograph of the work-force at Chysauster in 1931. A glance at the list of Hencken's many scholarly publications shows that his life-interests fell into, broadly, three phases. Thus from his Cambridge days to the publication of *Cornwall & Scilly* (1932) and beyond, he was concerned with Cornwall, and then up to the War, and for a while thereafter, with Ireland. For five seasons, from 1932 to 1936, he led the Harvard University Archaeological Mission to Ireland and directed, applying the insights gained in Cornwall, large-scale excavations in that country, notably the

Ballinderry and Lagore Crannogs, the Cahercommaun Stone Fort and the Creevykeel Court Cairn. This work, and that of Hallam L. Movius, was promptly published, for the most part, in the *Proceedings of the Royal Irish Academy* and the *Journal of the Royal Society of Antiquaries of Ireland*. It set new standards and, as in Cornwall, was emulated by the new genre of archaeologists that it inspired. He had become Curator of European Archaeology in Harvard's Peabody Museum and guided that institution in the purchase of the huge collections of material from rich Iron Age cemeteries in Carniola, today northern Yugoslavia. These collections, termed the 'Treasures of Carniola', had been assembled before the first World War by the Duchess Paul Friedrich of Mecklenburg and were sold in America by her daughter in 1934. Hugh Hencken initially had his attention drawn to this remarkable assemblage by Adolf Mahr, then Keeper of Irish Antiquities in the National Museum in Dublin, who directed the compilation of the remarkable illustrated sale catalogue. Thus, when he had completed his Irish work his interests turned to the problems of publishing in detail this unique assemblage. Indeed, Hugh Hencken spent the post-war years almost entirely in the pursuit of Later Bronze and Iron Age mainland European prehistory, producing remarkable papers and monographs such as *Herzprung Shields and Greek Trade* (1950), *Beitsch and Knossos* (1952), *Tarquiniæ, Villanovans and Early Etruscans* (1968) and *The Earliest European Helmets* (1971), thus equipping himself to interpret and publish the great Mecklenburg collections in the context of the appropriate central European and Mediterranean interrelationships. A treatise on the human and horse skeletons appeared in 1968 and the first volume of the artefactual material *The Iron Age Cemetery of Magdalenska gora in Slovenia: Mecklenburg Collection* (1978) a decade later.

Over the years, many deserved honours and distinctions were bestowed upon Hugh Hencken, here, in his own land, and abroad. In 1936 he had the degree of D.Litt (*honoris causa*) conferred upon him by the National University of Ireland and, in 1972 he received the degree of Sc.D (*honoris causa*) from the University of Cambridge. In England he was a Corresponding Fellow of the British Academy, a Fellow of the Society of Antiquaries of London, an Honorary Member of the Prehistoric Society and a Life Member of the Royal Archaeological Institute. His interest in Cornwall was maintained by his Honorary Membership of the West Cornwall Field Club, after 1962 the Cornwall Archaeological Society, as well as his Honorary Membership of the Royal Institution of Cornwall and of the Penzance Natural History and Antiquarian Society. Ireland honoured him with the Fellowship of the Royal Irish Academy as did Scotland with the Fellowship of the Society of Antiquaries of Scotland. In America he was a Fellow of its Academy of Arts and Sciences, an Honorary President of the Archaeological Institute of America and an Honorary Phi Beta Kappa (an American national honorific conferred upon distinguished scholars). France bestowed a Corresponding Membership of the Société des Antiquaires de l'Ouest de France upon him, in Western Germany he was a Member of the Deutsches Archaeologisches Institut, in Italy he was a Corresponding Member of the Istituto di Studi Etruschi e Italici and the Istituto di Preistoria e Protoistoria while in Spain he had a Corresponding Honorary Membership of the Instituto de Estudios Ibéricos.

Hugh Hencken undertook excavations in Cornwall and on Scilly. At Chysauster the study of Cornish stone-built houses entered upon a new era. With the then recent work at Chun Castle in mind he examined House No. 3 in 1928 together with T.D. (later Sir Thomas) Kendrick, then Assistant Keeper of British and Mediaeval Antiquities at the British Museum. In 1931, after the site had passed into the hands of H.M. Office of Works, further work began on July 15 and continued until September 12. Houses Nos. 4, 5, 6, and 7 were investigated and there emerged the now familiar asymmetrical courtyards, roughly circular rooms with hollowed slabs to house roof supports, cells and keeping-places. Lt. Col. F.C. Hirst assisted Hugh Hencken throughout the excavation, and Col. Hirst read the account of it to the Society of Antiquaries of

London at their Meeting on 4 May, 1933, with Sir Charles Peers, President, who had encouraged the work, in the chair.

In *Cornwall & Scilly*, the tin trade was discussed in an especial chapter. Its reviewer (Childe, 1932) commended its clarity and argument, while Stuart Piggott in the *Hencken Festschrift* (p. 141) felt that, even after forty years it could still be turned to with profit, for it had been the first account in modern times. Hugh Hencken was attracted to the problems posed by the early Cornish tin trade and when, in 1932, he attended the First International Congress of Prehistoric and Protohistoric Sciences, held in London, he contributed a paper based upon his earlier chapter, which delineated and ordered the essential evidence. This little-known paper provides a valuable supplement to the fuller narrative.

Cornwall & Scilly was a landmark because when it appeared, fifty years ago, it brought together material from methodical personal fieldwork, as well as from periodicals, dusty museums and unusual private collections. A measure of its thoroughness and the exertions involved in, for example, tracking down provenances and attributions etc., is reflected in the later use of particular themes as well as the comprehensive archaeological gazetteer. One of these examines the inscribed stones at St. Kew and Lanteglos by Fowey. The first, a bilingual stone, he read himself and it bears the recognisable Roman name IVSTVS, repeated in ogham, the second, built into the Norman doorway of the church, carries a Chi-Rho monogram.

Hugh Hencken produced the first general account of Scilly's prehistory: the personal fieldwork produced a coherent list of chambered cairns and their dimensions which has been the basis of all subsequent study. In his No. 1, on the North Hill of Samson, he picked up what he described as 'a piece of hard greyish-black pottery glittering with mica and having upon it rows of semicircular marks as on a fragment from the Bant's Carn passage-grave'. In August 1930, assisted by Hallam L. Movius, the examination of the structure and contents of this chambered cairn was undertaken. When an account of the work was published a further, and more detailed description of George Bonsor's excavations on Scilly prefaced it. He had visited Bonsor at Mairena del Alcor, and had discussed with him, besides Scilly, the archaeology of the Iberian peninsula. Bonsor gave him permission to use the material that Kendrick, and later R.A. Smith, had brought back from Spain to the British Museum.

Hugh Hencken will long be remembered in Cornwall because his well-founded book marked the beginning of a new age of archaeological endeavour in the county. His early work there was the basis for so much more: he was a distinguished scholar of international standing whose work advanced our knowledge of the wider field of European prehistory. We of the Cornwall Archaeological Society are proud of the remarkable archaeological career that began amongst us when the troubled twentieth century was still young. In a sensitive and affectionate *Editorial*, Glyn Daniel (1982, 5-7), who visited Hugh Hencken a year ago in Boston (Massachusetts) describes how they took wine together and talked of Chadwick, Cambridge, Ireland and the Isles of Scilly. With courage, geniality and enthusiasm he worked almost to his last days: his example and accomplishments will be forever with us.

Paul Ashbee
The University of East Anglia

HUGH O'NEILL HENCKEN

Publications pertaining to Cornwall and Scilly

- 1928 'An Excavation at Chysauster'
Journal British Arch. Assoc., 34, 145-64.
- 1932 *The Archaeology of Cornwall & Scilly*.
- 1933 'An Excavation for H.M. Office of Works at Chysauster, Cornwall'
Archaeologia, 83, 237-84.

- 'Notes on the Megalithic Monuments in the Isles of Scilly'
Antiq. Journ., 13, 13-29.
- 1934 'The Ancient Cornish Tin Trade'
Proc. First International Congress Prehist. & Protohist. Sciences, 1932,
283-4.
- 1935 'Inscribed Stones at St. Kew and Lanteglos by Fowey'
Arch. Camb., 90, 156-9.

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Hugh Hencken*, ed. V. Markotic, 35-49.
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FIELD WORK IN 1981

RECENT WORK OF THE CORNWALL COMMITTEE FOR RESCUE ARCHAEOLOGY, 1981

As well as the main survey projects on Bodmin Moor and in West Penwith, the field officers have also been involved in work on a smaller scale where development has posed a possible threat, or where the opportunity has arisen for a more detailed look at a site. A weekend training session was run with members of the Cornwall Archaeological Society to survey remains in a small area of moorland at *Crowan Beacon* (SW 664350). The once extensive moorland of the Carnmenellis granite now survives in only small and isolated patches, but many of these do contain archaeological remains which need to be recorded, being very vulnerable to destruction by improvement of the moorland to pasture; such a record should also provide some basis for comparison with the more extensive remains on Bodmin Moor and in West Penwith. At Crowan Beacon a field system with a hut inside an enclosure was recorded.

The opportunity has also been taken to survey the remains of *St Constantine's Chapel*, St Merry (SW 8653 7488) which until recently had been hopelessly obscured by dense and damaging vegetation. This has now been cleared away by the Padstow Girl Guides, to reveal not only the walls and interior, but also the excavation trenches cut in the 1920s by Dr Penrose-Williams, who also excavated and restored the adjacent Holywell. He left no plans of his excavations of the chapel and although the survey revealed few additional features, it will provide the basis for urgent conservation work.

A visit to the *Market House at Camborne* (SW6458 4005) where workmen had reported the discovery of an inhumation clarified the nature of the site. The section of the trench was cleaned and drawn and the 'grave pit' found to be a rubbish pit of the late 18th or early 19th century. Interestingly it contained a wine bottle showing the stamp of John Budge, a Camborne engineer who had had a house on the spot. The bones, which had been taken to the Home Office Pathologist, proved to be not human, but animal. Several market house floor-levels were noted.

Quay Street, Lostwithiel (SX1048 5968) was visited when a builder's trench was dug through a site between the Duchy Palace and the river. The layers observed reflected post-medieval development on the silts of the riverbank, with a sequence of structures built nearer and nearer to the present edge of the river, on ground raised by deliberate dumping of 'hardcore' which included slates and large quantities of pot, evidently rubbish from the local kilns as many of the shards were clearly waste products broken during firing.

The Romano-British site at *Carvossa, Probus* (SW 91884828) is of particular importance because evidence has been found for occupation, not only within the ramparts, but outside as well (Douch and Beard 1970, Bartlett 1981). The cutting of a pipeline trench by the SWWA provided the opportunity to see whether the occupation extended to the west of the enclosure as well as to the south and east. From the lack of finds or features it would appear that it did not.

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Nicholas Johnson
Peter Rose

THE LIZARD PROJECT

Three small excavations were carried out in May and June 1981 by members of Cornwall Archaeological Society and the DOE Central Excavation Unit. The sites were all located during field-walking of ploughed areas in the winter of 1980 and were investigated further since they were all threatened with destruction and because they were expected to illuminate particular archaeological problems of the Lizard area.

1. Trellan, St Keverne (SW735191)

This was an oval earthwork once scheduled as an ancient monument, but which had later been mistakenly destroyed by ploughing. Limited trial trenching in 1981 showed that there were no upstanding remains worthy of preservation. The site consisted of a low turf bank with an internal ditch. Within the compass of this main ditch was a smaller sub-circular ditch which seemed to have once contained a low turf mound. There was no sign of occupation in the way of structural features and there was only one find, a rim-shoulder of a plain, hand-made bowl in a micaceous fabric. The earthwork is thought to be a turf-drying stack, possibly of Dark Age date but a radiocarbon date should be forthcoming.

2. Trellan, St Keverne (SW734193)

This was a burial mound levelled during the Second World War but relocated as a soil mark after ploughing in 1980. The mound had consisted of a central turf stack held in place by a circle of stakes which were in turn revetted by a bank of clay dug from a surrounding ditch c. 20m in diameter. There had been a central pit below the mound but most of it had been removed by a recent drainage ditch. No secondary burials were found. The ditch around the mound had two phases, the first of which had apparently been backfilled (with turves) very soon after its construction, pre-dating the construction of the burial mound was a line of post-holes which continued beyond the ditch and should represent an early territorial division or enclosure of the heathland. The well-preserved soil buried beneath the mound showed no sign of cultivation and pollen analysis should provide the first clues to the early history of the serpentine heathlands.

3. Goonhilly Downs, Grade-Ruan (SW723195)

This was a wide scatter of work flint plotted during field-walking after afforestation ploughing. Small-scale trial excavation using fine sieving techniques showed Mesolithic and Neolithic occupation. The main area excavated was one with a concentration of Early Mesolithic obliquely-backed, broad-blade microliths, the first time that settlement of this date has been located in this part of Cornwall. There were no preserved features and no material for radiocarbon dating, although there were a few fragments of carbonised hazel-nut shell. The site seems to have been a very transitory encampment with a virtual absence of tools other than arrow-points and a very high ratio of worked to waste pieces.

George Smith
Central Excavation Unit
Fort Cumberland
Eastney
Portsmouth

HALLIGYE FOGOU: EXCAVATIONS IN 1981

Following the work undertaken in September 1980, three further weeks' examination were completed in May 1981. The fogou can now be somewhat re-described (see 1980 resumé).

1. From study of the walls it can now be demonstrated that the curved passage is of two phases, the first ending at the so-called 'stumbling block'; the south-west end and its associated creep were added later. The 'stumbling block' need be seen as no more than a piece of natural rock left unquarried when the passage was extended.
2. The southern of the two sections of passage extending northwards from the straight passage is now seen to be inserted; that is, it seems that an inner 'sleeve' was added to make the entrance/exit narrower and longer, and thus more tortuous.
3. The robbed section of the southern end of the straight passage has been demonstrated to a later rebuild. The straight passage originally extended 6ft further south. This 6ft section was removed and a further 6ft modified to a slightly different alignment. The now-robbed section was then added. The construction of this involved cutting through occupation layers and the height of the ground surface was certainly raised some 3ft above the construction surface, if not above the pre-existing occupation surface (excavation was not extensive enough to confirm this).
4. The fogou exited to the north at a depth of some 6ft below the natural ground surface, presumably into a ditch. All traces of this ditch in the narrow section examined were removed when this entrance was blocked and a much wider and deeper ditch (over 12ft) was excavated. This ditch was deliberately backfilled in the Roman period (pottery not yet processed).
5. Apart from relatively recent backfill, the only deposit within the fogou was a thin layer of black silty soil, apparently deposited from above by worm and water action. This lay directly on the bedrock, Meneage crushed breccia. This bedrock has been subjected to periglacial conditions and consequently the quarried surface was generally very irregular. There is some suggestion that this surface is less rough in the centre of the passages, but even here the roughness is only partly ameliorated by crushed rock fragments caught in the crevasses. Other than this, there was no sign of any deposits which could be related to the use of the monument.

Results

Despite revealing quite a lot of information about the Halligye site, these limited excavations have revealed little further evidence as to the function of fogous. Particularly puzzling is the total lack of deposit within the structure relating to its occupation, possibly through early antiquarian clearance. However, one immediate distinction between Halligye and Carn Euny (Christie 1978), the only other Cornish fogou to have been excavated in recent years, is that Halligye clearly relates to an enclosing earthwork. The results can be summarised as follows:-

1. The fogou is clearly within an earthwork (the rest of the circuit of which remains to be traced) surrounding a settlement.
2. It clearly provided an entrance to the site of sufficient importance that it was first modified and later blocked. It seems likely that the actual entrance/exit within the enclosure was at the south end of the straight passage; certainly neither the curved passage nor its associated creep provided an exit.
3. No date can be offered for when the fogou was first built, but it was still being modified in the later Iron Age and was probably not blocked before the Roman period (the pottery remains to be dated).
4. Although the curved passage and the creep were fully below ground (if, as seems

possible, the curve of the passage reflects the curve of the earthwork, then the curved passage could have been further hidden) it seems almost certain that the straight passage would have been visible within the settlement as, at the very least, a low mound. This lack of disguise militates against the suggestion of its use as a refuge.

5. The work involved in the construction of the monument suggests that Halligye might have been a high status settlement.

Bill Startin

Ref

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LAUNCESTON CASTLE EXCAVATIONS IN 1981. AN INTERIM REPORT.

Excavation continued in the south-west quarter of the bailey. It can be classified according to several distinct areas: Great Hall and buildings added to it with the exception of the 'Council House' which is described separately, earlier features below the Great Hall and the 12th century structure 'House V'.

Great Hall

Final examination of the associated floors, internal timber settings and removal of considerable lengths of foundation confirmed that the Great Hall was structurally a two-phased construction. The builders in the mid 13th century were aware that the site chosen had been previously disturbed and provided uneven stability. Where solid clay existed the large slabs of slate were laid directly on the surface with little if any foundation trench. Where the ground had been disturbed and made-up, pitched stone foundations were laid sometimes to a depth of 18 inches or more. The first phase represented a ground-floor hall with a pronounced open hearth surprisingly close to the North (high end) wall. A line of post-holes inside the east wall suggested supports for benching. A similar line may have existed on the opposite long side but here there was much disturbance of the floor and very few post-holes survived. A central doorway in the south wall provided access from the kitchen through the kitchen yard. There were suggestions for the position of the 'screens'. Elsewhere on the clay and shillet floor surface were several hearths including two bowl hearths with traces of lead working. The hearths were filled with stone and levelled over. The substantial stone lined and capped drain which ran along the east (uphill) side and returned round the south gable wall to discharge through an opening clear of the hall presumably belonged to the initial construction. It was carefully constructed with occasional vertical stones set to provide weeps to deal with ground water on the upper side.

The second structural phase was the conversion of the building into a first floor hall. Part of the east wall was rebuilt with an internal, buttress-like projection to provide the base for an upper fireplace. This is the only portion of the hall to survive above the foundations. The internal projection encroached upon the line of benching along the east wall. The benching, in fact, had been removed and in some instances the filling of the post holes was sealed by mortar surfaces of the later floor. Within the filling of one of the post holes was a halfpenny of Edward I suggesting that the conversion of the building took place c1300 at the time when Edmund, Earl of Cornwall, was reducing the status of Launceston Castle by removing its estate administrative functions to Lostwithiel but leaving its role in the administration of justice in the county intact.

The Great Hall continued in use until about 1600. Additions were made to the north-west corner. A rectangular extension of uncertain purpose was later replaced by a small addition containing a shaft with an external exit at ground level. This was presumably the base of a garderobe shaft serving the high end of the Great Hall. Both these additions were distinctly unstable having been constructed over the filling of a substantial pit.

'Council House'

The principal addition to the west wall of the Great Hall is the building possibly identified with the Council House mentioned in accounts of the 1460s. It had been built on steeply sloping ground with its western wall face built free-standing and the interior made up to provide a floor at a similar level with that of the Great Hall. Outside the Council House the ground had similarly been made up concealing a robbed wall line 4 ft wide, which extended below the floor of the Council House itself. The excavated area was sufficiently extensive to demonstrate that the earlier wall had returns to north and south. There appeared to be a substantial earlier building on an

alignment distinctly different from that of most of the buildings within the bailey. Nothing dateable was found to indicate its age.

Twelfth Century Structures

Sufficient work was done to indicate the existence of earlier stone structures beneath the Great Hall, presumably of the 12th century and contemporary with other remains in the area previously examined which were levelled in the great 13th century rebuilding. Four parallel lines of walling with some traces of returns suggested a small rectangular building replaced by another on a slightly different site. One of the early walls had subsided (along with the Great Hall external drain) into the filling of an earlier pit.

The distinct rectangular building (House V), 26ft by 14t internally, to the east of the Great Hall had been identified in a previous season. Further work suggested two periods of occupation. The floors had subsided dramatically into an earlier pit fill whose shape and positions bore similarities with the sunken-floored structures found in the previously excavated area to the south.

North of House V and the earlier buildings under the south end of the Great Hall there seemed to be an area free of 12th century stone structures until the line of wall cut by the 19th century slate-lined sump serving the county gaol and a line of another wall north of the Great Hall.

Below the Great Hall floor, however, and indeed across much of the excavated area were indications of still earlier pits of various kinds which remain to be examined in what is expected will be the final season of excavation in 1982.

Andrew Saunders
Dept. of the Environment

TINTAGEL CASTLE

Owing to the erosion within the inner ward of the Castle (Fig. 1), it was found necessary to excavate a small area ($2.7 \times 1.3\text{m}$) to a depth of approximately 15 cms. to facilitate the laying of a concrete raft. Four contexts were excavated, layer 1 (fig. 2) was a very dark humic soil and yielded animal bone and seven medieval pottery sherds of the 14th century.

Layer 2 was a brown sandy gravel material and yielded no finds, while layer 3 (Fig. 2) was a grey loam and also yielded no finds. Context 4 comprised two flat stones overlying a linear feature, this appeared to have a stone-lined base which suggests that whole may be the remains of a drain outside the 12th century wall.

The contents of layer 1 suggest that it was the remains of a rubbish pit possibly contemporary with the use of the castle as a state prison in the 14th century.

R.G. Browse,
Central Excavation Unit,
Fort Cumberland,
Eastney,
Portsmouth.

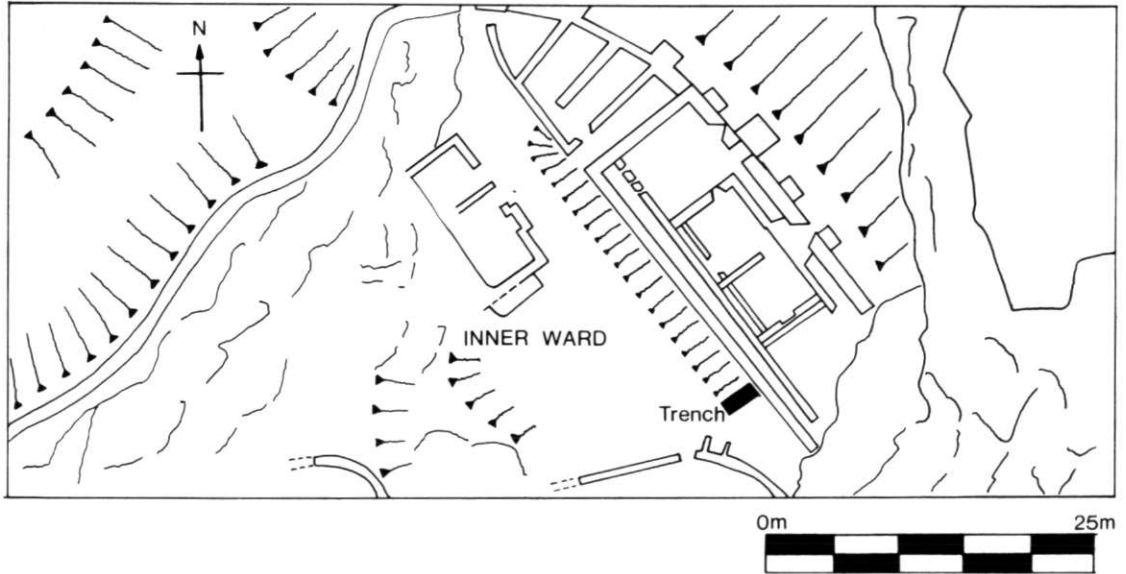


Fig. 1
Tintagel Castle: Location Plan.

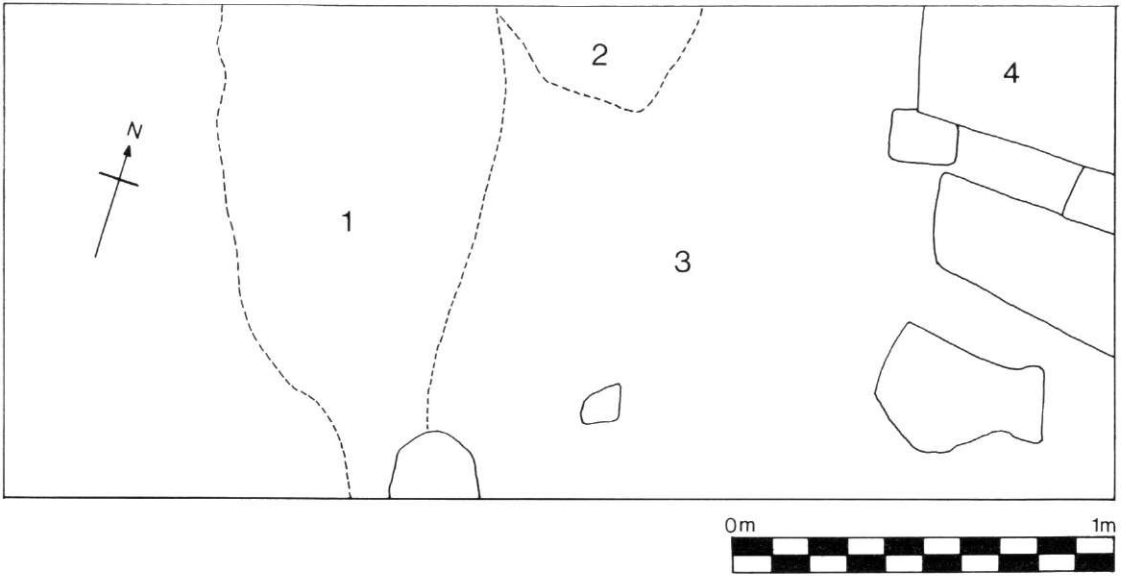


Fig. 2
Tintagel Castle: Plan of excavated trench.

REVIEWS

The Geology of Devon ed. E.M. Durrance and D.J.C. Laming, University of Exeter, 1982, £12.50.

The geologically complex and incomparably rich West of England region attracted many able and brilliant students long before Collins, and even more have come to examine and analyse its structures since. From the definition of the Devonian by Sedgwick and Murchison in the 1840's great numbers of large and small scale studies have been made and published, but there have been too few general surveys. Cornwall had a popular general outline of its geology by Davison in 1926, and again more fully by Mrs Barton in 1964. Devon now has a very fine conspectus in the handsome volume published by the University of Exeter in which a distinguished group of contributors has covered the whole field, and interestingly discussed current thinking on each group of problems.

Archaeologists will be most interested in the Quarternary chapter, particularly the sea-level changes discussed, the section on pollen analysis, and above all on the summary of faunal and human finds in the mapped cave sites. The close association of geology, topography, climate and human occupation gives interest to every other chapter, each enhanced with maps and diagrams which successfully extend the text, as do the lists of prime accessible exposures. The strict county boundary, as is proper in any such volume, is not adhered to, but structures and systems are examined to their logical extent in neighbouring areas. For further study a detailed list of references is appended.

In criticism of a text which should have a non-specialist as well as specialist readership a glossary would have been an enhancement, as geology like most sciences requires an ever-increasing private vocabulary which should not be assumed to be universally plain. The text figures, excellent throughout, suffer from over-great reduction in some cases, an exigency with which every editor will sympathise in current printing conditions. However, the quality of reproduction makes a hand-lens a satisfactory compromise.

A. Guthrie

The Agrarian History of England and Wales, Vol. I, Part I; Prehistory. Edited by Stuart Piggott. 23.5 x 15.5 cm. Pp. xxii + 451 + 14 pls. + 66 figs. + 9 tabs. Cambridge: University Press, 1981. £27.50.

This *Agrarian History* is the work of an accomplished trio. Stuart Piggott examines *Early Prehistory*, the various movements and trends in our Mesolithic, and the pattern of Neolithic agricultural endeavour, in fifty-nine pages. Peter Fowler's section, *Later Prehistory*, details progress from the Beaker horizon to AD 43 in two-hundred and thirty-nine pages while Michael Ryder devotes one-hundred and twelve more from a presumptive *Neolithic* importation of farm animals to Roman and Saxon times. It is a good book to read; it has clear type-face, relevant illustrations, and page-footnotes, which are an almost forgotten luxury, although reference to the two packages of plates involves a flutter of book-marks. There are odd infelicities, a text figure is upside-down, written comments have been left upon a diagram and various misprints obtrude, all of which reflect the prolonged production process. Indeed, the volume's double-elephantine gestation has probably caused it to lack some of its impact, for research moves on. Stuart Piggott's and Peter Fowler's contributions were written in 1975, although appended afterthoughts advance them to 1979, but Michael Ryder's section, as he records, was completed in 1970! Thus it is not surprising that ideas and concepts, to the fore in 1981, are not fully developed or have no place at all.

Stuart Piggott's essay is an elegant prologue to the main part of the volume which is

Peter Fowler's work. Without much emendation this could stand as a book in its own right, for it comprehensively treats all the more immediate aspects of prehistoric agrarian archaeology. It has its own integral chapter system and brings together much that is dispersed, obscure, difficult of access or not even published. It is noteworthy that the sustainable evidence for agrarian activity is, all too often, incidental.

The advent of our first farmers has exercised prehistorians for the past half-century and it embodies the notion of the Neolithic, an area of study that Stuart Piggott has made his own. Skin boats laden with seed-corn, animals and eager immigrants are thought to have descended upon our shores. The alternative, which is currently gaining ground, is the acculturation of our land's Mesolithic indigenes. Profound changes took place and there should be reasons for them, for example the long barrows, closely resembling Linear Pottery long houses, could be indicative of imitative behaviour. During the Neolithic irrevocable change took place and, thereafter, men were truly farmers. Farmers producing a surplus might have stimulated the emergence of what Peter Fowler terms 'focal community monuments'. The mighty henges and their timber buildings, as well as the stones of Stonehenge, could be ascribed to an increased population and a sophisticated social hierarchy. These were abandoned and, later on, we see farms, fields and large-scale landscape organisation which, with hill-forts, denote even greater population pressures. By the later centuries BC, *oppida*, urban in character, are the centres of power, with a further augmented population and a market economy, while the country has a surplus of corn, cattle and other commodities for export. This is, broadly, the pattern that emerges from Stuart Piggott and Peter Fowler. Their conclusions show the overwhelming importance of the agrarian dimension, particularly the landscape evidence which, in great measure, still survives in Cornwall.

Michael Ryder stresses that his account is of an interim nature but that we are moving towards the idea that the bond linking human communities to their livestock was a part of ecological relationships common to living things, although, following closely upon Frederick Zeuner, he sees domestication as a matter of deliberation. Man-animal relationships are to be seen in Advanced Palaeolithic and Mesolithic times, thus, had there been a series of gradually intensifying stages leading to domestication, there would have been a symbolic moment when certain animals would have become truly *domestic*.

Agrarian studies are undoubtedly fundamental to the pursuit of prehistory, for the bond between man and the soil is the quintessence of human affairs. More than half-a-century ago O.G.S. Crawford, together with Eliot and E.C. Curwen, developed the notion of *Celtic Fields*, which has for long been the label of all those ancient fields which are not patently Mediaeval. Although this pioneer work was primarily concerned with Wessex and Sussex, it is frequently forgotten that Crawford initiated the modern study of prehistoric fields, and the processes of land intake, in Cornwall and on the Isles of Scilly. In a stimulating essay entitled 'The Work of Giants' (*Antiquity*, X (1936), 162-74), illustrated by his own remarkable photographs and excerpts from Ordnance Survey maps, he stressed the early origins of the many stone-walled fields and enclosures, remarked upon the relationship between walls, banks and megaliths, imparted to them a human dimension by detailing the story of Tom the Giant-Killer who may have lived near Lelant, and, moreover, showed how aerial photography might be employed to disentangle the ancient and modern aspects of our landscape.

In places such as Cornwall, readers often scrutinise books such as this *Agrarian History* to see what is germane to their own problems or to ascertain to what extent their material and monuments can be seen as part of the broader scene. In his stimulating prologue Stuart Piggott sees Cornwall as the western limit of a southern English Mesolithic culture province, indicates the Portland Chert to be found there and sets the Cornish fine-grained rocks, used for axes, into the national context. Peter

Fowler reminds us that settlement evidence is the cultural expression of an essentially agrarian society. Thus the Cornish evidence from well-excavated sites such as Trevisker, Gwithian and Bodrifty, is of considerable importance as is the extent of prehistoric farming still to be seen on Bodmin Moor. The systematic survey of West Penwith shows settlement in a variety of forms and, when the differences of physical environment are borne in mind, it could be contended that, for example, a Cornish round is our particular version of Little Woodbury.

The significance of the Isles of Scilly for the study of ancient agriculture, albeit in a unique environment, is pursued by Peter Fowler with even greater vigour than that of Cornwall. Here the abundant remains of field walls still exist on some of the islands and continue onto foreshores where they are subjected to tidal submergence. A text figure (Fig. 50) shows how, on Samson's North Hill, such walls link various cairns and continue down onto the tidal flats that lie between that island and Tresco. The view that these are tracts of landscape laid out during the second half of the second millennium BC is mooted — an estimate which, in 1981, seems rather conservative for they may be even more ancient, perhaps by another two millennia. This concentrated account, more than ever, underlines the need for the diligent and accurate survey of the remains of ancient fields and enclosures, not only on Scilly but also everywhere in Cornwall where, mercifully, they still endure.

The price of this sterling volume, authoritative and efficacious, despite its dilatory publication, is not excessive when set against what is often demanded for works of a lesser stature. Unfortunately, those in whose hands a copy should be may find that they can rarely afford such an outlay.

Paul Ashbee

In Search of St. Piran, E.W.F. Tomlin. Lodenek Press, Padstow, 1982: £6.50 hardback, £3.95 paperback.

When we walk out over the sand dunes of Penhale and arrive at the sites of St. Piran, a sensitive person can immediately feel a sense of mystery. The uninformed cannot always be sure what this is so we must be grateful to E.W.F. Tomlin for his book "In Search of St. Piran". Prof. Tomlin has a keen interest in the area for, in his youth, he worked there with his uncle Dr. T.F.G. Dexter. Dr. Dexter excavated the now ruinous old parish church, the second church of St. Piran, from 1917–19 and, as a result, left behind him plans and photographs of his work.

"This is not a guide to the Oratory of St. Piran" writes Prof. Tomlin. Excellent, for there are already too many of these often shallow stories about Cornwall. Tomlin adds "It is rather an attempt to provide the visitor or the general reader with a brief account of its long history, its vicissitudes, and its place in the Western or Celtic Church and Society".

We must be thankful, therefore, that Prof. Tomlin has put into writing his knowledge and ideas which cover the dim past dating from 6th. century. His book is liberally illustrated by old photographs of enormous interest provided by the Royal Institution of Cornwall and others — of interest for alas! thanks to flooding and vandalism, the Oratory was re-buried in 1980 and is no longer to be seen. The decision to do this was reached by a local committee and the Department of the Environment and, hopefully, will remain safe for the study of future historians. The remains of the second parish church which was overcome by sand c. 1700, are in a parlous state and worthy of consideration and restoration.

The famous cross, reputedly of 960 A.D., which stood outside the south porch of the old church, still stands there surveying a truly holy site.

This is a book to be cherished by both casual reader and scholar alike and is a worthy addition to our knowledge and thought.

Charles Woolf.



PARISH CHECK-LIST

HUNDRED OF WEST

4 : Parish of Braddock (3412 acs.)

Neil Beagrie & Peter Sheppard

Place	Grid Ref.	Any Remains Extant	References
<i>Barrows</i>			
1 Largin	16456362		SMRSX16SE1; OS index SX16SE1
2 Middle Taphouse	17196337	?	SMR SX16SE8; OS index SX16SE4; Tumulus. OS6"1907; Thomas 53 (dia. 60ft.)
3 Middle Taphouse	17226341	Yes	SMR SX16SE7; OS index SX16SE5; Tumulus, OS 6"1962; Thomas 53 (dia.100ft.)
4 Middle Taphouse	17226314	Yes	SMR SX16SE6; OS index SX16SE9; OS 1813; Tumulus, OS 6"1962; TA 511 Barrow Park; Thomas 53 (dia.100ft.)
5 Middle Taphouse	17416217	Yes	SMR SX16SE16; OS index SX16SE14; Tumulus, OS 6"1962; DDF 326 CRO; Red Burrow FS 3/901/10/1 CRO; (Parish boundary with St. Pinnock)
6 Braddock Downs	14316328	Yes	SMR SX16SW19; OS index SX16SW2A; OS 1813; Tumuli, OS 6"1962; Thomas 53 (dia.55ft.)
7 Braddock Downs	14366327	Yes	SMR SX16SW20; OS index SX16SW2B; OS 1813; Tumuli, OS 6"1962; Thomas 53 (dia.90ft.); SWE 74,pl 53
8 Braddock Downs	14476326	Yes	SMR SX16SW21; OS index SX16SW2C; OS 1813; Tumuli, OS 6"1962; Thomas 53 (dia.90ft.); SWE 74,pl 53
9 Braddock Downs	14406322		SMR SX16SW22; OS index SX16SW2D; OS 1813; Tumuli, OS 6"1962; Thomas 53 (dia.60ft.); SWE 74, pl 53 (crop mark)
10 Braddock Downs	13986337	Yes	SMR SX16SW15; OS index SX16SW6A; OS 1813; Tumuli, OS 6"1962; Thomas 53 (dia.80ft.); SWE 74,pl 53
11 Braddock Downs	14026337	Yes	SMR SX16SW16; OS index SX16SW6B; OS 1813; Tumuli, OS 6"1962; Thomas 53 (dia.90ft.); SWE 74,pl 53
12 Braddock Downs	14056335	Yes	SMR SX16SW17; OS index SX16SW6C; OS 1813; Tumuli, OS 6"1962; Thomas 53 (dia.55ft.); SWE 74,pl 53
13 Braddock Downs	14086332	Yes	SMR SX16SW18; OS index SX16SW6D; OS 1813; Tumuli, OS 6"1962; Thomas 53 (dia.55ft.); SWE 74,pl 53
14 Braddock Downs	13776338	Yes	SMR SX16SW14; OS index SX16SW16; Tumulus, OS 6"1962; Thomas 53 (dia.45ft.)
15 Bagstone	14856259		SMR SX16SW78; DDF 326 CRO
<i>Hill Fort</i>			
1 Largin	16896457	Yes	SMR SX16SE2; Largin Castle, OS 6"1962; OS index SX16SE7; Thomas 53; VCH 462-3; PIA 43-4, 56
<i>Rounds, Round Fields</i>			
1 Penkestle	Ap.148639		SMR SX16SW79; 1535 Penkastel, Gover 246
2 West Taphouse	15636403		SMR SX16SE36; TA 301 Rounda Park
3 West Taphouse	15136403		SMR SX16SE37; TA 317 Round Park
4 Broadoak (Braddock)	16376226		SMR SX16SE38; TA 202 Bury Park; Gover 247; DDF 333 CRO Berry Park

Place	Grid Ref.	Any Remains Extant	References
<i>Linear Earthworks, ? Redoubt</i>			
1 Largin	16136418 to 16496364	?	SMR SX16SE12; OS index SX16SE22
2 Largin	16516359	Yes	SMR SX16SE11; Earthwork, OS 6"1962; OS index SX16SE24; Thomas 53; VCH 62
3 Largin	16306435 to 16666385	Yes	SMR SX16SE10/1; Earthworks, OS 6"1962; OS index SX16SE3; Thomas 53; PIA 43-4, 56; VCH 62; (?Civil War, Coate 42-4)
4 Largin	16526392 to 16506365	Yes	SMR SX16SE10/2; As above
5 Largin	16556430 to 16626404	Yes	SMR SX16SE10; As above
6 Middle Taphouse	16796354 to 17176350	Yes	SMR SX16SE10/3; Earthwork, OS 6"1962; (parish boundary with St. Pinnock)
<i>Crosses, Cross sites ?</i>			
1 Broadoak (Pen-venton)	16486228	Yes	SMR SX16SE13; Killboy Cross, OS index SX16SE6; Langdon 228; Baird; DCNQ XXV 29
2 Middle Taphouse	? 17176338		SMR SX16SE39; 1613 Taphouse Crosse, Hend. VI 445
3 Broadoak	Ap.164635		SMR SX16SE40; TA 289 Cross Park
4 West Taphouse	Ap.153635		SMR SX16SE41; TA 327-8 Lwr.Hr. Cross Close
(Note: It is possible that Killboy Cross is from one of these other sites)			
<i>Medieval & Later</i>			
1 Bellasize	14036521		SMR SX16NW41; St. James Chapel (site of), OS 6"1962; OS index SX16SW15; CCG 30; CBS 75; TA 449-450 Chapel Hayes; H&D II 107; Lake I 123; Hend. VI 55
2 Bellasize	14076505	Yes	SMR SX16NW58; St. James Holy Well, CBS75; Lane-Davies 20; Hend. VI 55
3 Bellasize	12806525	Yes	SMR SX16NW61; 'New Bridge' CBS 75; Gover 245; Early Tours 45 (Leland)
4 Drawbridge	15946530		SMR SX16NE108; Bridge (Parish boundary as St. Neot. Medieval 15)
5 Broadoak	16236210	Yes	SMR SX16SE35/1; ?Lan(Oval embanked churchyard)
6 Broadoak	160618		SMR SX16SE19; Site of battle AD 1643, OS 6"1962; OS index SX16SE12; Lake I 123-4, IV supplement 3-4, 8.10; H&D I 501-2; Coate 42-4
7 West Taphouse	?15306316		SMR SX16SE42; TA 122 Beacon Park
8 West Taphouse	14956325		SMR SX16SW 80; TA 333 Field behind the Tollgate House
9 West Taphouse	?15126374	?	SMR SX16SE43; TA 323.352 Pound Park
10 Penkeastle	14876383	Yes	SMR SX16SW81; TA 385 Pound
11 Penadlake Down	140637		SMR SX16SW82; Small irregular fields, DDF 333 CRO
12 Penventon	16616225	Yes	SMR SX16SE44; ? 15th cent. Well.
13 Penventon	16596224	Yes	DCNQ XXV 29; (Wellhouse intact) SMR SX16SE45; Medieval Wellhouse, Local inf.; (Ruin. Superseded by item 12)

Place	Grid Ref.	Any Remains Extant	References
<i>Mills</i>			
1 Crickapit Mill	14586160	Yes	SMR SX16SW83; Cricket Mill, OS 1813; TA 10 Grist Mill; Corn Mill, OS 25°1907; (Wheel & machinery intact)
2 Broadoak	16356247	Yes	SMR SX16SE46; TA 199 House (Mill House Tnt.) TA 228 Mill Land, 194.578 Mill Parks (adjoin); Mill House, OS 25°1907
3 West Taphouse	Ap.151635		SMR SX16SE47; TA 350-1 Mill Lands
<i>Industrial</i>			
1 Penadlake	Ap.137637		SMR SX16SW84; TA 412-3 Cyder House & Orchard
2 Middle Taphouse	17366333	Yes?	SMR SX16SE48; TA 504 Smiths Shop
3 Glynn Valley	17156460	Yes	SMR SX16SE 49; East Largin Viaduct, Todd/Laws 259
4 Glynn Valley	16626480	Yes	SMR SX16SE50; West Largin Viaduct, Todd/Laws 259
5 Glynn Valley	15606520	Yes	SMR SX16NE136; Derrycombe Viaduct, Todd/Laws 259
6 Glynn Valley	14686525	Yes	SMR SX16NW62; Clinnick Viaduct, Todd/Laws 259
7 Glynn Valley	13566499	Yes	SMR SX16SW85; Penadlake Viaduct, Todd/Laws 259
8 West Taphouse	15366338		SMR SX16SE51; Smithy, OS 25°1907
Provenance	Object	Present Locality	References
<i>Miscellaneous</i>			
1 Broadoak (Penventon)	Flint Flakes	Penventon Farm	SMR SX16SE34; CA Newsletter 36; Inf. Philip Steele
2 Braddock Downs	Urns		SMR SX16SW86; Lake I 123
3 Largin 16886425	Urn	Truro	SMR SX16SE32; CA 15(1976)112-4
4 Broadoak	Stocks	Church	SMR SX16SE52; Inf. St. Pinnock W.I.
5 Crickapit	Mill-stones	Cricket-Pit Farm	SMR SX16SW87; As above

HUNDRED OF PYDAR

9 : Parish of St. Columb Minor (4300 acs.)

Peter Sheppard & Charles Woolf

Place	Grid Ref.	Any Remains Extant	References
<i>Prehistoric</i>			
1 Newquay (Headlands)	80106243		SMR SW86SW34; Midden, NQP 39; ?NQH 117
2 Newquay (Nr. Baptist Chapel)	80746173		SMR SW86SW51; Midden, NQH 117
3 Trevelgue Head (Cliff Castle 1)	Ap.825631 or Ap. 828630		SMR SW86SW5/1; Metal-working site, Hencken 124-5; NQP 46; CG 5.8.1976; (Exact location not published)
4 Trevelgue Head (Cliff Castle 1)	As above		SMR SW86SW5/2; Huts(2), NQP 46; (Exact location not published)
5 Glendorgal	82496275		SMR SW86SW67; Hut Circle, CA I(1962) 9.14
6 St. Columb Porth	83186244		SMR SW86SW26; Pit Dwelling, OS index SW86SW11; CG 28.9.1933

Place	Grid Ref.	Any Remains Extant	References
<i>Barrows</i>			
1 Trevelgue	83366372	Yes	SMR SW86SW28; West Barrow, NC 80-4; Arch.vol.44 pp.425-6; OS 6"1963; TA 651 Burrow Down; Hencken 74; NQP 45; CG 5.8.1976
2 Trevelgue	83406375	Yes	SMR SW86SW29; East Barrow, NC 84-7; Arch.vol.44 p.426; OS 6"1963; TA 651 Burrow Down; Hencken 74; NQP 45; CG 5.8.1976
3 Trevelgue Head	82856309	Yes	SMR SW86SW8; Tumulus, OS 6"1963; OS index SW86SW2; Lake I 242; NC 202; Arch.vol.44 p.423
4 Trevelgue Head	82506300	Yes	SMR SW86SW3; Tumulus, OS 6"1963; OS index SW86SW3; Lake I 242; NC 201; Arch.vol.44 p.423
5 Glendorgal	82496274	Yes	SMR SW86SW22; Tumulus (site of), OS 6"1963; OS index SW86SW4; NC 199-200; Crom.184-6; RRIC 32(1850)56-7; CA I(1962)9-17
6 Newquay (Barrowfields)	82066227	Yes	SMR SW86SW25; Tumulus, OS 6"1963; OS index SW86SW10; CG 5.8.1977; Ad joins TA 463 Burrows, 464 Burrows Moor
7 Newquay (Barrowfields)	82016221	Yes	SMR SW86SW24; As above
8 Newquay (Barrowfields)	81926214	Yes	SMR SW86SW2; As above, plus following (commonly identified as 12ft.high):— RRIC 22(1840)61-3; NC 197-8; JJR; Crom.171-3; NQP 43
9 Newquay (Barrowfields)	81916210		SMR SW86SW74; Air photo, Newquay 1963/113642 CCPO
10 Newquay (Barrowfields)	Ap.822621		SMR SW86SW75; WB 5.2.1819, 10.8.1821; TA 463 Burrows, 464 Burrows Moor; CA I(1962)93-5; (Note: 'about fifteen' barrows are suggested in this group)
11 Tren creek	Ap.829609		SMR SW86SW76; 1216 Tren cruc, Gover 328; Hend.Top.IV 36
12 Quintrel Down	84706013		SMR SW86SW77; TA 1507 Burrow Down
<i>Cliff Castle</i>			
1 Trevelgue Head	82526309 & 82826303	Yes	SMR SW86SW5; OS 6"1963 'Cliff Castles'; OS index SW86SW1; Hencken 124-5; Lake I 242; NC 200-2; PPS 5(1939)254; CBA 7 p.78; VCH 453; PWCFC II 57; SWE 122.241; RRIC 31(1849)37; NQP 46; Arch.vol.44 pp.422-4; CG 5.8.1976
<i>Rounds</i>			
1 Trevenson	82686158		SMR SW86SW17; OS index SW86SW15; PWCFC I 4(1955-6)150-2; (NGR corrected)
2 Newquay	80476152		SMR SW86SW39; TA 19 Castle Meadow (circular feature depicted on TA map)
3 Newquay	80466153		SMR SW86SW39; TA 41 Carrivick (On TA map a small un-numbered field adjoins, probably TA 40 Little Berry)
4 Quintrel Down	Ap.849601		SMR SW86SW78; TA 1504 Berry (TA 1500-3 E.W.Mid Berry adjoin)
5 Tren creek	83076052		SMR SW86SW79; TA 383 Berry (TA 370-2 Hr.Mid, Lwr.Berry adjoin)

	Place	Grid Ref.	Any Remains Extant	References
6	St.Columb Minor	Ap.837628		SMR SW86SW80; TA 1783 Berry
7	Manuels	84236023	?	SMR SW86SW81; TA 1545 Lwr.Gear Down (TA 1543 Gear Down, 1544 Lwr.Gear Down adjoin); Pickering
8	Kestle	Ap.855593		SMR SW86NE88; 1249 Kestel, Hend- .Top.IV 35; Gover 327; TA 1440-1472 Kessel Tnt.
9	Bejowan	Ap.855609		SMR SW86SE51; TA 1284 Ring Close (TA 1281 Outer Ring, 1286 Ring Moor adjoin)
<i>Cemeteries Graves</i>				
1	St.Columb Minor	84076215		SMR SW86SW35; JRIC XVIII 233-7; (OS 25"1907 field 896 does not accord with the rest of the described location)
2	St.Columb Minor	84066229		SMR SW86SW36; JRIC XVIII 235
3	St.Columb Porth	Ap.831627		SMR SW86SW38; RCG 11.6.1808; CA I (1962)93.98
4	Newquay (Atlantic Road)	80346155		SMR SW86SW37; NQP 39-41
5	Newquay	Ap.805616		SMR SW86SW52; NQH 117
6	Trebelsue	84256335		SMR SW86SW21; JRIC XVIII 236; JRIC(NS)II 98; (with Chapel 4)
<i>Crosses, Cross Sites ?</i>				
1	Penrose	84376292	Yes	SMR SW86SW10; Base, OS 6"1963 Cross (Remains of); TA 1118, 1125-6, 1140, 1142 Cross Fields; Baird; Hend.III 136; Langdon 422; AD 66 CRO
2	Trewollack	84436119		SMR SW86SW82; TA 1249 Cross Close
3	Trevenson Hill	82886172	Yes	SMR SW86SW14; Base, OS 6"1963 Cross (Remains of); TA 521 Cross Close; Baird; OS index SW86SW14
4	Treviglas	83306201	Yes	SMR SW86SW13; Doublestiles Cross, OS index SW86SW9; OS 6"1963 Cross; TA 607 Cross Close; XE 54; Baird; Lang- don 39; NQP 56-7; (New NGR in OS index is wrong)
5	Quintrel Down	Ap.850604		SMR SW86SE52; TA 1259, 1263 Hr.Lwr. White Cross
6	St.Columb Minor	83926231	Yes	SMR SW86SW12; Base, OS index SW86SW12; TA 1818 Cross Close; Lang- don 422; NQP 57
7	Treninnick	82006080		SMR SW86SW83; TA 185.187.199.200. 411 Cross Close
8	Manuels	Ap.839604		SMR SW86SW84; TA 1576 Cross Polhendra
9	Treloy	85406240	Yes	SMR SW86SE8; Base & shaft, OS 6"1963 Cross (Remains of); Hend.III 136; Baird; OS index SW86SE5
10	Tolcarn	781936157		SMR SW86SW85; Base, Langdon 422; Baird
11	Penhallow			SMR SW86SW86; Base, Langdon 422; (Possibly this refers to Cross 3)
<i>Holy Wells</i>				
1	Rialton	84776223	Yes	SMR SW86SW87; CCG 46; NQP 51-2; Lane-Davies 79-80; Pevsner 134; Lake I 241; Hend.III 130; XE 99; Couch 191; H&D II 172-3; CG 5.8.1977
2	Treloy	85796224	Yes	SMR SW86SE53; CCG 46; NQP 48-51; Lane-Davies 59.60.80; Hend III 134-5; Couch 192; OC II(1936)8; OC VII 310

Place	Grid Ref.	Any Remains Extant	References
<i>Chapels</i>			
1 Rialton	84776224	Yes	SMR SW86SW88; JRIC(NS)II 94-6; CCG 46
2 Chaple	84126068		SMR SW86SW20; 1302 Chapelkernewyl, Gover 326; H&D II 172; Hend-Top.IV 35; JRIC(NS)II 97; OS 6"1963, Chapel (Site of); TA 1705, 1741, 1749-50, 1755, 1759-60 Chapel Meadows and Closes. (All West of OS location)
3 Bejowan	Ap.855608		SMR SW86SE24; JRIC(NS)II 97
4 Trebelsue	84276339		SMR SW86SW21; JRIC XVIII 236; JRIC(NS)II 98; OS 6"1963 Chapel (Site of); Gilbert HS 672; TA 658 Chaple Close (659.660 Lwr.Hr.ditto); Lake I 240; H&D II 172; (With Cemetery 6)
5 Treloy	85796224		SMR SW86SE10; St.Pedyr's Chapel (Site of) OS 6"1963; JRIC(NS)II 98; Lake I 237.240; Hend.III 135; Gilbert PH 231; Gilbert HS 672; H&D II 172
6 Newquay	80616167		SMR SW86SW89; JRIC(NS)II 99; TA 60 Chaple Field, 48-9 Hr.Lwr. Chaple Close
<i>Medieval & Later</i>			
1 Rialton	84786223	Yes	SMR SW86SW11; Manor House 'known as the Priory' CCG 46; OS 6"1963; Lysons 66; H&D II 172-3; Gilbert HS 673; Gilbert PH 233; NQP 145-163; OC II(1936)1-10; Lake I 238.240-1; Hend.III 126-133; XE 110; CG 5.8.1976; Pevsner 133-4; Cheshier 129.138
2 Rialton	84766189	Yes?	SMR SW86SW90; Pound, AD 66 CRO; TA 1176.1243 Pound Md.1245 Pound Cl.; (Slight remains)
3 Rialton	84926228		SMR SW86SW91; TA 1208 Pound
4 Rialton	Ap.849621		SMR SW86SW92; TA 1183 Gt. Culver Close, 1184-5 Culver Md.
5 Trenance	Ap.816612		SMR SW86SW43; Culver House, Hend-Top.IV 41; Lanhydrock Atlas
6 Manuels	83956007	Yes	SMR SW86SW93; Settlement with small strip-fields; 1289 Maenhulwols, Gover 325; Hend.Top.IV 35
7 Barrowfields	820622	Yes	SMR SW86SW3; Ridge & Furrow, Air photo, Newquay 1963/113641-2 CCP
8 Trenchcreek	826610 to 831602	Yes	SMR SW86SW61; Strip fields
9 Trewince	856636		SMR SW86SE54; TA 708-9 Hr.Lwr.Deer Park
10 St.Columb Porth	83206282		SMR SW86SW94; TA 639 Rabbit Warren
11 Trebelsue	84406386		SMR SW86SW95; TA 664 Warren Meadow
12 Trevithick	82365997	Yes	SMR SW86NW2; Remains of Mansion, OS 6"1963; Lake I 239; OS index SW86NW2
13 Hendra	83456010	Yes	SMR SW86SW18; Remains of Mansion, OS 6"1963; Lake I 239
14 Treloy	85876243	Yes	SMR SW86SE9; Site of Manor House, OS 6"1963; Lysons 66; Lake I 241
15 Beacon	80506232	Yes	SMR SW86SW63; Watch House, OS 25"1907; TA Map; NQP 15
16 Towan Head	79976297	Yes	SMR SW86SE66; Coastguard Lookout, OS 6"1963

Place	Grid Ref.	Any Remains Extant	References
17 St.Columb Minor	83916215		SMR SW86SW96; TA 1877 Chapple; (A later Methodist chapel is on the site)
18 St.Columb Minor	83916241		SMR SW86SW97; TA 1874 Parish House
19 Porth Veor	83176250	Yes	SMR SW86SW98; Burton's Stile (Slate carved curiosity, dated 1857) NQP 142-3
<i>Mills</i>			
1 Kestle	85075932	Yes	SMR SW85NE56; 1659 Kestell Mill, Hend.Top.IV 2; TA 1476 Mill House; Todd/Laws 239
2 Rialton	84836226	Yes	SMR SW86SW99; TA 1205 Mill House; Lake I 241; AD 134/13 CRO; NQP 159; CG 9.10.1975; Gilbert HS 673
3 Mellanvrane	81536079	Yes	SMR SW86SW64; 1659 Mellinvrane, Hend.Top.IV 2; NQH Map; TA 162 Mill Cl.181 Mill Fld.; CF 1023 CRO; NQP 29.96-7
4 Trenance	Ap.814612		SMR SW86SW65; Windmill, Douch CW 49; Lanhydrock Atlas
(Note: TA 986 Lwr.Mill Park refers to Melancoose Mill in Colan parish)			
<i>Industrial</i>			
1 Newquay	80826205	Yes	SMR SW86SW31; Harbour & Quay, Gover 325; Carew 223; Lake I 254; Borlase Par.Mem.177; NQP 177-9; NQH 11; OC III 95; Todd/Laws 238; Barton-Clay 75.79; DD TF 3118-3153 CRO
2 Newquay	80746182		SMR SW86SW44; TA 33 Barkhouse Md. (Building depicted TA map)
3 Newquay	80826200 to 81656145	Yes	SMR SW86SW45; Tramway, OS 25"1907; NQH 9; NQP 197-9; WMN 26.1.1951; Todd/Laws 109.238
4 Newquay	81606175 85006037 85756009	Yes	SMR SW86SW46/SW86SE22; Railway, Lake I 242; RCG 13.6.1874; Todd/Laws 111.238; Barton-Clay 79.131
5 Newquay	80766197	Yes	SMR SW86SW42; Limekiln, OS 25"1880
6 Newquay	80916178		SMR SW86SW53; 'Unity' Fish Cellar, NQH 15, Map; NQP 191.276-7.444
7 Newquay	80776216	Yes	SMR SW86SW54; 'Active' Fish Cellar, Trevithic Soc. Newsletter 5; NQH map; NQP 191; Todd/Laws 238
8 Newquay	80786188		SMR SW86SW55; 'Rose' Fish Cellar, NQH 15; OS 25"1880
9 Newquay	80076280	Yes	SMR SW86SW100; 'Spy' Fish Cellar afterwards Lime Kiln, NQP 191.363; NQH 13
10 Newquay	80596202	Yes	SMR SW86SW56; 'Toby' Fish Cellar, NQP 191; NQH 15, Map; Trevithic Soc. Newsletter 5
11 Newquay	80776222		SMR SW86SW57; 'Good Intent' Fish Cellar, NQP 191; NQH 13, Map
12 Newquay	80806226		SMR SW86SW58; 'Fly' Fish Cellar, NQP 191.361; NQH 13, Map
13 Newquay	80516177		SMR SW86SW59; 'Hope' Fish Cellar, NQH 15, Map
14 Newquay	81076179		SMR SW86SW60; 'Speculation' Fish Cellar, NQH 15, Map
15 Newquay	80066265	Yes	SMR SW86SW49; Harbour of Refuge (Temporary shelter for shipping), Todd/Laws 37
16 Newquay	80806182	Yes	SMR SW86SW48; Lifeboat House
17 Newquay	80076271	Yes	SMR SW86SW47; Lifeboat House

Place	Grid Ref.	Any Remains Extant	References
18 Newquay	81706157	Yes	SMR SW86SW101; Gas Works, Tre-vithic Soc. Newsletter 9
19 Beacon	80676239	Yes	SMR SW86SW62; Huers Look-out House, OS 25°1907; TA Map; NQP 177; NQH 15.34.111; CG 5.8.1976
20 Beacon	80706215		SMR SW86SW102; TA 7.10 Lwr. Hr. Malthouse Md.
21 Treviglas	83846194		SMR SW86SW103; TA 1811 Malthouse
22 Treviglas	83666207		SMR SW86SW104; TA 1772 Malthouse
23 Trenance	81626117	Yes	SMR SW86SW40; TA 153 Malthouse; NQP 362-3; NQH 102
24 Trenance	81806107		SMR SW86SW105; TA 430 Potters Close
25 Trevemper	82286005	Yes	SMR SW86SW32; Warehouses, Todd/Laws 238
26 Trewince	85446350	Yes	SMR SW86SE55; Water Wheel, OS 6°1963; (Remains of Wheel-pit)
27 St.Columb Minor	82446255 85006239 86026161	Yes	SMR SW86SW41/SW86SE23; Canal, TA 1194, 1218, 1843; H&D I 514; Lake I 242; AD 66 CRO; Barton-Clay 75; NQP 141; Todd/Laws 238-9; CG 5.8.1976; Inf. Nigel Tangye (following 100 ft. contour)
28 St.Columb Minor	83906228		SMR SW86SW106; TA 1822 Smiths Shop
29 St.Columb Minor	84026235		SMR SW86SW107; TA 1806 Hse.Gdn. & Smiths Shop
30 Quintrel Downs	84926033		SMR SW86SW108; TA 1505 Black-smiths Shop
31 Quintrel Downs	85176042		SMR SW86SE56; Kilns (2), OS 6°1963
32 St.Columb Porth	83026294		SMR SW86SW109; Shipwrights Yard, OS 25°1880; OC VIII 19-20
33 St.Columb Porth	82976262		SMR SW86SW33; Old Limekiln, OS 25°1907
34 St.Columb Porth	83006270	Yes	SMR SW86SW110; Old Limekiln, OS 25°1907
35 St.Columb Porth	83206284		SMR SW86SW111; Old Limekiln, OS 25°1880
36 St.Columb Porth	83176284		SMR SW86SW112; TA 640 Coal Bank; H&D II 174; Lake I 242; OC VIII 17
37 Gusti Veor	84076152		SMR SW86SW113; TA 594 Potters Ground
38 Parkyn's Shop	87376317	Yes	SMR SW86SE21; Smithy, OS 6°1963
39 Trewassick	85736196		SMR SW86SE57; TA 1227 Machine Pond

Provenance	Object	Present Locality	References
<i>Miscellaneous Finds</i>			
1 Towan Head	Mesolithic Flints	Orpington	SMR SW86SE63; CBA Research Report 20 p. 40
2 Glendorgal	Mesolithic Flints	Orpington	SMR SW86SW114; CBA Research Report 20 p.40
3 Porth Island	Mesolithic Flakes	Plymouth Orpington	SMR SW86SW115; Ply.Mus.Cat.72.24.60-4; CBA Research Report 20 p.40
4 St.Columb Minor	Obsidian Flake	Plymouth	SMR SW86SW30; Ply.Mus.Cat.72.24.66
5 Bejowan	Flint Flake	Finder	SMR SW86SE25; Mrs.House 5.9.1977
6 Pentire	Flint Flake	Truro	SMR SW86SE64; PPS XXVIII(1962) 246.Ser.No.183
7 Trelvelgue Head	Flints	Truro	SMR SW86SW116; NC 201;

Provenance	Object	Present Locality	References
(Cliff Castle 1)		(5)	Cat.86.87.133; Arch.44 p.424; RIC Catalogue
8 Newquay (Barrowfields)	Flint Flakes & Arrow Heads	Plymouth	SMR SW86SW117; JRIC IX 60; Ply.Mus.Cat.4724
9 Newquay (Barrowfields) (Barrow 10)	4 or 5 Urns & Flint Arrowheads	Truro (1)	SMR SW86SW75/1-2; CA I(1962)93-4; WB 5.2.1819., 10.8.1821; Crom.171-2; RRIC 22(1840)61-3; ?Lake I 242
10 St.Columb Porth	Arrowheads		SMR SW86SW118; Lake I 242; NQP 35; A.Cwll 35
11 Fistral Bay	Flint Axe	Truro	SMR SW86SE65; NQP 37; RIC Catalogue
12 St.Columb Minor (Note: Axe listed as from St.Columb Minor, PPS 38(1972)268	Flint Axe		SMR SW86SW119; NC 4; Hencken 295 No.1372 was in fact found just inside Crantock parish)
13 Newquay	Jade Axe	British Museum	SMR SW86SW120; PPS 38(1972)268.409; B.M.No. 1933-4-6-85
14 Newquay (Headleigh Rd.)	Greenstone Axe	Truro	SMR SW86SW121; PPS XXVIII(1962) 246 No.184; RIC Catalogue
15 Rialton Moor	Greenstone Axe	Truro	SMR SW86SW122; PPS 38(1972)268 No.1371
16 St.Columb Minor	Sandstone Battle Axe		SMR SW86SW123; PPS 38(1972)262 No.185
17 Trevelgue	Stone Axe	Finder	SMR SW86SW6; D.Moore, 33 Lewarne Rd. Newquay; OS index SW86SW16
18 Trevelgue (Barrow 2)	Stone Axe-Hammer	Truro	SMR SW86SW29/1; Hencken 74.295; NC 86-7; Cat.69; JJR; RIC Catalogue; SWE 71; CG 5.8.1976; Arch.LXXV (1924-5) 85-7 fig.13
19 Glendorgal (Barrow 5)	Rhyolite Adze	(Lost)	SMR SW86SW22/1; CA I(1962)15
20 Glendorgal (Barrow 5)	L.B.A. Urn	Truro	SMR SW86SW22/2; NC 199-200; A.Cwll.45; NQP 45; Hencken 295; RRIC 32(1850)56-7; CBAP; XE 132; RIC Catalogue; CA I(1962)15; Crom.184-6; CG 5.8.1976; OS index SW86SW4
21 Glendorgal (Prehistoric 5)	Whorl, Sherds, Stone objects		SMR SW86SW67/1-4; CA I(1962)14-16
22 Treloy	Bronze Axes, Rings, Brooches & Roman Coins		SMR SW86SE20; TRGSC IV 65; VCHR 41; Hencken 165
23 St.Columb Porth (Prehistoric 6)	Pottery, Querns, Stone Hammers		SMR SW86SW26/1; OS index SW86SW11; ?PWFCF II 2(1957-8)72; ?PPS XXVIII (1962)246 Ser.No.181
24 St.Columb Porth (Graves 3)	Tree Trunk-Coffin & Horn Ring		SMR SW86SW38/1; RCG 11.6.1808; CA I(1962)93.98
25 Trevelgue Head (Cliff Castle 1)	Tin Spindle Whorl, Bronze Ring, Lynch pin, Spindle Whorls, Glass Beads, I.A. Sherds	Truro	SMR SW86SW5; RIC Catalogue
26 Trevelgue	Urn & I.A. Sherd	Truro	SMR SW86SW124; Cat.182; CBAP; RIC Catalogue
27 Trevenson (Round 1)	R.B. Pottery		SMR SW86SW17/1; PWFCF I 4)1955-6)152; OS index SW86SW15
28 St.Columb Minor ('Lower St.Columb')	Gold Bar		SMR SW86SW50; WB 17.7.1812; CA I(1962)93
29 St.Columb Minor	Mensa	Church	SMR SW86SW72/1; NQP 137-9; OC VII 310; JRIC XXIV 237-9; JRIC(NS)III 60
30 St.Columb Minor Church	Font	Rialton Farm	SMR SW86SW125; XE 110; CCG 45; NQP 133
31 Rialton	Inscribed Stone, C6	84996292	SMR SW86SW15; VCH 417.420; A.Cwll

Provenance	Object	Present Locality	References
			18; H&DI 448; Lake I 241; Hencken 223; SWE 159; Pevsner 134; OS 6"1963; CG 5.8.1976
32 Treloy	Enamelled Brooch	Truro	SMR SW86SE42; JJR; JRIC IV 220; RIC Catalogue
33 Treloy	Tin Bowl & Cover	Truro	SMR SW86SE41; JRIC IV 220-1; RIC Catalogue 46/1974; WMN 3.10.1978
34 St.Columb Porth	Cannon(2)		SMR SW86SW126; NQH 109-110
35 St.Columb Minor	Stocks	Church	SMR SW86SW127
36 Newquay (Industrial 6)	Cup	Truro	SMR SW86SW53/1; RIC Catalogue 28/1977 (Inscribed 'Unity')
37 Newquay	Millstone	80646203	SMR SW86SW128
38 Kestle Mill (Mill 1)	Millstones	85075932	SMR SW85NE56/1
39 Rialton (Mill 2)	Millstones	84836226	SMR SW86SW99/1

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